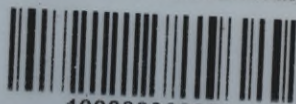


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Höhen und Azimute

der hellen Fixsterne bis zur dritten Größe,
deren Abweichung größer als 30° N ist,

für 55° Breite.



Herausgegeben

vom

Reichs-Marine-Amt.

Berlin 1916.



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Akc. Nr. 4038/50

Vorwort.

Die vorliegenden Tafeln für die hellen Fixsterne bis zur 3. Größe, deren Abweichung größer als 30° N ist, bilden die Ergänzung der im Jahre 1913 herausgegebenen Tafeln für Gestirne, deren Abweichung kleiner als $\pm 30^\circ$ ist. Ihr Zweck ist die für die Zeichnung der Standlinie in den stereographischen Karten zur astronomischen Ortsbestimmung für 55° Breite nötigen Größen ohne lästiges und umständliches Einschalten und Nebenrechnungen zu liefern. Die Tafeln sind bestimmt für ein Gebiet zwischen den Breitenparallelen 50° und 60° . Jede Seite der Tafeln enthält die Höhen und die Azimute für einen Stern und für drei volle Stunden des zugehörigen Stundenwinkels in Zwischenräumen von einer Minute, außerdem die zugehörigen Schalttafeln für jede sechste Sekunde des Stundenwinkels. Die Schaltteile sind so klein, daß sie bequem im Kopfe zu den der Haupttafel entnommenen Höhen und Azimuten unter Berücksichtigung ihres Vorzeichens hinzugefügt werden können. Das weitere Einschalten innerhalb der Schalttafeln darf in der Praxis vernachlässigt werden, da dadurch höchstens ein Fehler von $\frac{1}{2}'$ in der Höhe verursacht werden kann. Da alle Werte auf einer Seite nebeneinander stehen, wird Umblättern und zeitraubendes Suchen vermieden.

Die Höhen sind für jede vierte Minute des Stundenwinkels unter Benutzung siebenstelliger Logarithmen und sechsstelliger Tafeln der natürlichen Sinus berechnet worden. Bei der Rechnung wurden die Abweichungen der Fixsterne für Mitte 1917 zu Grunde gelegt. Da sich die Abweichung jährlich höchstens um $0:33$ ändert, also in $2\frac{1}{2}$ Jahren um $0:8$, so können die Tafeln mit genügender Genauigkeit für den Zeitraum von 1915 bis 1920 benutzt werden. Am Fuße jeder Seite sind die der Zu- oder Abnahme der Abweichung entsprechenden Aende-

rungen in Höhe und Azimut für die Jahre 1920—25, 1925—1930, 1930—1935 angegeben, sodaß die Tafeln 20 Jahre Giltigkeit haben. Zur Erleichterung der Berechnung des Stundenwinkels ist ferner die Gerade Aufsteigung des Sternes und ihre jährliche Aenderung auf jeder Seite vermerkt. Um schnell passende Sterne zur Beobachtung auswählen zu können, ist auf Seite 1 die mittlere Ortszeit der Kulmination der Sterne für den ersten jeden Monats enthalten.

Die Azimute sind den amerikanischen Azimuttafeln für jede zehnte Minute des Stundenwinkels durch Einschalten entnommen. Wo sicheres Einschalten nicht gewährleistet oder zu zeitraubend ist, wurden die Azimute für jede vierte Minute des Stundenwinkels auf Hundertstel Grad neu berechnet. Die Zwischenwerte in Höhe und Azimut wurden durch zweimaliges Einschalten in die Mitte unter Berücksichtigung zweiter Differenzen gewonnen.

Die Berechnung und Drucklegung lag in den Händen des ständigen Mitarbeiters der Deutschen Seewarte Dr. Wedemeyer. Mitteilungen über aufgefundene Fehler oder Hinweise auf Verbesserungen der Tafel werden mit Dank entgegengenommen.

Berlin, im Januar 1916.

Anleitung

zum Gebrauch der Tafel.

Aus der Tafel entnimmt man die zur Zeichnung der astronomischen Standlinie in der Karte erforderlichen Größen, d. i. Höhe und Azimut des Sternes in der Kartenmitte. Als Eingang dient der Stundenwinkel des Mittelmeridians. Dieser Stundenwinkel wird mit Hilfe der Frühlingspunkts-Ortszeit (Fp. O. Z.) des Mittelmeridians gefunden. Am einfachsten ist es, diese Zeit einer nach Frühlingspunkt-Zeit gehenden Uhr zu entnehmen. Deshalb ist eine solche Uhr als zweite Beobachtungsuhr an Bord der Luftschiffe gegeben worden. Bei Beobachtungen von Sternen benutzt man daher diese und nicht die nach mittlerer Zeit gehende Beobachtungsuhr.

Ermittlung des Stundenwinkels. Uhr nach Frühlingspunkts-Zeit. Ist Fp. Z. die Frühlingspunkts-Zeit, die man durch Anbringen des Uhrstandes an die Ablesung U der Fp. Z.-Uhr erhält und α die Gerade Aufsteigung des Sterns, so ist

$$t = \text{Fp. Z.} - \alpha.$$

Ist die Gerade Aufsteigung kleiner als die Frühlingspunkts-Zeit, so ist der Stundenwinkel westlich (t_w), ist sie größer, so ist der Stundenwinkel negativ oder östlich (t_s). Der Eingang in die Tafel ist in beiden Fällen der gleiche. Der Wert von α ist für jeden Stern unten links auf jeder Seite angegeben. Er gilt für 1917. In anderen Jahren ist die ebenfalls angegebene jährliche Aenderung dieser Größe bei der Entnahme zu berücksichtigen. Es ist zu beachten, daß das Zifferblatt der Uhr nur die Stunden 1 bis 12 anzeigt, während die Fp. Z. bis 24^h gezählt wird. Zu der Uhrablesung sind daher gegebenenfalls 12 Stunden zuzuzählen.

Im allgemeinen wird die Beobachtungsuhr nach mitteleuropäischer Frühlingspunktszeit gehen, da in Deutschland die mitteleuropäische Zeit gesetzliche Zeit ist. Ist dies der Fall, so kann die Uhrablesung ohne weiteres zur Berechnung des Stundenwinkels benutzt werden, wenn man sich im Bereiche der Ostsee-Karte befindet, da der Mittelmeridian dieser Karte der mitteleuropäische Meridian, d. h. 15° Ost von Greenwich ist.

Befindet man sich dagegen im Bereiche der Nordsee-Karte, deren Mittelmeridian der Meridian von Greenwich ist, so ist nicht die mitteleuropäische Frühlingspunkts-Zeit, sondern die Greenwicher Frühlingspunkts-Zeit zur Berechnung des Stundenwinkels zu benutzen. Sie ist gegenüber der mitteleuropäischen Fp.-Zeit um eine Stunde zurück; von der Ablesung der nach M. E. Fp. Z. gehenden Uhr ist daher 1 Stunde in Abzug zu bringen, wenn man Gr. Fp. Z. haben will.

Uhr nach mittlerer Zeit. Ist die Beobachtung nicht nach einer Fp. Z.-Uhr, sondern nach einer mittleren Zeituhr gemacht, so ist der Stundenwinkel (t) nach folgender Formel zu berechnen:

$$t = m. Z. + m. \odot \alpha - * \alpha.$$

$m. \odot \alpha$ ist die Gerade Aufsteigung der mittleren Sonne. Sie ist für den mittleren Greenwicher Mittag auf der Seite II eines jeden Monats im Nautischen Jahrbuch angegeben. Zwischen den angegebenen Werten ist für den Zeitpunkt der Beobachtung einzuschalten.

Im Gebiete der Ostsee-Karte ist als m. Z. die mittlere mitteleuropäische Zeit (M.E.Z.), im Gebiet der Nordsee-Karte die mittlere Greenwicher Zeit (m. Gr. Z.) zu benutzen. Bei der Berechnung des Stundenwinkels ist auch die mittlere Zeit von 0^h bis 24^h zu zählen und zwar von Mittag bis Mittag. Kommt ein Stundenwinkel über 12^h heraus, so ist er von 24^h abzuziehen, wodurch man den östlichen Stundenwinkel (t_{θ}) bekommt.

Ermittlung von Höhe und Azimut. Errechnete Höhe. Mit der Stunde und der vollen Minute des Stundenwinkels, also vorläufig unter Vernachlässigung der Anzahl Sekunden, entnimmt man der Tafel die Werte der Höhe (h_o) und des Azimutes (Az_o). Aus der rechts danebenstehenden Schalttafel entnimmt man die Verbesserungen in Höhe (Δh) und Azimut (ΔA), wobei man diejenige Anzahl Sekunden, die den zuvor vernachlässigten Sekunden des Stundenwinkels am nächsten liegt, als Eingang benutzt. Die Werte Δh und ΔA fügt man unter Berücksichtigung ihres Vorzeichens den entnommenen Tafelwerten h_o und Az_o hinzu.

Dadurch erhält man die für den Kartenmittelpunkt geltenden berechneten Werte von Höhe (h_r) und Azimut (Az_r).

Das Azimut ist dabei, wie in Ebsen's Azimuttafeln, von Nord über Ost oder West bis 180° gezählt, je nachdem der Stundenwinkel des Sternes östlich oder westlich ist.

Beobachtete Höhe. Die am Sextanten abgelesene Höhe (h_a) wird durch Anbringung der Indexverbesserung (I. V.) und der Gesamtverbesserung (G. V.) auf die wahre oder beobachtete Höhe (h_b) beschickt,

$$h_b = h_a + I. V. + G. V.$$

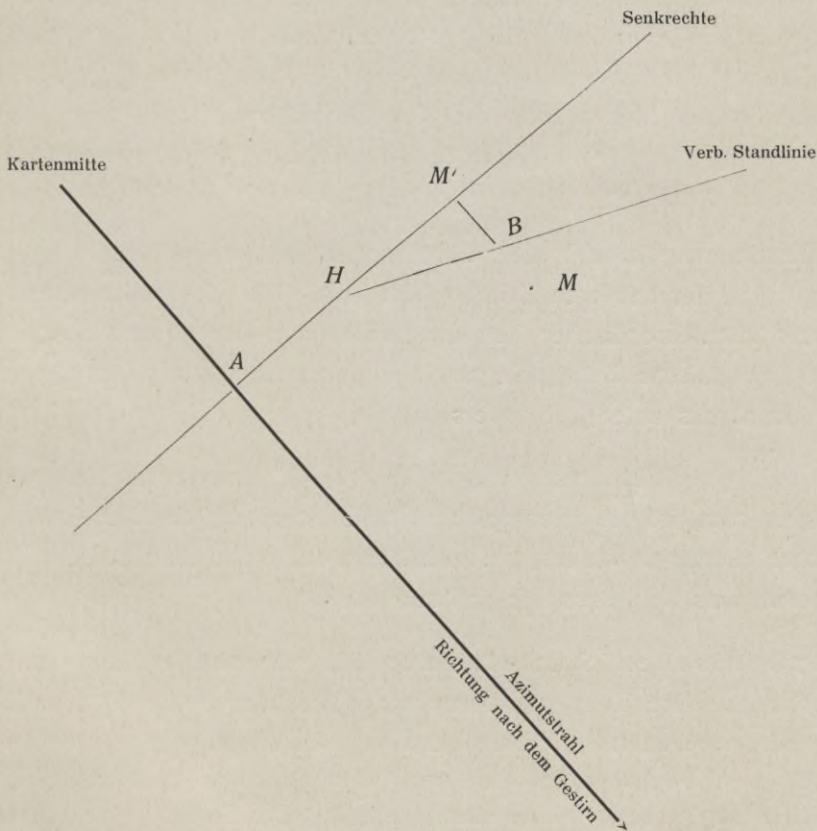
Höhenunterschied. Zur Zeichnung der Standlinie hat man schließlich den Höhenunterschied

$$\Delta h = h_b - h_r$$

zu bilden

Standlinie. Durch den Kartenmittelpunkt zieht man in der durch Az_r angegebenen Richtung mit Hilfe des Azimutkreises der Karte und des Lineals oder Dreiecks eine gerade Linie, die Azimutstrahl heißen möge. Dieser Azimutstrahl gibt die Richtung nach dem Gestirn an. Auf ihm wird vom Kartenmittelpunkt aus der Höhenunterschied Δh abgetragen und zwar in der Richtung nach dem Gestirn hin, wenn Δh positiv ist, in der Richtung vom Gestirn fort, wenn Δh negativ ist. Zum Abtragen von Δh enthalten Absetzlineal und Dreieck eine Teilung nach Graden und Minuten im Maßstab der Karten.

Durch den Endpunkt des abgetragenen Höhen-Unterschiedes wird mit Hilfe des Dreiecks eine zu dem Azimutstrahl senkrechte Linie gezogen. In der Nähe des Azimutstrahls liegt diese Linie so nahe an der Höhengleiche, auf der sich der Schiffsort befinden muß, daß sie als Standlinie für das Schiff angesehen werden kann. In größerem Abstände von dem Azimutstrahl biegt die Höhengleiche etwas von der eingezeichneten Senkrechten ab und zwar in der Richtung nach dem Gestirn hin. Der Betrag dieser Abweichung ist aus der Tabelle „Abweichung der Höhengleiche von der Geraden in der stereographischen Karte“



(Seite 11) zu ersehen. In denjenigen Fällen, wo diese Abweichung nicht zu vernachlässigen ist und die gezeichnete Senkrechte nicht als Standlinie genügt, kann eine zweite Standlinie folgendermaßen gezeichnet werden.

Man mißt mittels der Teilung auf Lineal oder Dreieck den Abstand des mutmaß-

lichen Schiffsorts (M) vom Azimutstrahl. Mit diesem Abstand und der beobachteten Höhe entnimmt man der Tabelle der Abweichungen die zugehörige Abweichung und trägt sie von M' aus parallel zum Azimutstrahl in der Richtung nach dem Gestirn hin ab. In der Figur sei dies M'B. Den Punkt M' findet man dadurch, daß AM' gleich dem Abstände des mutmaßlichen Schiffsortes M vom Azimutstrahl ist. Die Strecke AM' wird in H halbiert. Es genügt, diese Halbierung nach dem Augenmaß zu machen. Dann zieht man durch H und B eine Gerade. Dies ist die verbesserte Standlinie.

In der Karte für die Ostsee sind die Längen nicht von Greenwich, sondern vom Mittelmeridian aus östlich und westlich gezählt. Beim Eintragen des Schiffsortes ins Tagebuch muß man daher die auf der Karte abgelesene Länge, wenn sie östlich vom Mittelmeridian ist, zu 15° hinzuzählen; wenn sie westlich ist, von 15° abziehen, um Greenwicher Länge zu erhalten.

Uhrvergleich. Die Anwendung der astronomischen Ortsbestimmung setzt voraus, daß man über den Stand der Beobachtungsuhrn unterrichtet ist. Meist wird der Gang dieser Uhren so klein sein, daß er vernachlässigt werden kann, wenn vor dem Antritt der Fahrt oder während ihr eine Standbestimmung gemacht wird. Wenn eine Uhr dagegen einen erheblichen Gang haben sollte, so wird er für die Zwischenzeit zwischen Standbestimmung und Beobachtung berücksichtigt werden müssen. Es empfiehlt sich in solchen Fällen die Uhr möglichst bald umzutauschen.

Die Standbestimmung kann mittels F.T. oder telephonisch erfolgen. In beiden Fällen wird zunächst der Stand der mittleren Zeituhr bestimmt. Die Großfunkenstation Norddeich gibt 1 Uhr mittlerer Mitteleuropäischer Zeit (= 12 Uhr mittlerer Greenwicher Zeit) mittags und nachts funkentelegraphische Zeitsignale ab, über deren Einrichtung das Nähere aus Tafel 15 des Nautischen Jahrbuchs unter I. 1 zu ersehen ist.

Während daher die Standbestimmung mittels F. T. nur zweimal täglich, mittags und mitternachts, erfolgen kann, ist die telephonische Standbestimmung an Land jederzeit ausführbar. Es wird dabei allerdings vorausgesetzt, daß man den Stand der mittleren Uhr auf etwa 5 Minuten genau kennt, was wohl stets der Fall sein dürfte.

Zur telephonischen Standbestimmung läßt man sich mit der Stationszentrale Wilhelmshaven verbinden. Ihre Telephonnummer ist: Wilhelmshaven Nr. 2000 bis 2019. Nachdem sich die Zentrale gemeldet hat, verlangt man Nr. Null, Zeitsignal, und wartet (mit dem Hörer am Ohr) bis das Zeitsignal ertönt. Es wird von einer auf dem Kaiserlichen Observatorium aufgestellten Uhr in jeder Minute einmal erteilt. Das Signal besteht aus einem im Hörrohr des Fernsprechers deutlich wahrnehmbaren sirenenartigen Tone, der in jeder Minute genau von der Sekunde 55,0 bis zur Sekunde 60,0 mittlerer mitteleuropäischer Zeit ertönt, sodaß das Ende des Tones der vollen Minute entspricht. Nach kurzer Pause folgen die Kennungstöne, die die Minutenzahl kennzeichnen. Die Kennungstöne setzen sich aus kurzen Schnarrtönen (●) und einem zwei Sekunden dauernden Sirenenton (—) nach dem folgenden Schema zusammen.

Bei Minute	1 ertönt:	●	
" "	2 "	: ● ●	.
" "	3 "	: ● ● ●	
" "	4 "	: ● ● ● ●	
" "	5 "	: ● ● ● ● ●	
" "	6 "	: ●	—
" "	7 "	: ● ●	—
" "	8 "	: ● ● ●	—
" "	9 "	: ● ● ● ●	—
" "	10 "	: ● ● ● ● ●	—
Bei der vollen Stunde		" :	—————

Abgesehen von der vollen Stunde wiederholen sich also alle 10 Minuten dieselben Kennungen, woraus sich die Notwendigkeit ergibt, bei Benutzung des telephonischen Zeitsignals die mitteleuropäische Zeit auf etwa 5 Minuten genau zu kennen. Um Verwechslungen, namentlich zwischen Minute 1 und 6, zu vermeiden, muß man nach dem letzten Schnarrton das Hörrohr noch 5 Sekunden am Ohr behalten.

Während des anderen Teiles der Minute ertönt zum Zeichen, daß die Verbindung mit dem Zeitsignal ausgeführt ist, beständig ein regelmäßiges Knacken im Hörrohr. Die Schnarrtöne und das regelmäßige Knacken werden, wenn der Hörapparat weit von Wilhelmshaven entfernt ist, leicht überhört, so lange das Ohr nicht an solche Zeichen gewöhnt ist. Es dürfte sich daher empfehlen, den Uhrvergleich zur Kontrolle einige Zeit später nochmals zu wiederholen.

Eine telephonische Standbestimmung wird demnach etwa folgendermaßen verlaufen. Sobald die Verbindung mit Nummer Null der Zentrale hergestellt ist, richtet man (mit dem Hörrohr am Ohr) den Blick auf den Sekundenzeiger der m. Z.-Beobachtungsuhr, bis der sirenenartige Ton von Sekunde 55,0 bis Sekunde 60,0 ertönt. Man beobachtet die Sekunde, die der Zeiger der Uhr im Augenblick des Aufhörens des Tons anzeigt und schreibt diese Sekunde sofort auf ein Blatt Papier nieder. Dann beobachtet man die Minutenkennung der Werftuhr und schreibt sie unter Hinzufügung der Sekundenzahl 0^s über die Angabe der Beobachtungsuhr. Die letztere wird dann durch Vorsetzen der hinzugehörigen abgelesenen Minutenzahl vervollständigt. Durch Abziehen der Angabe der Beobachtungsuhr von der Werftuhr bekommt man schließlich den Stand der Beobachtungsuhr.

Beispiele:

Werftuhr: . . m. M. E. Z. = 9 ^m 0 ^s		Werftuhr: . . m. M. E. Z. = 53 ^m 0 ^s
Beobachtungsuhr: U = 11 43		Beobachtungsuhr: U = 49 18
Uhrstand: . m. M. E. Z. — U = — 2 43		Uhrstand: . m. M. E. Z. — U = + 3 42

Bekommt man keinen Anschluß an die Stationszentrale Wilhelmshaven, so kann man das völlig gleichartige Zeitsignal der Hamburger Sternwarte benutzen, das unter der Nummer Hamburg Gruppe 4 Nr. 10 000 anzurufen ist.

Der Stand der Fp. Z.-Uhr wird durch Vergleich mit der m. Z.-Beobachtungsuhr ermittelt. Man stellt die Angaben der beiden Uhren fest, die für einen bestimmten Zeitpunkt einander entsprechen. Die Angabe der m. Z.-Uhr wird durch Hinzufügen des Uhrstandes in mittlere Zeit verwandelt. Die mittl. Zeit ist dabei von Mittag zu Mittag von 0^h bis 24^h zu zählen. Aus dem Nautischen Jahrbuch entnimmt man Gerade Aufsteigung der mittleren Sonne (m. $\odot \alpha$), wobei man für den Zeitpunkt des Uhrvergleichs einschaltet. Durch Hinzufügen von m. $\odot \alpha$ zu der mittl. Zeit bekommt man die Frühlingspunkts-Zeit des Zeitpunktes des Uhrvergleichs. Indem man schließlich die Angabe der Fp. Z.-Uhr von der so ermittelten Frühlingspunkts-Zeit abzieht, erhält man den Stand der Fp. Z. - Uhr.

Beispiel:

<table style="width: 100%; border-collapse: collapse;"> <tr><td>m. Z. U =</td><td>10</td><td>18</td><td>11</td></tr> <tr><td>=</td><td>22</td><td>18</td><td>11</td></tr> <tr><td colspan="4"><hr/></td></tr> <tr><td>m. M. E. Z. U =</td><td>—</td><td>2</td><td>43</td></tr> <tr><td colspan="4"><hr/></td></tr> <tr><td>m. M. E. Z. =</td><td>22</td><td>15</td><td>28</td></tr> <tr><td colspan="4"><hr/></td></tr> <tr><td>m. $\odot \alpha$ =</td><td>19</td><td>53</td><td>45</td></tr> <tr><td colspan="4"><hr/></td></tr> <tr><td>M. E. Fp. Z. =</td><td>18</td><td>9</td><td>13</td></tr> <tr><td colspan="4"><hr/></td></tr> <tr><td>Fp. Z. U =</td><td>18</td><td>13</td><td>0</td></tr> <tr><td colspan="4"><hr/></td></tr> <tr><td>M. E. Fp. Z. - U =</td><td>—</td><td>3</td><td>47</td></tr> </table>	m. Z. U =	10	18	11	=	22	18	11	<hr/>				m. M. E. Z. U =	—	2	43	<hr/>				m. M. E. Z. =	22	15	28	<hr/>				m. $\odot \alpha$ =	19	53	45	<hr/>				M. E. Fp. Z. =	18	9	13	<hr/>				Fp. Z. U =	18	13	0	<hr/>				M. E. Fp. Z. - U =	—	3	47	<table style="width: 100%; border-collapse: collapse;"> <tr><td>m. Gr. Z. =</td><td>21,26^h</td></tr> <tr><td>Aend. =</td><td>21,3 × 9,9^s</td></tr> <tr><td>=</td><td>211^s = 3^m 31^s</td></tr> </table>	m. Gr. Z. =	21,26 ^h	Aend. =	21,3 × 9,9 ^s	=	211 ^s = 3 ^m 31 ^s	<table style="width: 100%; border-collapse: collapse;"> <tr><td>m. $\odot \alpha$ am 19. Jan. =</td><td>19^h 50^m 14^s</td></tr> <tr><td>Aend. =</td><td>+ 3 31</td></tr> <tr><td colspan="2"><hr/></td></tr> <tr><td>m. $\odot \alpha$ =</td><td>19 53 45</td></tr> </table>	m. $\odot \alpha$ am 19. Jan. =	19 ^h 50 ^m 14 ^s	Aend. =	+ 3 31	<hr/>		m. $\odot \alpha$ =	19 53 45
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Beispiel:

Am 15. September 1916 beobachtete man um 2^h 18^m 19^s Vm am Chronometer

\ast Capella = 62° 37', Augeshöhe 5 m. Das U-Boot befindet sich im Skagerrak.

m. Gr. Z. = 14 ^h 18 ^m 19 ^s den 14. Sept.	Nautisches Jahrbuch S. 115	
m. $\odot \alpha$ = 11 34 53	m. $\odot \alpha$ am 14. Sept. = 11 ^h 32 ^m 31 ^s	
Fp. Z. = 1 53 12	Aend. = 14,3 × (10-0,1) ^s = 2 22	
α Capella = 5 10 31	m. $\odot \alpha$ = 11 34 53	
t_b = 3 17 19	Seite XI der Anleitung.	
	Abstand vom Azimutstrahl = 3°	
	h_b = 62½°	
	Abw. d. Höhengleiche = 9Sm	

$$\ast = 62^\circ 37'$$

$$\text{Ges. Verb.} = -4$$

$$h_b = 62 \quad 33$$

$$h_r = 58 \quad 3 \quad \text{[Seite 27 der Tafel]}$$

$$\Delta h = +4 \quad 30 \quad \text{N } 85,05 \quad \text{O.}$$

Im Azimut N 85,5° O ist der Azimutstrahl zu ziehen und auf ihm nach dem Gestirn hin die Strecke von 4° 30' abzutragen. Im Endpunkt wird eine Standlinie senkrecht zum Azimutstrahl gezogen. Im Abstand 3° setzt man die kleine Strecke von 9' an der dem Gestirn zugekehrten Seite ab und zieht durch den Endpunkt und den Punkt 1° 30' der ersten Standlinie (Mitte von 3°) die zweite Standlinie. Die beiden Standlinien gehen durch die Punkte auf nebenstehendem Täfelchen, die zur Kontrolle dienen können.

58° N	8° 20' O
57	8 2
56	7 53
55	7 50

Gesamtverbesserung für Fixsterne.

Augeshöhe 0m.

Höhe gemessen		Höhe gemessen		Höhe gemessen		Höhe gemessen		Höhe gemessen		Höhe gemessen	
3° 0'	-14,4	5° 0'	-9,9	9° 0'	-5,9	13° 0'	-4,1	19°	-2,8	32°	-1,5
10	-13,9	20	-9,4	20	-5,7	30	-4,0	20	-2,6	34	-1,4
20	-13,4	40	-8,9	40	-5,5	14 0	-3,8	21	-2,5	36	-1,3
30	-12,9	6 0	-8,5	10 0	-5,3	30	-3,7	22	-2,4	38	-1,2
40	-12,5	20	-8,1	20	-5,1	15 0	-3,6	23	-2,3	40	-1,1
50	-12,1	40	-7,7	40	-5,0	30	-3,5	24	-2,2	45	-1,0
4 0	-11,8	7 0	-7,4	11 0	-4,8	16 0	-3,3	25	-2,1	50	-0,8
10	-11,4	20	-7,1	20	-4,7	30	-3,2	26	-2,0	55	-0,7
20	-11,1	40	-6,8	40	-4,6	17 0	-3,1	27	-1,9	60	-0,6
30	-10,8	8 0	-6,6	12 0	-4,4	30	-3,0	28	-1,8	65	-0,5
40	-10,4	20	-6,3	20	-4,3	18 0	-2,9	29	-1,8	70	-0,4
50	-10,1	40	-6,1	40	-4,2	30	-2,9	30	-1,7	80	-0,2
5 0	-9,9	9 0	-5,9	13 0	-4,1	19 0	-2,8	32	-1,5	90	-0,0

Verbesserung für Augeshöhe:

1 m	2 m	3 m	4 m	5 m	6 m
-1,8	-2,5	-3,1	-3,6	-4,0	-4,4

Abweichung der Höhengleiche von der Geraden in der stereographischen Karte.

Abstand vom Azimutstrahl	Beobachtete Höhe							
	0°	10°	20°	30°	40°	50°	60°	70°
1° (60 Sm)	0 Sm	0 Sm	0 Sm	0 Sm	0 Sm	1 Sm	1 Sm	1 Sm
2° (120 „)	0 „	0 „	1 „	1 „	2 „	2 „	4 „	6 „
3° (180 „)	0 „	1 „	2 „	3 „	4 „	6 „	8 „	13 „
4° (240 „)	0 „	1 „	3 „	5 „	7 „	10 „	15 „	23 „
5° (300 „)	0 „	2 „	5 „	8 „	11 „	16 „	23 „	37 „

Mittlere Ortszeit der Kulmination der Hauptsterne.

Name des Sterns	Eigennamen	Größe	Gerade Aufsteigung 1917,5		Jährliche Änderung	Abweichung 1917,5		Jährliche Änderung	Berichtig. für Monatslag																															
			h	m		s	o		r	Tag																														
										Ber.																														
			0	35	48	+3.4	+56	5.1	+0.33	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
α Cassiopejæ	Schedir	2.2-2.8	1	5	6	+3.4	+35	11.0	+0.32	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
β Andromedæ	Mirach	2.2	1	20	25	+3.9	+59	48.4	+0.31	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
δ Cassiopejæ		2.8	1	30	27	+2.5	+88	51.9	+0.31	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
α Ursæ minoris	Nordstern	2.2	1	58	50	+3.7	+41	56.0	+0.29	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
γ^1 Andromedæ	Alamak	2.3	1	2	48	+3.9	+40	38.3	+0.23	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
β Persei	Algol	2.3-3.5	3	18	26	+4.3	+49	34.2	+0.22	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
α Persei	Algenib	1.9	3	10	35	+4.4	+45	55.0	+0.06	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		
α Aurigæ	Capella	0.2	5	53	29	+4.4	+44	56.4	+0.01	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31				
β Aurigæ		2.0	5	29	20	+3.8	+32	4.3	-0.13	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31				
α Geminorum	Castor	2.0	7	58	39	+3.7	+62	11.8	-0.32	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31						
α Ursæ majoris	Dubhe	1.9	10	49	30	+3.2	+54	9.2	-0.33	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31									
γ Ursæ majoris		2.5	11	50	25	+2.6	+56	24.5	-0.33	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31										
ε Ursæ majoris	Alioth	1.8	12	20	36	+2.4	+55	21.3	-0.31	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31											
ζ^1 Ursæ majoris	Mizar	2.2	13	44	18	+2.4	+49	43.5	-0.30	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31												
η Ursæ majoris	Benetnasch	1.9	13	50	56	-0.2	+74	29.6	-0.25	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31												
β Ursæ minoris	Kochab	2.3	14	54	41	+1.4	+51	29.9	-0.01	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31													
γ Draconis		2.5	17	34	9	+2.0	+38	42.3	+0.05	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31																
α Lyrae	Wega	0.1	18	20	19	+2.2	+39	59.5	+0.19	18	19	20	21	22	23	24	25	26	27	28	29	30	31																	
γ Cygni		2.3	20	38	37	+2.0	+44	59.1	+0.21	20	21	22	23	24	25	26	27	28	29	30	31																			
α Cygni	Deneb	1.3	20	16	36	+1.4	+62	14.1	+0.25	21	22	23	24	25	26	27	28	29	30	31																				
α Cephei		2.6	21	19	16	+2.2	+39	59.5	+0.19	22	23	24	25	26	27	28	29	30	31																					

55°N

α Cassiopejæ (Schedir)

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Std. wkl. m.	0. Stunde					Std. wkl. m.	1. Stunde					Std. wkl. m.	2. Stunde				
	Höhe	Azimut	Δt	Δh	ΔA		Höhe	Azimut	Δt	Δh	ΔA		Höhe	Azimut	Δt	Δh	ΔA
			sek			0	81° 27.7	76.6	6	-0.8		0	73° 7.6	74.0	6	-0.8	
1						1	81 19.3	76.6	6	-1.7		1	72 59.3	73.9	6	-1.7	
2						2	81 11.0	76.6	12	-2.5		2	72 51.0	73.8	12	-2.5	
3						3	81 2.6	76.6	18	-3.3		3	72 42.7	73.7	18	-3.3	
4						4	80 54.2	76.6	24	-4.2		4	72 34.5	73.6	24	-4.2	
5						5	80 45.8	76.6	30	-5.0		5	72 26.2	73.6	30	-5.0	
6						6	80 37.5	76.6	36	-5.8		6	72 18.0	73.5	36	-5.8	
7						7	80 29.1	76.6	42	-6.7		7	72 9.7	73.4	42	-6.7	
8						8	80 20.7	76.6	48	-7.5		8	72 1.5	73.3	48	-7.5	
9						9	80 12.4	76.6	54	-0.8		9	71 53.3	73.3	54	-0.8	
10						10	80 4.0	76.6	6	-1.7		10	71 45.1	73.2	6	-1.7	
11						11	79 55.6	76.6	12	-2.5		11	71 36.8	73.1	12	-2.5	
12						12	79 47.2	76.5	18	-3.3		12	71 28.6	73.0	18	-3.3	
13						13	79 38.9	76.5	24	-4.2		13	71 20.4	73.0	24	-4.2	
14						14	79 30.5	76.5	30	-5.0		14	71 12.2	72.9	30	-5.0	
15						15	79 22.2	76.5	36	-5.8		15	71 3.9	72.8	36	-5.8	
16						16	79 13.8	76.4	42	-6.7		16	70 55.7	72.7	42	-6.7	
17						17	79 5.4	76.4	48	-7.5		17	70 47.5	72.7	48	-7.5	
18						18	78 57.1	76.4	54	-0.8		18	70 39.3	72.6	54	-0.8	
19						19	78 48.7	76.3	6	-1.7		19	70 31.0	72.5	6	-1.7	
20						20	78 40.4	76.3	12	-2.5		20	70 22.8	72.4	12	-2.5	
21						21	78 32.0	76.2	18	-3.3		21	70 14.6	72.3	18	-3.3	
22						22	78 23.6	76.2	24	-4.2		22	70 6.4	72.2	24	-4.2	
23						23	78 15.3	76.1	30	-5.0		23	69 58.2	72.1	30	-5.0	
24						24	78 6.9	76.1	36	-5.8		24	69 50.1	72.0	36	-5.8	
25						25	77 58.6	76.1	42	-6.7		25	69 41.9	71.9	42	-6.7	
26						26	77 50.2	76.0	48	-7.5		26	69 33.7	71.9	48	-7.5	
27						27	77 41.9	76.0	54	-0.8		27	69 25.5	71.8	54	-0.8	
28						28	77 33.5	76.0	6	-1.7		28	69 17.4	71.7	6	-1.7	
29						29	77 25.2	75.9	12	-2.5		29	69 9.2	71.6	12	-2.5	
30						30	77 16.8	75.9	18	-3.3		30	69 1.0	71.5	18	-3.3	
31	85 37.4	72.6				31	77 8.5	75.8	24	-4.2		31	68 52.8	71.5	24	-4.2	
32	85 29.1	72.9	6	-0.8	+0.0	32	77 0.2	75.8	30	-5.0		32	68 44.7	71.4	30	-5.0	
33	85 20.9	73.2	12	-1.7	+0.1	33	76 51.8	75.7	36	-5.8		33	68 36.5	71.3	36	-5.8	
34	85 12.7	73.5	18	-2.5	+0.1	34	76 43.5	75.7	42	-6.7		34	68 28.4	71.2	42	-6.7	
35	85 4.5	73.8	24	-3.3	+0.1	35	76 35.1	75.6	48	-7.5		35	68 20.2	71.1	48	-7.5	
36	84 56.2	74.1	30	-4.1	+0.1	36	76 26.8	75.5	54	-0.8		36	68 12.1	71.0	54	-0.8	
37	84 47.9	74.3	36	-5.0	+0.2	37	76 18.5	75.5	6	-1.7		37	68 4.0	70.9	6	-1.7	
38	84 39.6	74.5	42	-5.8	+0.2	38	76 10.1	75.4	12	-2.5		38	67 55.9	70.8	12	-2.5	
39	84 31.3	74.7	48	-6.6	+0.2	39	76 1.8	75.4	18	-3.3		39	67 47.7	70.7	18	-3.3	
40	84 23.0	74.9	54	-7.5	+0.2	40	75 53.5	75.3	24	-4.2		40	67 39.6	70.7	24	-4.2	
41	84 14.7	75.1	6	-0.8	+0.0	41	75 45.2	75.2	30	-5.0		41	67 31.5	70.6	30	-5.0	
42	83 58.0	75.4	12	-1.7	+0.0	42	75 36.8	75.2	36	-5.8		42	67 23.4	70.5	36	-5.8	
43	83 49.7	75.5	18	-2.5	+0.0	43	75 28.5	75.1	42	-6.7		43	67 15.3	70.4	42	-6.7	
44	83 41.4	75.6	24	-3.3	+0.0	44	75 20.2	75.1	48	-7.5		44	67 7.2	70.3	48	-7.5	
45	83 33.1	75.7	30	-4.1	+0.1	45	75 11.9	75.0	54	-0.8		45	66 59.1	70.2	54	-0.8	
46	83 24.7	75.8	36	-5.0	+0.1	46	75 3.6	74.9	6	-1.7		46	66 51.0	70.1	6	-1.7	
47	83 16.4	75.9	42	-5.8	+0.1	47	74 55.3	74.9	12	-2.5		47	66 42.9	70.0	12	-2.5	
48	83 8.0	76.0	48	-6.6	+0.1	48	74 47.0	74.8	18	-3.3		48	66 34.8	69.9	18	-3.3	
49	82 59.7	76.1	54	-7.5	+0.1	49	74 38.7	74.8	24	-4.2		49	66 26.7	69.8	24	-4.2	
50	82 51.3	76.2	6	-0.8		50	74 30.4	74.7	30	-5.0		50	66 18.6	69.7	30	-5.0	
51	82 43.0	76.2	12	-1.7		51	74 22.1	74.6	36	-5.8		51	66 10.5	69.7	36	-5.8	
52	82 34.6	76.2	18	-2.5		52	74 13.8	74.5	42	-6.7		52	66 2.5	69.6	42	-6.7	
53	82 26.3	76.3	24	-3.3		53	74 5.5	74.5	48	-7.5		53	65 54.4	69.5	48	-7.5	
54	82 17.9	76.3	30	-4.2		54	73 57.2	74.4	54	-0.8		54	65 46.4	69.4	54	-0.8	
55	82 9.5	76.4	36	-5.0		55	73 48.9	74.3	6	-1.7		55	65 38.3	69.3	6	-1.7	
56	82 1.1	76.4	42	-5.8		56	73 40.7	74.2	12	-2.5		56	65 30.3	69.2	12	-2.5	
57	81 52.8	76.5	48	-6.6		57	73 32.4	74.2	18	-3.3		57	65 22.3	69.1	18	-3.3	
58	81 44.4	76.5	54	-7.5		58	73 24.1	74.1	24	-4.2		58	65 14.2	69.1	24	-4.2	
59	81 36.1	76.6	6	-0.8		59	73 15.8	74.1	30	-5.0		59	65 6.2	69.0	30	-5.0	

	1920-1925	1925-1930	1930-1935		1920-1925	1925-1930	1930-1935		1920-1925	1925-1930	1930-1935
Δh	-0.2	-0.3	-0.5	Δh	+0.1	+0.3	+0.4	Δh	+0.4	+0.7	+1.1
ΔA	-0.3	-0.5	-0.8	ΔA	-0.1	-0.3	-0.4	ΔA	-0.1	-0.2	-0.3

α 1917 = 0^b 35^m 48^s Jährliche Änderung +3^s 4

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α Cassiopejæ (Schedir)

55°N

Std. wkl. m.	3. Stunde					Std. wkl. m.	4. Stunde					Std. wkl. m.	5. Stunde				
	Höhe	Azimet	Δt	Δh	ΔA		Höhe	Azimet	Δt	Δh	ΔA		Höhe	Azimet	Δt	Δh	ΔA
0	64°58'2	68°8	sek			0	57°7'2	62°9	sek		0	49°41'7	56°4	sek			
1	64 50.2	68.7	6	-0.8		1	56 59.5	62.8	6	-0.8	1	49 34.5	56.3	6	-0.7		
2	64 42.1	68.6	12	-1.6		2	56 51.9	62.7	12	-1.5	2	49 27.4	56.2	12	-1.4		
3	64 34.1	68.5	18	-2.4		3	56 44.2	62.6	18	-2.3	3	49 20.2	56.1	18	-2.1		
4	64 26.1	68.4	24	-3.2		4	56 36.6	62.5	24	-3.1	4	49 13.1	56.0	24	-2.9		
5	64 18.1	68.3	30	-4.0		5	56 28.9	62.4	30	-3.8	5	49 6.0	55.9	30	-3.6		
6	64 10.1	68.2	36	-4.8		6	56 21.3	62.3	36	-4.6	6	48 58.9	55.7	36	-4.3		
7	64 2.1	68.2	42	-5.6		7	56 13.7	62.2	42	-5.4	7	48 51.8	55.6	42	-5.0		
8	63 54.2	68.1	48	-6.4		8	56 6.1	62.1	48	-6.1	8	48 44.7	55.5	48	-5.7		
9	63 46.2	68.0	54	-7.2		9	55 58.5	61.9	54	-6.9	9	48 37.6	55.4	54	-6.4		
10	63 38.2	67.9				10	55 50.9	61.8			10	48 30.5	55.3				
11	63 30.2	67.8	6	-0.8		11	55 43.3	61.7	6	-0.8	11	48 23.4	55.2	6	-0.7		
12	63 22.3	67.7	12	-1.6		12	55 35.8	61.6	12	-1.5	12	48 16.4	55.1	12	-1.4		
13	63 14.3	67.6	18	-2.4		13	55 28.2	61.5	18	-2.3	13	48 9.3	55.0	18	-2.1		
14	63 6.4	67.5	24	-3.2		14	55 20.7	61.4	24	-3.0	14	48 2.3	54.9	24	-2.8		
15	62 58.4	67.4	30	-4.0		15	55 13.1	61.3	30	-3.8	15	47 55.2	54.7	30	-3.5		
16	62 50.5	67.3	36	-4.8		16	55 5.6	61.2	36	-4.6	16	47 48.2	54.6	36	-4.2		
17	62 42.5	67.2	42	-5.6		17	54 58.0	61.1	42	-5.3	17	47 41.2	54.5	42	-4.9		
18	62 34.6	67.1	48	-6.4		18	54 50.5	61.0	48	-6.1	18	47 34.2	54.4	48	-5.6		
19	62 26.7	67.0	54	-7.2		19	54 43.0	60.9	54	-6.8	19	47 27.2	54.3	54	-6.3		
20	62 18.8	66.9				20	54 35.5	60.8			20	47 20.3	54.2				
21	62 10.9	66.8	6	-0.8		21	54 28.0	60.7	6	-0.8	21	47 13.3	54.1	6	-0.7		
22	62 3.0	66.7	12	-1.6		22	54 20.5	60.6	12	-1.5	22	47 6.4	53.9	12	-1.4		
23	61 55.1	66.6	18	-2.4		23	54 13.0	60.4	18	-2.3	23	46 59.4	53.8	18	-2.1		
24	61 47.2	66.5	24	-3.2		24	54 5.5	60.3	24	-3.0	24	46 52.5	53.7	24	-2.8		
25	61 39.3	66.4	30	-4.0		25	53 58.0	60.2	30	-3.8	25	46 45.5	53.6	30	-3.5		
26	61 31.4	66.3	36	-4.7		26	53 50.5	60.1	36	-4.5	26	46 38.6	53.5	36	-4.2		
27	61 23.5	66.2	42	-5.5		27	53 43.0	60.0	42	-5.3	27	46 31.7	53.4	42	-4.9		
28	61 15.7	66.1	48	-6.3		28	53 35.6	59.9	48	-6.0	28	46 24.8	53.3	48	-5.6		
29	61 7.8	66.0	54	-7.1		29	53 28.1	59.8	54	-6.8	29	46 17.9	53.2	54	-6.3		
30	60 59.9	65.9				30	53 20.7	59.7			30	46 11.0	53.0				
31	60 52.0	65.8	6	-0.8		31	53 13.3	59.6	6	-0.7	31	46 4.1	52.9	6	-0.7		
32	60 44.2	65.7	12	-1.6		32	53 5.9	59.5	12	-1.5	32	45 57.3	52.8	12	-1.4		
33	60 36.3	65.6	18	-2.3		33	52 58.5	59.4	18	-2.2	33	45 50.4	52.7	18	-2.0		
34	60 28.5	65.5	24	-3.1		34	52 51.1	59.3	24	-3.0	34	45 43.6	52.6	24	-2.7		
35	60 20.7	65.4	30	-3.9		35	52 43.7	59.2	30	-3.7	35	45 36.7	52.5	30	-3.4		
36	60 12.9	65.3	36	-4.7		36	52 36.3	59.1	36	-4.4	36	45 29.9	52.3	36	-4.1		
37	60 5.1	65.2	42	-5.5		37	52 28.9	59.0	42	-5.2	37	45 23.1	52.2	42	-4.8		
38	59 57.3	65.1	48	-6.2		38	52 21.6	58.9	48	-5.9	38	45 16.3	52.1	48	-5.4		
39	59 49.5	65.0	54	-7.0		39	52 14.2	58.7	54	-6.7	39	45 9.5	52.0	54	-6.1		
40	59 41.7	64.9				40	52 6.9	58.6			40	45 2.8	51.9				
41	59 33.9	64.8	6	-0.8		41	51 59.5	58.5	6	-0.7	41	44 56.0	51.8	6	-0.7		
42	59 26.1	64.7	12	-1.6		42	51 52.2	58.4	12	-1.5	42	44 49.3	51.7	12	-1.3		
43	59 18.3	64.6	18	-2.3		43	51 44.9	58.3	18	-2.2	43	44 42.5	51.5	18	-2.0		
44	59 10.6	64.5	24	-3.1		44	51 37.6	58.2	24	-2.9	44	44 35.8	51.4	24	-2.7		
45	59 2.8	64.4	30	-3.9		45	51 30.3	58.1	30	-3.7	45	44 29.0	51.3	30	-3.4		
46	58 55.1	64.3	36	-4.7		46	51 23.0	58.0	36	-4.4	46	44 22.3	51.2	36	-4.0		
47	58 47.4	64.2	42	-5.4		47	51 15.7	57.8	42	-5.1	47	44 15.6	51.1	42	-4.7		
48	58 39.7	64.1	48	-6.2		48	51 8.4	57.7	48	-5.8	48	44 8.9	50.9	48	-5.4		
49	58 31.9	64.0	54	-7.0		49	51 1.1	57.6	54	-6.6	49	44 2.2	50.8	54	-6.0		
50	58 24.2	63.9				50	50 53.9	57.5			50	43 55.6	50.7				
51	58 16.4	63.8	6	-0.8		51	50 46.6	57.4	6	-0.7	51	43 48.9	50.6	6	-0.7		
52	58 8.7	63.7	12	-1.5		52	50 39.4	57.3	12	-1.4	52	43 42.3	50.5	12	-1.3		
53	58 1.0	63.6	18	-2.3		53	50 32.1	57.2	18	-2.2	53	43 35.7	50.4	18	-2.0		
54	57 53.3	63.5	24	-3.1		54	50 24.9	57.1	24	-2.9	54	43 29.1	50.2	24	-2.6		
55	57 45.6	63.4	30	-3.8		55	50 17.7	57.0	30	-3.6	55	43 22.5	50.1	30	-3.3		
56	57 37.9	63.3	36	-4.6		56	50 10.5	56.9	36	-4.3	56	43 15.9	50.0	36	-4.0		
57	57 30.2	63.2	42	-5.4		57	50 3.3	56.8	42	-5.1	57	43 9.3	49.9	42	-4.6		
58	57 22.5	63.1	48	-6.2		58	49 56.1	56.7	48	-5.8	58	43 2.7	49.8	48	-5.3		
59	57 14.8	63.0	54	-7.0		59	49 48.9	56.5	54	-6.5	59	42 56.1	49.6	54	-5.9		

- α Cassiopejæ (Schedir) (Andromedæ (Mirach))
- Cassiopejæ
- Andromedæ (Alamak)
- β Persei (Algol)
- Persei (Algenib)
- α Aurigæ (Capella)
- β Aurigæ
- minorum (Castor)
- Ursæ majoris (Dubhe)
- Ursæ majoris
- Ursæ majoris (Alioth)
- Ursæ majoris (Mizar)
- Ursæ majoris (Benetnasch)
- Ursæ minoris (Kochab)
- Draconis
- α Lyrae (Weğa)
- γ Cygni
- α Cygni (Deneb)
- α Cephei
- Ursæ minoris (Nordstern)

	1920-1925	1925-1930	1930-1935		1920-1925	1925-1930	1930-1935		1920-1925	1925-1930	1930-1935
Δh	+0.6	+1.1	+1.7	Δh	+0.8	+1.5	+2.3	Δh	+0.9	+1.9	+2.8
ΔA	-0.1	-0.1	-0.2	ΔA	—	-0.1	-0.2	ΔA	—	-0.1	-0.1

α 1917 = 0^h35^m48^s Jährliche Änderung +3^s.4

55°N

a Cassiopejæ (Schedir)

55°N

Std. wkl. m.	6. Stunde					Std. wkl. m.	7. Stunde					Std. wkl. m.	8. Stunde				
	Höhe	Azimet	Δt	Δh	ΔA		Höhe	Azimet	Δt	Δh	ΔA		Höhe	Azimet	Δt	Δh	ΔA
0	42°49'6	49°5	sek			0	36°39'1	42°2	sek			0	31°19'0	34°4	sek		
1	42 43.0	49.4	6	-0.6		1	36 33.3	42.1	6	-0.6		1	31 14.1	34.3	6	-0.5	
2	42 36.5	49.3	12	-1.3		2	36 27.6	41.9	12	-1.1		2	31 9.3	34.1	12	-1.0	
3	42 30.0	49.1	18	-1.9		3	36 21.8	41.8	18	-1.7		3	31 4.5	34.0	18	-1.4	
4	42 23.5	49.0	24	-2.6		4	36 16.1	41.7	24	-2.3		4	30 59.7	33.9	24	-1.9	
5	42 17.0	48.9	30	-3.2		5	36 10.4	41.6	30	-2.9		5	30 54.9	33.8	30	-2.4	
6	42 10.5	48.8	36	-3.9		6	36 4.7	41.4	36	-3.4		6	30 50.1	33.6	36	-2.9	
7	42 4.0	48.7	42	-4.5		7	35 59.0	41.3	42	-4.0		7	30 45.3	33.5	42	-3.4	
8	41 57.1	48.5	48	-5.2		8	35 53.3	41.2	48	-4.6		8	30 40.6	33.4	48	-3.8	
9	41 51.1	48.4	54	-5.8		9	35 47.6	41.0	54	-5.1		9	30 35.9	33.2	54	-4.3	
10	41 44.7	48.3				10	35 42.0	40.9				10	30 31.2	33.1			
11	41 38.3	48.2	6	-0.6		11	35 36.4	40.8	6	-0.6		11	30 26.5	33.0	6	-0.5	
12	41 31.9	48.1	12	-1.3		12	35 30.8	40.7	12	-1.1		12	30 21.8	32.8	12	-0.9	
13	41 25.5	47.9	18	-1.9		13	35 25.2	40.5	18	-1.7		13	30 17.1	32.7	18	-1.4	
14	41 19.1	47.8	24	-2.5		14	35 19.6	40.4	24	-2.2		14	30 12.5	32.6	24	-1.8	
15	41 12.7	47.7	30	-3.2		15	35 14.0	40.3	30	-2.8		15	30 7.9	32.5	30	-2.3	
16	41 6.4	47.6	36	-3.8		16	35 8.5	40.2	36	-3.3		16	30 3.3	32.3	36	-2.8	
17	41 0.0	47.5	42	-4.5		17	35 2.9	40.1	42	-3.9		17	29 58.7	32.2	42	-3.2	
18	40 53.7	47.3	48	-5.1		18	34 57.4	39.9	48	-4.4		18	29 54.1	32.1	48	-3.7	
19	40 47.4	47.2	54	-5.7		19	34 51.9	39.8	54	-5.0		19	29 49.5	31.9	54	-4.1	
20	40 41.1	47.1				20	34 46.4	39.7				20	29 45.0	31.8			
21	40 34.8	47.0	6	-0.6		21	34 40.9	39.6	6	-0.5		21	29 40.5	31.7	6	-0.4	
22	40 28.5	46.9	12	-1.2		22	34 35.4	39.4	12	-1.1		22	29 36.0	31.5	12	-0.9	
23	40 22.2	46.7	18	-1.9		23	34 29.9	39.3	18	-1.6		23	29 31.5	31.4	18	-1.3	
24	40 15.9	46.6	24	-2.5		24	34 24.5	39.2	24	-2.2		24	29 27.0	31.2	24	-1.8	
25	40 9.6	46.5	30	-3.1		25	34 19.1	39.0	30	-2.7		25	29 22.5	31.1	30	-2.2	
26	40 3.4	46.4	36	-3.7		26	34 13.7	38.9	36	-3.2		26	29 18.1	31.0	36	-2.6	
27	39 57.2	46.3	42	-4.3		27	34 8.3	38.8	42	-3.8		27	29 13.7	30.8	42	-3.1	
28	39 51.0	46.1	48	-5.0		28	34 2.9	38.7	48	-4.3		28	29 9.3	30.7	48	-3.5	
29	39 44.8	46.0	54	-5.6		29	33 57.5	38.5	54	-4.9		29	29 4.9	30.5	54	-4.0	
30	39 38.6	45.9				30	33 52.2	38.4				30	29 0.6	30.4			
31	39 32.4	45.8	6	-0.6		31	33 46.9	38.2	6	-0.5		31	28 56.2	30.3	6	-0.4	
32	39 26.3	45.7	12	-1.2		32	33 41.6	38.1	12	-1.0		32	28 51.9	30.1	12	-0.9	
33	39 20.1	45.5	18	-1.8		33	33 36.3	38.0	18	-1.6		33	28 47.6	30.0	18	-1.3	
34	39 14.0	45.4	24	-2.4		34	33 31.0	37.9	24	-2.1		34	28 43.3	29.8	24	-1.7	
35	39 7.9	45.3	30	-3.0		35	33 25.7	37.7	30	-2.6		35	28 39.0	29.7	30	-2.1	
36	39 1.8	45.2	36	-3.7		36	33 20.5	37.6	36	-3.1		36	28 34.8	29.6	36	-2.6	
37	38 55.7	45.1	42	-4.3		37	33 15.2	37.5	42	-3.7		37	28 30.5	29.4	42	-3.0	
38	38 49.6	44.9	48	-4.9		38	33 10.0	37.3	48	-4.2		38	28 26.3	29.3	48	-3.4	
39	38 43.5	44.8	54	-5.5		39	33 4.8	37.2	54	-4.7		39	28 22.1	29.1	54	-3.9	
40	38 37.5	44.7				40	32 59.6	37.1				40	28 17.9	29.0			
41	38 31.4	44.6	6	-0.6		41	32 54.4	37.0	6	-0.5		41	28 13.7	28.9	6	-0.4	
42	38 25.4	44.5	12	-1.2		42	32 49.2	36.8	12	-1.0		42	28 9.6	28.7	12	-0.8	
43	38 19.4	44.3	18	-1.8		43	32 44.0	36.7	18	-1.5		43	28 5.5	28.6	18	-1.2	
44	38 13.4	44.2	24	-2.4		44	32 38.9	36.6	24	-2.0		44	28 1.4	28.5	24	-1.6	
45	38 7.4	44.1	30	-3.0		45	32 33.8	36.5	30	-2.5		45	27 57.3	28.4	30	-2.0	
46	38 1.4	43.9	36	-3.6		46	32 28.7	36.3	36	-3.1		46	27 53.2	28.2	36	-2.5	
47	37 55.4	43.8	42	-4.2		47	32 23.6	36.2	42	-3.6		47	27 49.1	28.1	42	-2.9	
48	37 49.5	43.7	48	-4.8		48	32 18.6	36.1	48	-4.1		48	27 45.1	28.0	48	-3.3	
49	37 43.5	43.6	54	-5.4		49	32 13.5	35.9	54	-4.6		49	27 41.1	27.8	54	-3.7	
50	37 37.6	43.4				50	32 8.5	35.8				50	27 37.1	27.7			
51	37 31.7	43.3	6	-0.6		51	32 3.5	35.7	6	-0.5		51	27 33.1	27.6	6	-0.4	
52	37 25.8	43.2	12	-1.2		52	31 58.5	35.5	12	-1.0		52	27 29.1	27.4	12	-0.8	
53	37 19.9	43.1	18	-1.8		53	31 53.5	35.4	18	-1.5		53	27 25.1	27.3	18	-1.2	
54	37 14.1	42.9	24	-2.4		54	31 48.5	35.2	24	-2.0		54	27 21.2	27.1	24	-1.6	
55	37 8.2	42.8	30	-3.0		55	31 43.5	35.1	30	-2.5		55	27 17.3	27.0	30	-2.0	
56	37 2.4	42.7	36	-3.5		56	31 38.6	35.0	36	-3.0		56	27 13.4	26.9	36	-2.3	
57	36 56.5	42.6	42	-4.1		57	31 33.7	34.8	42	-3.5		57	27 9.5	26.7	42	-2.7	
58	36 50.7	42.4	48	-4.7		58	31 28.8	34.7	48	-4.0		58	27 5.7	26.6	48	-3.1	
59	36 44.9	42.3	54	-5.3		59	31 23.9	34.5	54	-4.5		59	27 1.9	26.4	54	-3.5	

	1920-1925	1925-1930	1930-1935		1920-1925	1925-1930	1930-1935		1920-1925	1925-1930	1930-1935
Δh	+ 1.1	+ 2.2	+ 3.3	Δh	+ 1.3	+ 2.5	+ 3.8	Δh	+ 1.4	+ 2.8	+ 4.2
ΔA	—	—	—	ΔA	—	—	—	ΔA	—	—	—

55°N

 α Cassiopejæ (Schedir)

55°N

Std. wkl. m.	9. Stunde					Std. wkl. m.	10. Stunde					Std. wkl. m.	11. Stunde				
	Höhe	Azimuth	Δt	Δh	ΔA		Höhe	Azimuth	Δt	Δh	ΔA		Höhe	Azimuth	Δt	Δh	ΔA
0	26°58.1	26°3	sek			0	23°44.6	17°9	sek			0	21°45.4	8°9	sek		
1	26 54.3	26.2	6	-0.4		1	23 42.0	17.6	6	-0.2		1	21 44.1	8.8	6	-0.1	
2	26 50.5	26.0	12	-0.7		2	23 39.4	17.4	12	-0.5		2	21 42.8	8.6	12	-0.2	
3	26 46.7	25.9	18	-1.1		3	23 36.8	17.3	18	-0.7		3	21 41.5	8.5	18	-0.4	
4	26 43.0	25.7	24	-1.5		4	23 34.2	17.1	24	-1.0		4	21 40.2	8.3	24	-0.5	
5	26 39.3	25.6	30	-1.8		5	23 31.7	17.0	30	-1.2		5	21 39.0	8.2	30	-0.6	
6	26 35.6	25.5	36	-2.2		6	23 29.2	16.9	36	-1.5		6	21 37.8	8.0	36	-0.7	
7	26 31.9	25.3	42	-2.6		7	23 26.7	16.7	42	-1.7		7	21 36.6	7.9	42	-0.8	
8	26 28.2	25.2	48	-3.0		8	23 24.2	16.6	48	-2.0		8	21 35.4	7.7	48	-1.0	
9	26 24.5	25.0	54	-3.3		9	23 21.8	16.4	54	-2.2		9	21 34.2	7.6	54	-1.1	
10	26 20.9	24.9				10	23 19.4	16.3				10	21 33.1	7.4			
11	26 17.3	24.8	6	-0.3		11	23 17.0	16.1	6	-0.2		11	21 32.0	7.3	6	-0.1	
12	26 13.7	24.6	12	-0.7		12	23 14.6	16.0	12	-0.5		12	21 30.9	7.1	12	-0.2	
13	26 10.1	24.5	18	-1.0		13	23 12.2	15.9	18	-0.7		13	21 29.8	7.0	18	-0.3	
14	26 6.6	24.3	24	-1.4		14	23 9.9	15.7	24	-0.9		14	21 28.8	6.8	24	-0.4	
15	26 3.0	24.2	30	-1.7		15	23 7.6	15.6	30	-1.1		15	21 27.8	6.7	30	-0.5	
16	25 59.5	24.1	36	-2.1		16	23 5.3	15.4	36	-1.4		16	21 26.8	6.6	36	-0.6	
17	25 56.0	23.9	42	-2.4		17	23 3.0	15.3	42	-1.6		17	21 25.8	6.4	42	-0.7	
18	25 52.6	23.8	48	-2.8		18	23 0.8	15.1	48	-1.8		18	21 24.9	6.3	48	-0.8	
19	25 49.1	23.6	54	-3.1		19	22 58.5	15.0	54	-2.1		19	21 24.0	6.1	54	-0.9	
20	25 45.7	23.5				20	22 56.3	14.8				20	21 23.1	6.0			
21	25 42.3	23.3	6	-0.3		21	22 54.1	14.7	6	-0.2		21	21 22.2	5.9	6	-0.1	
22	25 39.0	23.2	12	-0.7		22	22 51.9	14.5	12	-0.4		22	21 21.4	5.7	12	-0.2	
23	25 35.5	23.0	18	-1.0		23	22 49.7	14.4	18	-0.6		23	21 20.5	5.6	18	-0.2	
24	25 32.1	22.9	24	-1.3		24	22 47.6	14.2	24	-0.8		24	21 19.7	5.4	24	-0.3	
25	25 28.8	22.8	30	-1.6		25	22 45.5	14.1	30	-1.0		25	21 18.9	5.3	30	-0.4	
26	25 25.5	22.6	36	-2.0		26	22 43.4	14.0	36	-1.3		26	21 18.1	5.1	36	-0.5	
27	25 22.2	22.5	42	-2.3		27	22 41.3	13.8	42	-1.5		27	21 17.3	5.0	42	-0.6	
28	25 18.9	22.3	48	-2.6		28	22 39.3	13.7	48	-1.7		28	21 16.6	4.8	48	-0.6	
29	25 15.6	22.2	54	-3.0		29	22 37.3	13.5	54	-1.9		29	21 15.9	4.7	54	-0.7	
30	25 12.4	22.0				30	22 35.3	13.4				30	21 15.2	4.5			
31	25 9.2	21.9	6	-0.3		31	22 33.3	13.2	6	-0.2		31	21 14.5	4.4	6	-0.1	
32	25 6.0	21.7	12	-0.6		32	22 31.4	13.1	12	-0.4		32	21 13.9	4.2	12	-0.1	
33	25 2.8	21.6	18	-0.9		33	22 29.5	12.9	18	-0.6		33	21 13.3	4.1	18	-0.2	
34	24 59.7	21.4	24	-1.3		34	22 27.6	12.8	24	-0.8		34	21 12.7	3.9	24	-0.2	
35	24 56.5	21.3	30	-1.6		35	22 25.7	12.6	30	-1.0		35	21 12.1	3.8	30	-0.3	
36	24 53.4	21.2	36	-1.9		36	22 23.8	12.5	36	-1.1		36	21 11.6	3.6	36	-0.4	
37	24 50.3	21.0	42	-2.2		37	22 21.9	12.3	42	-1.3		37	21 11.1	3.5	42	-0.4	
38	24 47.2	20.9	48	-2.5		38	22 20.1	12.2	48	-1.5		38	21 10.6	3.3	48	-0.5	
39	24 44.1	20.7	54	-2.8		39	22 18.3	12.1	54	-1.7		39	21 10.1	3.2	54	-0.5	
40	24 41.1	20.6				40	22 16.5	11.9				40	21 9.6	3.0			
41	24 38.1	20.5	6	-0.3		41	22 14.7	11.8	6	-0.2		41	21 9.2	2.9	6	-0.0	
42	24 35.1	20.3	12	-0.6		42	22 13.0	11.6	12	-0.3		42	21 8.8	2.7	12	-0.1	
43	24 32.1	20.2	18	-0.9		43	22 11.3	11.5	18	-0.5		43	21 8.4	2.6	18	-0.1	
44	24 29.1	20.0	24	-1.2		44	22 9.6	11.3	24	-0.7		44	21 8.0	2.4	24	-0.1	
45	24 26.2	19.9	30	-1.5		45	22 7.9	11.2	30	-0.8		45	21 7.6	2.3	30	-0.1	
46	24 23.3	19.8	36	-1.7		46	22 6.3	11.0	36	-1.0		46	21 7.3	2.1	36	-0.2	
47	24 20.4	19.6	42	-2.0		47	22 4.6	10.9	42	-1.2		47	21 7.0	2.0	42	-0.2	
48	24 17.5	19.5	48	-2.3		48	22 3.0	10.7	48	-1.4		48	21 6.7	1.8	48	-0.2	
49	24 14.6	19.3	54	-2.6		49	22 1.4	10.6	54	-1.5		49	21 6.4	1.7	54	-0.3	
50	24 11.8	19.2				50	21 59.9	10.4				50	21 6.2	1.5			
51	24 9.0	19.0	6	-0.3		51	21 58.3	10.3	6	-0.1		51	21 6.0	1.4	6	-0.0	
52	24 6.2	18.9	12	-0.5		52	21 56.8	10.1	12	-0.3		52	21 5.8	1.2	12	-0.0	
53	24 3.4	18.7	18	-0.8		53	21 55.3	10.0	18	-0.4		53	21 5.6	1.1	18	-0.0	
54	24 0.7	18.6	24	-1.1		54	21 53.8	9.8	24	-0.6		54	21 5.5	0.9	24	-0.1	
55	23 57.9	18.5	30	-1.3		55	21 52.3	9.7	30	-0.7		55	21 5.4	0.7	30	-0.1	
56	23 55.2	18.3	36	-1.6		56	21 50.9	9.5	36	-0.9		56	21 5.3	0.6	36	-0.1	
57	23 52.5	18.2	42	-1.9		57	21 49.5	9.4	42	-1.0		57	21 5.2	0.4	42	-0.1	
58	23 49.9	18.0	48	-2.2		58	21 48.1	9.2	48	-1.2		58	21 5.2	0.3	48	-0.1	
59	23 47.2	17.9	54	-2.4		59	21 46.7	9.1	54	-1.3		59	21 5.1	0.1	54	-0.1	
m Std. wkl.	Höhe	Azimuth	Δt	Δh	ΔA	m Std. wkl.	Höhe	Azimuth	Δt	Δh	ΔA	m Std. wkl.	Höhe	Azimuth	Δt	Δh	ΔA
9. Stunde					10. Stunde					11. Stunde							

(Andromedæ
(Mirach)

Cassiopejæ

ndromedæ
(Alamak)3 Persei
(Algol)Persei
(Algenib) α Aurigæ
(Capella)

3 Aurigæ

eminorum
(Castor)Ursæ majoris
(Dubhe)

rsæ majoris

rsæ majoris
(Alioth)Ursæ majoris
(Mizar)rsæ majoris
(Benetnasch)rsæ minoris
(Kochab)

Draconis

 α Lyrae
(Weğa) γ Cygni α Cygni
(Deneb) α CepheiUrsæ minoris
Nordstern)

	1920-1925	1925-1930	1930-1935		1920-1925	1925-1930	1930-1935		1920-1925	1925-1930	1930-1935
Δh	+ 1.5	+ 3.0	+ 4.6	Δh	+ 1.6	+ 3.2	+ 4.8	Δh	+ 1.6	+ 3.3	+ 4.9
ΔA	—	—	—	ΔA	—	—	—	ΔA	—	—	—

 α 1917 = 0^h 35^m 48^s Jährliche Änderung + 3^s.4

Main table with columns for Sidewinkel, Hour, Azimuth, Δt, Δh, ΔA for 0, 1, and 2 hours. Rows 0-59.

Summary table with columns for year ranges (1920-1925, 1925-1930, 1930-1935) and rows for Δh and ΔA.

55°N

β Andromedae (Mirach)

55°N

Std. wkl. m.	6. Stunde					Std. wkl. m.	7. Stunde					Std. wkl. m.	8. Stunde				
	Höhe	Azimet	Δt	Δh	ΔA		Höhe	Azimet	Δt	Δh	ΔA		Höhe	Azimet	Δt	Δh	ΔA
0	28° 9.8	68° 0	sek			0	20° 31.6	57° 4	sek			0	13° 44.6	46° 8	sek		
1	28 1.8	67.8	6	-0.8	-0.0	1	20 24.3	57.2	6	-0.8	-0.0	1	13 38.3	46.6	6	-0.6	0.0
2	27 53.8	67.6	12	-1.6	-0.0	2	20 17.1	57.1	12	-1.6	-0.0	2	13 32.1	46.4	12	-1.2	0.0
3	27 45.8	67.5	18	-2.4	-0.1	3	20 9.9	56.9	18	-2.5	-0.1	3	13 25.9	46.2	18	-1.9	-0.1
4	27 37.9	67.3	24	-3.2	-0.1	4	20 2.7	56.7	24	-3.3	-0.1	4	13 19.7	46.0	24	-2.5	-0.1
5	27 30.0	67.1	30	-4.0	-0.1	5	19 55.5	56.6	30	-4.1	-0.1	5	13 13.5	45.8	30	-3.1	-0.1
6	27 22.1	66.9	36	-4.8	-0.1	6	19 48.4	56.4	36	-4.9	-0.1	6	13 7.4	45.7	36	-3.7	-0.1
7	27 14.2	66.7	42	-5.6	-0.1	7	19 41.2	56.2	42	-5.7	-0.1	7	13 1.2	45.5	42	-4.3	-0.1
8	27 6.3	66.6	48	-6.4	-0.2	8	19 34.1	56.0	48	-6.6	-0.2	8	12 55.1	45.3	48	-5.0	-0.2
9	26 58.4	66.4	54	-7.2	-0.2	9	19 26.9	55.9	54	-7.4	-0.2	9	12 49.0	45.1	54	-5.6	-0.2
10	26 50.5	66.2				10	19 19.8	55.7				10	12 42.9	44.9			
11	26 42.6	66.0	6	-0.8	-0.0	11	19 12.7	55.5	6	-0.7	-0.0	11	12 36.8	44.7	6	-0.6	0.0
12	26 34.8	65.9	12	-1.6	-0.0	12	19 5.6	55.3	12	-1.4	-0.0	12	12 30.8	44.5	12	-1.2	0.0
13	26 26.9	65.7	18	-2.4	-0.1	13	18 58.5	55.2	18	-2.1	-0.1	13	12 24.8	44.4	18	-1.8	-0.1
14	26 19.1	65.5	24	-3.1	-0.1	14	18 51.5	55.0	24	-2.8	-0.1	14	12 18.8	44.2	24	-2.4	-0.1
15	26 11.3	65.4	30	-3.9	-0.1	15	18 44.4	54.8	30	-3.5	-0.1	15	12 12.8	44.0	30	-3.0	-0.1
16	26 3.5	65.2	36	-4.7	-0.1	16	18 37.4	54.6	36	-4.2	-0.1	16	12 6.8	43.8	36	-3.6	-0.1
17	25 55.7	65.0	42	-5.5	-0.1	17	18 30.4	54.4	42	-4.9	-0.1	17	12 0.8	43.6	42	-4.2	-0.1
18	25 47.9	64.8	48	-6.3	-0.2	18	18 23.4	54.3	48	-5.6	-0.2	18	11 54.9	43.5	48	-4.8	-0.2
19	25 40.1	64.7	54	-7.1	-0.2	19	18 16.4	54.1	54	-6.3	-0.2	19	11 48.9	43.3	54	-5.4	-0.2
20	25 32.3	64.5				20	18 9.5	53.9				20	11 43.0	43.1			
21	25 24.5	64.3	6	-0.8	-0.0	21	18 2.5	53.7	6	-0.7	-0.0	21	11 37.1	42.9	6	0.6	0.0
22	25 16.8	64.1	12	-1.5	-0.0	22	17 55.6	53.6	12	-1.4	-0.0	22	11 31.3	42.7	12	-1.2	0.0
23	25 9.1	64.0	18	-2.3	-0.1	23	17 48.7	53.4	18	-2.1	-0.1	23	11 25.5	42.6	18	-1.7	-0.1
24	25 1.4	63.8	24	-3.1	-0.1	24	17 41.8	53.2	24	-2.8	-0.1	24	11 19.7	42.4	24	-2.3	-0.1
25	24 53.7	63.6	30	-3.8	-0.1	25	17 34.9	53.1	30	-3.5	-0.1	25	11 13.9	42.2	30	-2.9	-0.1
26	24 46.0	63.4	36	-4.6	-0.1	26	17 28.1	52.9	36	-4.1	-0.1	26	11 8.1	42.0	36	-3.5	-0.1
27	24 38.3	63.2	42	-5.4	-0.1	27	17 21.2	52.7	42	-4.8	-0.1	27	11 2.3	41.8	42	-4.1	-0.1
28	24 30.6	63.1	48	-6.2	-0.2	28	17 14.4	52.5	48	-5.5	-0.2	28	10 56.6	41.7	48	-4.6	-0.2
29	24 22.9	62.9	54	-6.9	-0.2	29	17 7.6	52.4	54	-6.2	-0.2	29	10 50.9	41.5	54	-5.2	-0.2
30	24 15.3	62.7				30	17 0.8	52.2				30	10 45.2	41.3			
31	24 7.6	62.5	6	-0.8	-0.0	31	16 54.0	52.0	6	-0.7	-0.0	31	10 39.5	41.1	6	-0.6	0.0
32	24 0.0	62.3	12	-1.5	-0.0	32	16 47.2	51.8	12	-1.3	-0.0	32	10 33.9	40.9	12	-1.1	0.0
33	23 52.4	62.2	18	-2.3	-0.1	33	16 40.4	51.7	18	-2.0	-0.1	33	10 28.3	40.7	18	-1.7	-0.1
34	23 44.8	62.0	24	-3.0	-0.1	34	16 33.7	51.5	24	-2.7	-0.1	34	10 22.7	40.5	24	-2.2	-0.1
35	23 37.2	61.9	30	-3.8	-0.1	35	16 27.0	51.3	30	-3.3	-0.1	35	10 17.1	40.4	30	-2.8	-0.1
36	23 29.6	61.7	36	-4.6	-0.1	36	16 20.3	51.1	36	-4.0	-0.1	36	10 11.5	40.2	36	-3.4	-0.1
37	23 22.0	61.5	42	-5.3	-0.1	37	16 13.6	50.9	42	-4.7	-0.1	37	10 6.0	40.0	42	-3.9	-0.1
38	23 14.5	61.3	48	-6.1	-0.2	38	16 6.9	50.8	48	-5.4	-0.2	38	10 0.5	39.8	48	-4.5	-0.2
39	23 6.9	61.2	54	-6.8	-0.2	39	16 0.2	50.6	54	-6.0	-0.2	39	9 55.0	39.6	54	-5.0	-0.2
40	22 59.4	61.0				40	15 53.6	50.4				40	9 49.5	39.4			
41	22 51.9	60.8	6	-0.7	-0.0	41	15 47.0	50.2	6	-0.6	-0.0	41	9 44.0	39.2	6	-0.5	0.0
42	22 44.4	60.6	12	-1.5	-0.0	42	15 40.4	50.0	12	-1.3	-0.0	42	9 38.6	39.0	12	-1.1	0.0
43	22 36.9	60.5	18	-2.2	-0.1	43	15 33.8	49.9	18	-1.9	-0.1	43	9 33.2	38.9	18	-1.6	-0.1
44	22 29.4	60.3	24	-3.0	-0.1	44	15 27.2	49.7	24	-2.6	-0.1	44	9 27.8	38.7	24	-2.2	-0.1
45	22 21.9	60.1	30	-3.7	-0.1	45	15 20.6	49.5	30	-3.2	-0.1	45	9 22.4	38.5	30	-2.7	-0.1
46	22 14.5	59.9	36	-4.5	-0.1	46	15 14.1	49.3	36	-3.9	-0.1	46	9 17.1	38.3	36	-3.2	-0.1
47	22 7.0	59.7	42	-5.2	-0.1	47	15 7.6	49.1	42	-4.5	-0.1	47	9 11.7	38.1	42	-3.8	-0.1
48	21 59.6	59.6	48	-6.0	-0.2	48	15 1.1	49.0	48	-5.2	-0.2	48	9 6.4	38.0	48	-4.3	-0.2
49	21 52.2	59.4	54	-6.7	-0.2	49	14 54.6	48.8	54	-5.8	-0.2	49	9 1.1	37.8	54	-4.9	-0.2
50	21 44.8	59.2				50	14 48.2	48.6				50	8 55.9	37.6			
51	21 37.4	59.0	6	-0.7	-0.0	51	14 41.8	48.4	6	-0.6	0.0	51	8 50.7	37.4	6	-0.5	0.0
52	21 30.1	58.8	12	-1.5	-0.0	52	14 35.4	48.2	12	-1.3	0.0	52	8 45.5	37.2	12	-1.0	0.0
53	21 22.7	58.7	18	-2.2	-0.1	53	14 29.0	48.1	18	-1.9	-0.1	53	8 40.3	37.0	18	-1.5	-0.1
54	21 15.4	58.5	24	-2.9	-0.1	54	14 22.6	47.9	24	-2.6	-0.1	54	8 35.1	36.8	24	-2.0	-0.1
55	21 8.0	58.3	30	-3.6	-0.1	55	14 16.2	47.7	30	-3.2	-0.1	55	8 29.9	36.6	30	-2.5	-0.1
56	21 0.7	58.1	36	-4.4	-0.1	56	14 9.9	47.5	36	-3.8	-0.1	56	8 24.8	36.5	36	-3.1	-0.1
57	20 53.4	57.9	42	-5.1	-0.1	57	14 3.5	47.3	42	-4.5	-0.1	57	8 19.7	36.3	42	-3.6	-0.1
58	20 46.1	57.8	48	-5.8	-0.2	58	13 57.2	47.2	48	-5.1	-0.2	58	8 14.7	36.1	48	-4.1	-0.2
59	20 38.8	57.6	54	-6.6	-0.2	59	13 50.9	47.0	54	-5.8	-0.2	59	8 9.6	35.9	54	-4.6	-0.2
m	Höhe	Azimet	Δt	Δh	ΔA	m	Höhe	Azimet	Δt	Δh	ΔA	m	Höhe	Azimet	Δt	Δh	ΔA
Std.	6. Stunde					Std.	7. Stunde					Std.	8. Stunde				
wkl.						wkl.						wkl.					

	1920-1925	1925-1930	1930-1935		1920-1925	1925-1930	1930-1935		1920-1925	1925-1930	1930-1935
Δh	+ 1.2	+ 2.5	+ 3.7	Δh	+ 1.3	+ 2.6	+ 3.9	Δh	+ 1.4	+ 2.8	+ 4.2
ΔA	—	—	—	ΔA	—	—	—	ΔA	—	—	—

α 1917 = 1^h 5^m 6^s Jährliche Änderung +3^s 4

55°N

β Andromedae (Mirach)

55°N

Main table with columns for 'Std. wkl. m.', '9. Stunde', '10. Stunde', '11. Stunde'. It contains data for stars numbered 0 to 59, including columns for Höhe, Azimut, Δt, Δh, and ΔA.

Summary table with columns for years: 1920-1925, 1925-1930, 1930-1935. It shows average values for Δh and ΔA across the three periods.

List of star names on the right margin: Cassiopejae, Andromedae (Alamak), β Persei (Algol), Persei (Algenib), α Aurigae (Capella), β Aurigae, γ Aurigae, γ Draconis, α Lyrae (Weğa), γ Cygni, α Cygni (Deneb), α Cephei, Ursae minoris (Nordstern).

55°N

δ Cassiopejæ

55°N

Std. wkl. m.	0. Stunde					Std. wkl. m.	1. Stunde					Std. wkl. m.	2. Stunde				
	Höhe	Azimet	Δt	Δh	ΔA		Höhe	Azimet	Δt	Δh	ΔA		Höhe	Azimet	Δt	Δh	ΔA
			sek			0	80° 37.7	53° 1	sek			0	73° 18.2	61° 1	sek		
						1	80 30.8	53.4	6	-0.7	+0.0	1	73 10.7	61.1	6	-0.7	
						2	80 23.9	53.7	12	-1.4	+0.1	2	73 3.1	61.1	12	-1.5	
						3	80 17.0	54.0	18	-2.1	+0.1	3	72 55.6	61.1	18	-2.2	
						4	80 10.0	54.3	24	-2.8	+0.1	4	72 48.0	61.2	24	-3.0	
						5	80 3.0	54.5	30	-3.5	+0.1	5	72 40.5	61.2	30	-3.7	
						6	79 56.0	54.8	36	-4.2	+0.2	6	72 33.0	61.2	36	-4.5	
						7	79 49.0	55.0	42	-4.9	+0.2	7	72 25.5	61.2	42	-5.2	
						8	79 41.9	55.3	48	-5.6	+0.2	8	72 17.9	61.2	48	-6.0	
						9	79 34.8	55.5	54	-6.3	+0.3	9	72 10.4	61.2	54	-6.7	
						10	79 27.7	55.8				10	72 2.8	61.2			
						11	79 20.6	56.0	6	-0.7	+0.0	11	71 55.3	61.2	6	-0.7	
						12	79 13.4	56.2	12	-1.4	+0.0	12	71 47.7	61.2	12	-1.5	
						13	79 6.3	56.4	18	-2.2	+0.1	13	71 40.2	61.2	18	-2.2	
						14	78 59.1	56.6	24	-2.9	+0.1	14	71 32.6	61.2	24	-3.0	
						15	78 51.9	56.8	30	-3.6	+0.1	15	71 25.1	61.2	30	-3.7	
						16	78 44.7	57.0	36	-4.3	+0.1	16	71 17.5	61.2	36	-4.5	
						17	78 37.5	57.2	42	-5.0	+0.1	17	71 10.0	61.2	42	-5.2	
						18	78 30.2	57.4	48	-5.8	+0.2	18	71 2.5	61.2	48	-6.0	
						19	78 23.0	57.5	54	-6.5	+0.2	19	70 54.9	61.2	54	-6.7	
20	84° 29.6	27.2				20	78 15.7	57.7				20	70 47.4	61.2			
21	84 25.6	28.3	6	-0.4	+0.1	21	78 8.4	57.9	6	-0.7	+0.0	21	70 39.9	61.2	6	-0.7	
22	84 21.5	29.4	12	-0.9	+0.2	22	78 1.1	58.0	12	-1.5	+0.0	22	70 32.3	61.2	12	-1.5	
23	84 17.2	30.4	18	-1.3	+0.3	23	77 53.8	58.2	18	-2.2	+0.1	23	70 24.8	61.2	18	-2.2	
24	84 12.8	31.4	24	-1.8	+0.4	24	77 46.5	58.3	24	-2.9	+0.1	24	70 17.2	61.2	24	-3.0	
25	84 8.2	32.4	30	-2.2	+0.5	25	77 39.2	58.5	30	-3.7	+0.1	25	70 9.7	61.2	30	-3.7	
26	84 3.5	33.4	36	-2.7	+0.6	26	77 31.8	58.6	36	-4.4	+0.1	26	70 2.1	61.2	36	-4.5	
27	83 58.7	34.3	42	-3.1	+0.7	27	77 24.5	58.7	42	-5.1	+0.1	27	69 54.6	61.2	42	-5.2	
28	83 53.8	35.2	48	-3.6	+0.8	28	77 17.1	58.9	48	-5.9	+0.2	28	69 47.0	61.2	48	-6.0	
29	83 48.8	36.1	54	-4.0	+0.9	29	77 9.8	59.0	54	-6.6	+0.2	29	69 39.5	61.1	54	-6.7	
30	83 43.7	37.0				30	77 2.4	59.1				30	69 32.0	61.1			
31	83 38.5	37.8	6	-0.5	+0.0	31	76 55.0	59.2	6	-0.7		31	69 24.5	61.1	6	-0.7	
32	83 33.2	38.6	12	-1.1	+0.1	32	76 47.6	59.3	12	-1.5		32	69 16.9	61.1	12	-1.5	
33	83 27.8	39.4	18	-1.6	+0.2	33	76 40.2	59.4	18	-2.2		33	69 9.4	61.1	18	-2.2	
34	83 22.3	40.1	24	-2.2	+0.3	34	76 32.8	59.5	24	-3.0		34	69 1.9	61.0	24	-3.0	
35	83 16.7	40.8	30	-2.7	+0.3	35	76 25.4	59.6	30	-3.7		35	68 54.4	61.0	30	-3.7	
36	83 11.0	41.5	36	-3.3	+0.4	36	76 17.9	59.7	36	-4.5		36	68 46.8	61.0	36	-4.5	
37	83 5.2	42.2	42	-3.8	+0.5	37	76 10.5	59.8	42	-5.2		37	68 39.3	61.0	42	-5.2	
38	82 59.4	42.8	48	-4.4	+0.6	38	76 3.1	59.9	48	-6.0		38	68 31.8	60.9	48	-6.0	
39	82 53.5	43.5	54	-4.9	+0.6	39	75 55.7	60.0	54	-6.7		39	68 24.3	60.9	54	-6.7	
40	82 47.6	44.1				40	75 48.2	60.1				40	68 16.7	60.9			
41	82 41.6	44.7	6	-0.6	+0.0	41	75 40.8	60.1	6	-0.7		41	68 9.2	60.8	6	-0.7	
42	82 35.5	45.3	12	-1.2	+0.1	42	75 33.3	60.2	12	-1.5		42	68 1.7	60.8	12	-1.5	
43	82 29.4	45.9	18	-1.9	+0.1	43	75 25.8	60.3	18	-2.2		43	67 54.2	60.8	18	-2.2	
44	82 23.2	46.4	24	-2.5	+0.2	44	75 18.3	60.3	24	-3.0		44	67 46.7	60.7	24	-3.0	
45	82 16.9	46.9	30	-3.1	+0.2	45	75 10.8	60.4	30	-3.7		45	67 39.2	60.7	30	-3.7	
46	82 10.6	47.4	36	-3.7	+0.3	46	75 3.3	60.5	36	-4.5		46	67 31.7	60.7	36	-4.5	
47	82 4.2	47.9	42	-4.4	+0.3	47	74 55.8	60.5	42	-5.2		47	67 24.2	60.6	42	-5.2	
48	81 57.8	48.4	48	-5.0	+0.4	48	74 48.3	60.6	48	-6.0		48	67 16.7	60.6	48	-6.0	
49	81 51.4	48.9	54	-5.6	+0.4	49	74 40.8	60.6	54	-6.7		49	67 9.2	60.6	54	-6.7	
50	81 44.9	49.3				50	74 33.3	60.7				50	67 1.7	60.5			
51	81 38.3	49.7	6	-0.7	+0.0	51	74 25.8	60.7	6	-0.7		51	66 54.3	60.5	6	-0.7	
52	81 31.7	50.2	12	-1.3	+0.1	52	74 18.3	60.8	12	-1.5		52	66 46.8	60.4	12	-1.5	
53	81 25.1	50.6	18	-2.0	+0.1	53	74 10.8	60.8	18	-2.2		53	66 39.3	60.4	18	-2.2	
54	81 18.5	51.0	24	-2.7	+0.2	54	74 3.3	60.9	24	-3.0		54	66 31.8	60.4	24	-3.0	
55	81 11.8	51.4	30	-3.3	+0.2	55	73 55.8	60.9	30	-3.7		55	66 24.3	60.3	30	-3.7	
56	81 5.0	51.7	36	-4.0	+0.2	56	73 48.3	60.9	36	-4.5		56	66 16.8	60.3	36	-4.5	
57	80 58.2	52.1	42	-4.7	+0.3	57	73 40.8	61.0	42	-5.2		57	66 9.3	60.2	42	-5.2	
58	80 51.4	52.4	48	-5.4	+0.3	58	73 33.3	61.0	48	-6.0		58	66 1.8	60.2	48	-6.0	
59	80 44.6	52.8	54	-6.0	+0.4	59	73 25.8	61.1	54	-6.7		59	65 54.4	60.1	54	-6.7	

	1920-1925	1925-1930	1930-1935		1920-1925	1925-1930	1930-1935		1920-1925	1925-1930	1930-1935
Δh				Δh	-0.3	-0.5	-0.8	Δh	+0.2	+0.4	+0.6
ΔA				ΔA	-0.1	-0.2	-0.3	ΔA	-0.1	-0.1	-0.2

α 1917 = 1 h 20 m 25 s Jährliche Änderung + 3.59

55°N

δ Cassiopejæ

55°N

Std. wkl. m.	6. Stunde					Std. wkl. m.	7. Stunde					Std. wkl. m.	8. Stunde				
	Höhe	Azimet	Δt	Δh	ΔA		Höhe	Azimet	Δt	Δh	ΔA		Höhe	Azimet	Δt	Δh	ΔA
0	45° 4'4	45°4	sek			0	39° 17'9	38°9	sek			0	34° 19'1	31°8	sek		
1	44 58.3	45.3	6	-0'6		1	39 12.5	38.8	6	-0'5		1	34 14.6	31.7	6	-0'4	
2	44 52.2	45.2	12	-1.2		2	39 7.1	38.7	12	-1.1		2	34 10.1	31.6	12	-0'9	
3	44 46.1	45.1	18	-1.8		3	39 1.7	38.5	18	-1.6		3	34 5.6	31.5	18	-1.3	
4	44 40.0	45.0	24	-2.4		4	38 56.4	38.4	24	-2.1		4	34 1.1	31.3	24	-1.8	
5	44 33.9	44.9	30	-3.0		5	38 51.0	38.3	30	-2.6		5	33 56.6	31.2	30	-2.2	
6	44 27.9	44.8	36	-3.6		6	38 45.7	38.2	36	-3.2		6	33 52.2	31.1	36	-2.7	
7	44 21.8	44.7	42	-4.2		7	38 40.4	38.1	42	-3.7		7	33 47.7	31.0	42	-3.1	
8	44 15.8	44.6	48	-4.8		8	38 35.1	38.0	48	-4.2		8	33 43.3	30.9	48	-3.6	
9	44 9.7	44.5	54	-5.4		9	38 29.8	37.9	54	-4.8		9	33 38.9	30.7	54	-4.0	
10	44 3.7	44.4				10	38 24.6	37.8				10	33 34.5	30.6			
11	43 57.7	44.3	6	-0.6		11	38 19.3	37.6	6	-0.5		11	33 30.1	30.5	6	-0.4	
12	43 51.7	44.2	12	-1.2		12	38 14.1	37.5	12	-1.0		12	33 25.8	30.4	12	-0.9	
13	43 45.7	44.1	18	-1.8		13	38 8.8	37.4	18	-1.6		13	33 21.4	30.2	18	-1.3	
14	43 39.7	43.9	24	-2.4		14	38 3.6	37.3	24	-2.1		14	33 17.1	30.1	24	-1.7	
15	43 33.7	43.8	30	-3.0		15	37 58.4	37.2	30	-2.6		15	33 12.8	30.0	30	-2.1	
16	43 27.8	43.7	36	-3.6		16	37 53.2	37.1	36	-3.1		16	33 8.5	29.9	36	-2.6	
17	43 21.8	43.6	42	-4.2		17	37 48.0	36.9	42	-3.6		17	33 4.2	29.8	42	-3.0	
18	43 15.9	43.5	48	-4.8		18	37 42.9	36.8	48	-4.1		18	33 0.0	29.6	48	-3.4	
19	43 10.0	43.4	54	-5.4		19	37 37.7	36.7	54	-4.7		19	32 55.7	29.5	54	-3.9	
20	43 4.1	43.3				20	37 32.6	36.6				20	32 51.5	29.4			
21	42 58.2	43.2	6	-0.6		21	37 27.5	36.5	6	-0.5		21	32 47.3	29.3	6	-0.4	
22	42 52.3	43.1	12	-1.2		22	37 22.4	36.4	12	-1.0		22	32 43.1	29.1	12	-0.8	
23	42 46.4	43.0	18	-1.8		23	37 17.3	36.2	18	-1.5		23	32 38.9	29.0	18	-1.2	
24	42 40.6	42.9	24	-2.3		24	37 12.2	36.1	24	-2.0		24	32 34.7	28.9	24	-1.7	
25	42 34.7	42.8	30	-2.9		25	37 7.1	36.0	30	-2.5		25	32 30.6	28.7	30	-2.1	
26	42 28.9	42.7	36	-3.5		26	37 2.1	35.9	36	-3.0		26	32 26.5	28.6	36	-2.5	
27	42 23.1	42.6	42	-4.1		27	36 57.0	35.8	42	-3.5		27	32 22.4	28.5	42	-2.9	
28	42 17.3	42.5	48	-4.7		28	36 52.0	35.7	48	-4.0		28	32 18.3	28.4	48	-3.3	
29	42 11.5	42.3	54	-5.3		29	36 47.0	35.5	54	-4.5		29	32 14.2	28.2	54	-3.7	
30	42 5.7	42.2				30	36 42.0	35.4				30	32 10.1	28.1			
31	41 59.9	42.1	6	-0.6		31	36 37.0	35.3	6	-0.5		31	32 6.0	28.0	6	-0.4	
32	41 54.2	42.0	12	-1.1		32	36 32.1	35.2	12	-1.0		32	32 2.0	27.9	12	-0.8	
33	41 48.4	41.9	18	-1.7		33	36 27.1	35.1	18	-1.5		33	31 58.0	27.7	18	-1.2	
34	41 42.7	41.8	24	-2.3		34	36 22.2	35.0	24	-2.0		34	31 54.0	27.6	24	-1.6	
35	41 37.0	41.7	30	-2.9		35	36 17.3	34.8	30	-2.5		35	31 50.0	27.5	30	-2.0	
36	41 31.3	41.6	36	-3.4		36	36 12.4	34.7	36	-3.0		36	31 46.1	27.4	36	-2.4	
37	41 25.6	41.5	42	-4.0		37	36 7.5	34.6	42	-3.5		37	31 42.1	27.2	42	-2.8	
38	41 19.9	41.3	48	-4.6		38	36 2.6	34.5	48	-4.0		38	31 38.2	27.1	48	-3.2	
39	41 14.2	41.2	54	-5.1		39	35 57.7	34.4	54	-4.5		39	31 34.3	27.0	54	-3.6	
40	41 8.5	41.1				40	35 52.9	34.2				40	31 30.4	26.9			
41	41 2.8	41.0	6	-0.6		41	35 48.1	34.1	6	-0.5		41	31 26.5	26.7	6	-0.4	
42	40 57.2	40.9	12	-1.1		42	35 43.3	34.0	12	-1.0		42	31 22.7	26.6	12	-0.8	
43	40 51.6	40.8	18	-1.7		43	35 38.5	33.9	18	-1.4		43	31 18.8	26.5	18	-1.1	
44	40 46.0	40.7	24	-2.2		44	35 33.7	33.8	24	-1.9		44	31 15.0	26.4	24	-1.5	
45	40 40.4	40.6	30	-2.8		45	35 28.9	33.6	30	-2.4		45	31 11.2	26.2	30	-1.9	
46	40 34.8	40.4	36	-3.4		46	35 24.2	33.5	36	-2.9		46	31 7.4	26.1	36	-2.3	
47	40 29.2	40.3	42	-3.9		47	35 19.4	33.4	42	-3.3		47	31 3.6	26.0	42	-2.7	
48	40 23.7	40.2	48	-4.5		48	35 14.7	33.3	48	-3.8		48	30 59.8	25.8	48	-3.0	
49	40 18.1	40.1	54	-5.0		49	35 10.0	33.2	54	-4.3		49	30 56.1	25.7	54	-3.4	
50	40 12.6	40.0				50	35 5.3	33.0				50	30 52.4	25.6			
51	40 7.0	39.9	6	-0.5		51	35 0.6	32.9	6	-0.5		51	30 48.7	25.5	6	-0.4	
52	40 1.5	39.8	12	-1.1		52	34 55.9	32.8	12	-0.9		52	30 45.0	25.3	12	-0.7	
53	39 56.0	39.7	18	-1.6		53	34 51.2	32.7	18	-1.4		53	30 41.3	25.2	18	-1.1	
54	39 50.5	39.6	24	-2.2		54	34 46.6	32.6	24	-1.9		54	30 37.7	25.1	24	-1.5	
55	39 45.0	39.4	30	-2.7		55	34 42.0	32.4	30	-2.3		55	30 34.0	24.9	30	-1.8	
56	39 39.6	39.3	36	-3.3		56	34 37.4	32.3	36	-2.8		56	30 30.4	24.8	36	-2.2	
57	39 34.1	39.2	42	-3.8		57	34 32.8	32.2	42	-3.3		57	30 26.8	24.7	42	-2.6	
58	39 28.7	39.1	48	-4.4		58	34 28.2	32.1	48	-3.7		58	30 23.2	24.6	48	-2.9	
59	39 23.3	39.0	54	-4.9		59	34 23.6	31.9	54	-4.2		59	30 19.6	24.4	54	-3.3	

	1920-1925	1925-1930	1930-1935		1920-1925	1925-1930	1930-1935		1920-1925	1925-1930	1930-1935
Δh	+ 1'0	+ 2'0	+ 3'0	Δh	+ 1'2	+ 2'3	+ 3'4	Δh	+ 1'3	+ 2'6	+ 3'9
ΔA	—	—	- 0°1	ΔA	—	—	- 0°1	ΔA	—	—	—

α 1917 = 1^h 20^m 25^s Jährliche Änderung +3^s 9

55°N

β Persei (Algol)

55°N

Std. wkl. m.	3. Stunde					Std. wkl. m.	4. Stunde					Std. wkl. m.	5. Stunde				
	Höhe	Azimet	Δt	Δh	ΔA		Höhe	Azimet	Δt	Δh	ΔA		Höhe	Azimet	Δt	Δh	ΔA
0	57° 16' 5	97° 0	sek			0	48° 41' 3	84° 6	sek			0	40° 15' 2	73° 8	sek		
1	57 8.0	96.8	6	-0.9	-0.0	1	48 32.8	84.4	6	-0.9	-0.0	1	40 6.9	73.6	6	-0.8	-0.0
2	56 59.4	96.5	12	-1.7	-0.0	2	48 24.2	84.2	12	-1.7	-0.0	2	39 58.7	73.4	12	-1.6	-0.0
3	56 50.9	96.3	18	-2.6	-0.1	3	48 15.7	84.0	18	-2.6	-0.1	3	39 50.4	73.3	18	-2.5	-0.1
4	56 42.3	96.0	24	-3.4	-0.1	4	48 7.1	83.8	24	-3.4	-0.1	4	39 42.2	73.1	24	-3.3	-0.1
5	56 33.8	95.8	30	-4.3	-0.1	5	47 58.6	83.6	30	-4.3	-0.1	5	39 33.9	72.9	30	-4.1	-0.1
6	56 25.2	95.6	36	-5.2	-0.1	6	47 50.0	83.4	36	-5.2	-0.1	6	39 25.7	72.7	36	-4.9	-0.1
7	56 16.7	95.4	42	-6.0	-0.1	7	47 41.5	83.2	42	-6.0	-0.1	7	39 17.5	72.6	42	-5.8	-0.1
8	56 8.1	95.1	48	-6.9	-0.2	8	47 32.9	83.1	48	-6.9	-0.2	8	39 9.3	72.4	48	-6.6	-0.2
9	55 59.6	94.9	54	-7.7	-0.2	9	47 24.4	82.9	54	-7.7	-0.2	9	39 1.1	72.3	54	-7.4	-0.2
10	55 51.0	94.7				10	47 15.8	82.7				10	38 52.9	72.1			
11	55 42.4	94.5	6	-0.9	-0.0	11	47 7.3	82.5	6	-0.8	-0.0	11	38 44.7	71.9	6	-0.8	-0.0
12	55 33.8	94.3	12	-1.7	-0.0	12	46 58.8	82.3	12	-1.7	-0.0	12	38 36.6	71.7	12	-1.6	-0.0
13	55 25.3	94.0	18	-2.6	-0.1	13	46 50.2	82.1	18	-2.5	-0.1	13	38 28.4	71.6	18	-2.4	-0.1
14	55 16.7	93.8	24	-3.4	-0.1	14	46 41.7	81.9	24	-3.4	-0.1	14	38 20.2	71.4	24	-3.3	-0.1
15	55 8.1	93.6	30	-4.3	-0.1	15	46 33.2	81.7	30	-4.2	-0.1	15	38 12.0	71.2	30	-4.1	-0.1
16	54 59.5	93.4	36	-5.2	-0.1	16	46 24.7	81.5	36	-5.1	-0.1	16	38 3.9	71.0	36	-4.9	-0.1
17	54 50.9	93.2	42	-6.0	-0.1	17	46 16.2	81.3	42	-5.9	-0.1	17	37 55.7	70.9	42	-5.7	-0.1
18	54 42.3	93.0	48	-6.9	-0.2	18	46 7.7	81.2	48	-6.8	-0.2	18	37 47.6	70.7	48	-6.5	-0.2
19	54 33.7	92.8	54	-7.7	-0.2	19	45 59.2	81.0	54	-7.6	-0.2	19	37 39.5	70.6	54	-7.3	-0.2
20	54 25.1	92.6				20	45 50.7	80.8				20	37 31.4	70.4			
21	54 16.5	92.4	6	-0.9	-0.0	21	45 42.2	80.6	6	-0.8	-0.0	21	37 23.3	70.2	6	-0.8	-0.0
22	54 7.9	92.2	12	-1.7	-0.0	22	45 33.7	80.4	12	-1.7	-0.0	22	37 15.2	70.1	12	-1.6	-0.0
23	53 59.3	91.9	18	-2.6	-0.1	23	45 25.2	80.3	18	-2.5	-0.1	23	37 7.1	70.0	18	-2.4	-0.1
24	53 50.7	91.7	24	-3.4	-0.1	24	45 16.8	80.1	24	-3.4	-0.1	24	36 59.1	69.8	24	-3.2	-0.1
25	53 42.1	91.5	30	-4.3	-0.1	25	45 8.3	79.9	30	-4.2	-0.1	25	36 51.0	69.6	30	-4.0	-0.1
26	53 33.5	91.3	36	-5.2	-0.1	26	44 59.8	79.7	36	-5.1	-0.1	26	36 43.0	69.4	36	-4.8	-0.1
27	53 24.9	91.1	42	-6.0	-0.1	27	44 51.3	79.5	42	-5.9	-0.1	27	36 34.9	69.3	42	-5.6	-0.1
28	53 16.3	90.9	48	-6.9	-0.2	28	44 42.9	79.4	48	-6.7	-0.2	28	36 26.9	69.1	48	-6.4	-0.2
29	53 7.7	90.7	54	-7.7	-0.2	29	44 34.4	79.2	54	-7.5	-0.2	29	36 18.8	69.0	54	-7.2	-0.2
30	52 59.1	90.5				30	44 26.0	79.0				30	36 10.8	68.8			
31	52 50.5	90.3	6	-0.9	-0.0	31	44 17.5	78.8	6	-0.8	-0.0	31	36 2.8	68.6	6	-0.8	-0.0
32	52 41.9	90.1	12	-1.7	-0.0	32	44 9.1	78.6	12	-1.7	-0.0	32	35 54.8	68.4	12	-1.6	-0.0
33	52 33.3	89.8	18	-2.6	-0.1	33	44 0.6	78.5	18	-2.5	-0.1	33	35 46.8	68.3	18	-2.4	-0.1
34	52 24.7	89.6	24	-3.4	-0.1	34	43 52.2	78.3	24	-3.4	-0.1	34	35 38.8	68.1	24	-3.2	-0.1
35	52 16.1	89.4	30	-4.3	-0.1	35	43 43.8	78.1	30	-4.2	-0.1	35	35 30.8	67.9	30	-4.0	-0.1
36	52 7.5	89.2	36	-5.2	-0.1	36	43 35.4	77.9	36	-5.1	-0.1	36	35 22.9	67.7	36	-4.8	-0.1
37	51 58.9	89.0	42	-6.0	-0.1	37	43 27.0	77.8	42	-5.9	-0.1	37	35 14.9	67.6	42	-5.6	-0.1
38	51 50.3	88.8	48	-6.9	-0.2	38	43 18.6	77.6	48	-6.8	-0.2	38	35 7.0	67.4	48	-6.4	-0.2
39	51 41.7	88.6	54	-7.7	-0.2	39	43 10.2	77.5	54	-7.6	-0.2	39	34 59.0	67.3	54	-7.2	-0.2
40	51 33.1	88.4				40	43 1.8	77.3				40	34 51.1	67.1			
41	51 24.5	88.2	6	-0.9	-0.0	41	42 53.4	77.1	6	-0.8	-0.0	41	34 43.2	66.9	6	-0.8	-0.0
42	51 15.9	88.0	12	-1.7	-0.0	42	42 45.0	76.9	12	-1.7	-0.0	42	34 35.3	66.7	12	-1.6	-0.0
43	51 7.3	87.8	18	-2.6	-0.1	43	42 36.6	76.8	18	-2.5	-0.1	43	34 27.4	66.6	18	-2.4	-0.1
44	50 58.7	87.6	24	-3.4	-0.1	44	42 28.3	76.6	24	-3.3	-0.1	44	34 19.5	66.4	24	-3.1	-0.1
45	50 50.1	87.4	30	-4.3	-0.1	45	42 19.9	76.4	30	-4.2	-0.1	45	34 11.6	66.2	30	-2.9	-0.1
46	50 41.5	87.2	36	-5.2	-0.1	46	42 11.5	76.2	36	-5.0	-0.1	46	34 3.7	66.0	36	-4.7	-0.1
47	50 32.9	87.0	42	-6.0	-0.1	47	42 3.1	76.0	42	-5.8	-0.1	47	33 55.8	65.9	42	-5.5	-0.1
48	50 24.3	86.8	48	-6.9	-0.2	48	41 54.8	75.9	48	-6.7	-0.2	48	33 48.0	65.7	48	-6.3	-0.2
49	50 15.7	86.6	54	-7.7	-0.2	49	41 46.4	75.7	54	-7.5	-0.2	49	33 40.1	65.6	54	-7.1	-0.2
50	50 7.1	86.4				50	41 38.1	75.5				50	33 32.3	65.4			
51	49 58.5	86.2	6	-0.9	-0.0	51	41 29.8	75.3	6	-0.8	-0.0	51	33 24.5	65.2	6	-0.8	-0.0
52	49 49.9	86.0	12	-1.7	-0.0	52	41 21.5	75.1	12	-1.7	-0.0	52	33 16.7	65.1	12	-1.6	-0.0
53	49 41.4	85.9	18	-2.6	-0.1	53	41 13.2	75.0	18	-2.5	-0.1	53	33 8.9	64.9	18	-2.3	-0.1
54	49 32.8	85.7	24	-3.4	-0.1	54	41 4.9	74.8	24	-3.3	-0.1	54	33 1.1	64.8	24	-3.1	-0.1
55	49 24.2	85.5	30	-4.3	-0.1	55	40 56.6	74.6	30	-4.1	-0.1	55	32 53.3	64.6	30	-2.9	-0.1
56	49 15.6	85.3	36	-5.2	-0.1	56	40 48.3	74.4	36	-5.0	-0.1	56	32 45.6	64.4	36	-4.7	-0.1
57	49 7.1	85.1	42	-6.0	-0.1	57	40 40.0	74.3	42	-5.8	-0.1	57	32 37.8	64.3	42	-5.4	-0.1
58	48 58.5	85.0	48	-6.9	-0.2	58	40 31.7	74.1	48	-6.6	-0.2	58	32 30.1	64.1	48	-6.2	-0.2
59	48 49.9	84.8	54	-7.7	-0.2	59	40 23.4	74.0	54	-7.5	-0.2	59	32 22.3	64.0	54	-7.0	-0.2

- β Persei (Algol)
- γ Persei (Algenib)
- α Aurigae (Capella)
- β Aurigae
- Geminorum (Castor)
- Ursae majoris (Dubhe)
- Ursae majoris
- Ursae majoris (Alioth)
- Ursae majoris (Mizar)
- Ursae majoris Benetnasch)
- Ursae minoris (Kochab)
- γ Draconis
- α Lyrae (Weğa)
- γ Cygni
- α Cygni (Deneb)
- α Cephei
- Ursae minoris (Nordstern)

	1920-1925	1925-1930	1930-1935		1920-1925	1925-1930	1930-1935		1920-1925	1925-1930	1930-1935
Δh	+ 0' 8	+ 1' 5	+ 2' 3	Δh	+ 0' 8	+ 1' 5	+ 2' 3	Δh	+ 0' 8	+ 1' 6	+ 2' 4
ΔA	—	- 0° 1	- 0° 1	ΔA	—	—	- 0° 1	ΔA	—	—	—

α 1917 = 3^h 2^m 48^s Jährliche Änderung + 3^s 9

Std. wkl. m.	6. Stunde					Std. wkl. m.	7. Stunde					Std. wkl. m.	8. Stunde				
	Höhe	Azimut	Δt	Δh	ΔA		Höhe	Azimut	Δt	Δh	ΔA		Höhe	Azimut	Δt	Δh	ΔA
0	32° 14' 6"	63° 8'	sek			0	24° 53' 4"	53° 9'	sek			0	18° 24' 9"	43° 8'	sek		
1	32 6 9	63.6	6	-0.8		1	24 46.4	53.7	6	-0.7		1	18 18.9	43.6	6	-0.6	
2	31 59.2	63.4	12	-1.5		2	24 39.5	53.5	12	-1.4		2	18 13.0	43.4	12	-1.2	
3	31 51.5	63.3	18	-2.3		3	24 32.6	53.4	18	-2.1		3	18 7.1	43.3	18	-1.8	
4	31 43.8	63.1	24	-3.1		4	24 25.7	53.2	24	-2.8		4	18 1.2	43.1	24	-2.4	
5	31 36.1	62.9	30	-3.8		5	24 18.8	53.0	30	-3.5		5	17 55.3	42.9	30	-3.0	
6	31 28.5	62.7	36	-4.6		6	24 11.9	52.8	36	-4.1		6	17 49.5	42.7	36	-3.5	
7	31 20.8	62.6	42	-5.4		7	24 5.0	52.7	42	-4.8		7	17 43.6	42.6	42	-4.1	
8	31 13.2	62.4	48	-6.2		8	23 58.2	52.5	48	-5.5		8	17 37.8	42.4	48	-4.7	
9	31 5.6	62.3	54	-7.0		9	23 51.4	52.4	54	-6.2		9	17 32.0	42.3	54	-5.3	
10	30 58.0	62.1				10	23 44.6	52.2				10	17 26.2	42.1			
11	30 50.4	61.9	6	-0.8		11	23 37.8	52.0	6	-0.7		11	17 20.4	41.9	6	-0.6	
12	30 42.8	61.8	12	-1.5		12	23 31.0	51.9	12	-1.3		12	17 14.7	41.7	12	-1.1	
13	30 35.2	61.6	18	-2.3		13	23 24.2	51.7	18	-2.0		13	17 9.0	41.6	18	-1.7	
14	30 27.6	61.5	24	-3.0		14	23 17.5	51.6	24	-2.7		14	17 3.3	41.4	24	-2.3	
15	30 20.0	61.3	30	-3.8		15	23 10.8	51.4	30	-3.3		15	16 57.6	41.2	30	-2.8	
16	30 12.5	61.1	36	-4.5		16	23 4.1	51.2	36	-4.0		16	16 52.0	41.0	36	-3.4	
17	30 5.0	61.0	42	-5.3		17	22 57.4	51.1	42	-4.7		17	16 46.3	40.9	42	-4.0	
18	29 57.5	60.8	48	-6.0		18	22 50.7	50.9	48	-5.4		18	16 40.7	40.7	48	-4.6	
19	29 50.0	60.7	54	-6.8		19	22 44.0	50.8	54	-6.0		19	16 35.1	40.6	54	-5.1	
20	29 42.5	60.5				20	22 37.4	50.6				20	16 29.5	40.4			
21	29 35.0	60.3	6	-0.7		21	22 30.7	50.4	6	-0.7		21	16 23.9	40.2	6	-0.5	
22	29 27.5	60.2	12	-1.5		22	22 24.1	50.2	12	-1.3		22	16 18.4	40.0	12	-1.1	
23	29 20.0	60.0	18	-2.2		23	22 17.5	50.1	18	-2.0		23	16 12.8	39.9	18	-1.6	
24	29 12.6	59.9	24	-3.0		24	22 10.9	49.9	24	-2.6		24	16 7.3	39.7	24	-2.2	
25	29 5.2	59.7	30	-3.7		25	22 4.3	49.7	30	-3.3		25	16 1.8	39.5	30	-2.7	
26	28 57.8	59.5	36	-4.5		26	21 57.8	49.5	36	-4.0		26	15 56.4	39.3	36	-3.3	
27	28 50.4	59.4	42	-5.2		27	21 51.2	49.4	42	-4.6		27	15 50.9	39.2	42	-3.8	
28	28 43.0	59.2	48	-6.0		28	21 44.7	49.2	48	-5.3		28	15 45.5	39.0	48	-4.4	
29	28 35.6	59.1	54	-6.7		29	21 38.2	49.1	54	-5.9		29	15 40.1	38.9	54	-4.9	
30	28 28.2	58.9				30	21 31.7	48.9				30	15 34.7	38.7			
31	28 20.8	58.7	6	-0.7		31	21 25.2	48.7	6	-0.6		31	15 29.3	38.5	6	-0.5	
32	28 13.5	58.5	12	-1.5		32	21 18.8	48.5	12	-1.3		32	15 24.0	38.3	12	-1.1	
33	28 6.2	58.4	18	-2.2		33	21 12.3	48.4	18	-1.9		33	15 18.7	38.2	18	-1.6	
34	27 58.9	58.2	24	-2.9		34	21 5.9	48.2	24	-2.6		34	15 13.4	38.0	24	-2.1	
35	27 51.6	58.0	30	-3.6		35	20 59.5	48.0	30	-3.2		35	15 8.1	37.8	30	-2.6	
36	27 44.3	57.8	36	-4.4		36	20 53.1	47.8	36	-3.8		36	15 2.8	37.6	36	-3.2	
37	27 37.0	57.7	42	-5.1		37	20 46.7	47.7	42	-4.5		37	14 57.6	37.4	42	-3.7	
38	27 29.7	57.5	48	-5.8		38	20 40.4	47.5	48	-5.1		38	14 52.4	37.3	48	-4.2	
39	27 22.4	57.4	54	-6.6		39	20 34.0	47.4	54	-5.8		39	14 47.2	37.1	54	-4.8	
40	27 15.2	57.2				40	20 27.7	47.2				40	14 42.0	36.9			
41	27 8.0	57.0	6	-0.7		41	20 21.4	47.0	6	-0.6		41	14 36.8	36.7	6	-0.5	
42	27 0.8	56.9	12	-1.4		42	20 15.1	46.8	12	-1.2		42	14 31.7	36.5	12	-1.0	
43	26 53.6	56.7	18	-2.1		43	20 8.8	46.7	18	-1.9		43	14 26.6	36.4	18	-1.5	
44	26 46.4	56.6	24	-2.9		44	20 2.6	46.5	24	-2.5		44	14 21.5	36.2	24	-2.0	
45	26 39.1	56.4	30	-3.6		45	19 56.3	46.3	30	-3.1		45	14 16.4	36.0	30	-2.5	
46	26 31.9	56.2	36	-4.3		46	19 50.1	46.1	36	-3.7		46	14 11.4	35.8	36	-3.1	
47	26 24.8	56.1	42	-5.0		47	19 43.9	46.0	42	-4.3		47	14 6.3	35.7	42	-3.6	
48	26 17.7	55.9	48	-5.7		48	19 37.7	45.8	48	-5.0		48	14 1.3	35.5	48	-4.1	
49	26 10.7	55.8	54	-6.4		49	19 31.5	45.7	54	-5.6		49	13 56.3	35.4	54	-4.6	
50	26 3.6	55.6				50	19 25.4	45.5				50	13 51.4	35.2			
51	25 56.5	55.4	6	-0.7		51	19 19.3	45.3	6	-0.6		51	13 46.4	35.0	6	-0.5	
52	25 49.4	55.2	12	-1.4		52	19 13.2	45.1	12	-1.2		52	13 41.5	34.8	12	-1.0	
53	25 42.3	55.1	18	-2.1		53	19 7.1	45.0	18	-1.8		53	13 36.6	34.7	18	-1.5	
54	25 35.3	54.9	24	-2.8		54	19 1.0	44.8	24	-2.4		54	13 31.7	34.5	24	-2.0	
55	25 28.3	54.7	30	-3.5		55	18 54.9	44.6	30	-3.0		55	13 26.8	34.3	30	-2.5	
56	25 21.3	54.5	36	-4.2		56	18 48.9	44.4	36	-3.6		56	13 22.0	34.1	36	-2.9	
57	25 14.3	54.4	42	-4.9		57	18 42.9	44.3	42	-4.2		57	13 17.2	33.9	42	-3.4	
58	25 7.3	54.2	48	-5.6		58	18 36.9	44.1	48	-4.8		58	13 12.4	33.8	48	-3.9	
59	25 0.3	54.1	54	-6.3		59	18 30.9	44.0	54	-5.4		59	13 7.6	33.6	54	-4.4	
m	Höhe	Azimut	Δt	Δh	ΔA	m	Höhe	Azimut	Δt	Δh	ΔA	m	Höhe	Azimut	Δt	Δh	ΔA
	6. Stunde						7. Stunde						8. Stunde				
Δh	1920-1925	1925-1930	1930-1935			Δh	1920-1925	1925-1930	1930-1935			Δh	1920-1925	1925-1930	1930-1935		
	+ 0.9	+ 1.8	+ 2.6				+ 0.9	+ 1.9	+ 2.8				+ 1.0	+ 2.0	+ 3.0		
ΔA						ΔA						ΔA					

55°N

β Persei (Algol)

55°N

Std. wkl. m.	9. Stunde					Std. wkl. m.	10. Stunde					Std. wkl. m.	11. Stunde				
	Höhe	Azimet	Δt	Δh	ΔA		Höhe	Azimet	Δt	Δh	ΔA		Höhe	Azimet	Δt	Δh	ΔA
0	13° 2'8	33 24	sek			0	9° 0'5	22 26	sek			0	6° 29'7	11 24	sek		
1	12 58.1	33 2	6	-0.5		1	8 57.2	22 4	6	-0.3	0.0	1	6 28.0	11 2	6	-0.2	0.0
2	12 53.4	33 0	12	-0.9		2	8 54.0	22 2	12	-0.6	0.0	2	6 26.3	11 0	12	-0.3	0.0
3	12 48.7	32 9	18	-1.4		3	8 50.7	22 0	18	-0.9	-0.1	3	6 24.7	10 8	18	-0.5	-0.1
4	12 44.1	32 7	24	-1.8		4	8 47.5	21 8	24	-1.2	-0.1	4	6 23.1	10 6	24	-0.6	-0.1
5	12 39.4	32 5	30	-2.3		5	8 44.3	21 6	30	-1.5	-0.1	5	6 21.5	10 4	30	-0.8	-0.1
6	12 34.8	32 3	36	-2.8		6	8 41.2	21 4	36	-1.9	-0.1	6	6 20.0	10 2	36	-1.0	-0.1
7	12 30.2	32 1	42	-3.2		7	8 38.0	21 2	42	-2.2	-0.1	7	6 18.5	10 0	42	-1.1	-0.1
8	12 25.6	32 0	48	-3.7		8	8 34.9	21 1	48	-2.5	-0.2	8	6 17.0	9 9	48	-1.3	-0.2
9	12 21.0	31 8	54	-4.1		9	8 31.8	20 9	54	-2.8	-0.2	9	6 15.5	9 7	54	-1.4	-0.2
10	12 16.5	31 6				10	8 28.8	20 7				10	6 14.1	9 5			
11	12 12.0	31 4	6	-0.4		11	8 25.7	20 5	6	-0.3	0.0	11	6 12.7	9 3	6	-0.1	0.0
12	12 7.6	31 2	12	-0.9		12	8 22.7	20 3	12	-0.6	0.0	12	6 11.3	9 1	12	-0.3	0.0
13	12 3.1	31 1	18	-1.3		13	8 19.7	20 2	18	-0.9	-0.1	13	6 9.9	8 9	18	-0.4	-0.1
14	11 58.7	30 9	24	-1.8		14	8 16.8	20 0	24	-1.2	-0.1	14	6 8.6	8 7	24	-0.5	-0.1
15	11 54.3	30 7	30	-2.2		15	8 13.9	19 8	30	-1.5	-0.1	15	6 7.3	8 5	30	-0.6	-0.1
16	11 49.9	30 5	36	-2.6		16	8 11.0	19 6	36	-1.7	-0.1	16	6 6.0	8 3	36	-0.8	-0.1
17	11 45.5	30 4	42	-3.1		17	8 8.1	19 4	42	-2.1	-0.1	17	6 4.7	8 1	42	-0.9	-0.1
18	11 41.2	30 2	48	-3.5		18	8 5.3	19 3	48	-2.4	-0.2	18	6 3.5	8 0	48	-1.0	-0.2
19	11 36.9	30 1	54	-4.0		19	8 2.4	19 1	54	-2.7	-0.2	19	6 2.3	7 8	54	-1.2	-0.2
20	11 32.6	29 9				20	7 59.6	18 9				20	6 1.2	7 6			
21	11 28.3	29 7	6	-0.4		21	7 56.8	18 7	6	-0.3	0.0	21	6 0.1	7 4	6	-0.1	0.0
22	11 24.1	29 5	12	-0.8		22	7 54.1	18 5	12	-0.5	-0.0	22	5 59.0	7 2	12	-0.2	0.0
23	11 19.8	29 4	18	-1.2		23	7 51.4	18 3	18	-0.8	-0.1	23	5 57.9	7 0	18	-0.3	-0.1
24	11 15.6	29 2	24	-1.6		24	7 48.7	18 1	24	-1.0	-0.1	24	5 56.9	6 8	24	-0.4	-0.1
25	11 11.4	29 0	30	-2.0		25	7 46.0	17 9	30	-1.3	-0.1	25	5 55.9	6 6	30	-0.5	-0.1
26	11 7.3	28 8	36	-2.5		26	7 43.4	17 7	36	-1.6	-0.1	26	5 54.9	6 4	36	-0.6	-0.1
27	11 3.2	28 6	42	-2.9		27	7 40.8	17 5	42	-1.8	-0.1	27	5 53.9	6 2	42	-0.7	-0.1
28	10 59.1	28 5	48	-3.3		28	7 38.2	17 4	48	-2.1	-0.2	28	5 53.0	6 1	48	-0.8	-0.2
29	10 55.0	28 3	54	-3.7		29	7 35.6	17 2	54	-2.3	-0.2	29	5 52.1	5 9	54	-0.9	-0.2
30	10 51.0	28 1				30	7 33.1	17 0				30	5 51.2	5 7			
31	10 46.9	27 9	6	-0.4		31	7 30.6	16 8	6	-0.2	0.0	31	5 50.4	5 5	6	-0.1	0.0
32	10 42.9	27 7	12	-0.8		32	7 28.1	16 6	12	-0.5	0.0	32	5 49.6	5 3	12	-0.1	0.0
33	10 38.9	27 5	18	-1.2		33	7 25.7	16 4	18	-0.7	-0.1	33	5 48.8	5 1	18	-0.2	-0.1
34	10 35.0	27 3	24	-1.6		34	7 23.3	16 2	24	-1.0	-0.1	34	5 48.0	4 9	24	-0.3	-0.1
35	10 31.0	27 1	30	-2.0		35	7 20.9	16 0	30	-1.2	-0.1	35	5 47.3	4 7	30	-0.3	-0.1
36	10 27.1	26 9	36	-2.3		36	7 18.6	15 8	36	-1.4	-0.1	36	5 46.6	4 5	36	-0.4	-0.1
37	10 23.2	26 7	42	-2.7		37	7 16.2	15 6	42	-1.7	-0.1	37	5 45.9	4 3	42	-0.5	-0.1
38	10 19.4	26 6	48	-3.1		38	7 13.9	15 5	48	-1.9	-0.2	38	5 45.3	4 2	48	-0.6	-0.2
39	10 15.5	26 4	54	-3.5		39	7 11.5	15 3	54	-2.2	-0.2	39	5 44.7	4 0	54	-0.6	-0.2
40	10 11.7	26 2				40	7 9.2	15 1				40	5 44.1	3 8			
41	10 7.9	26 0	6	-0.4		41	7 6.9	14 9	6	-0.2	0.0	41	5 43.5	3 6	6	-0.0	0.0
42	10 4.2	25 8	12	-0.7		42	7 4.7	14 7	12	-0.4	0.0	42	5 43.0	3 4	12	-0.1	0.0
43	10 0.4	25 7	18	-1.1		43	7 2.5	14 6	18	-0.6	-0.1	43	5 42.5	3 2	18	-0.1	-0.1
44	9 56.7	25 5	24	-1.4		44	7 0.4	14 4	24	-0.8	-0.1	44	5 42.1	3 0	24	-0.2	-0.1
45	9 53.0	25 3	30	-1.8		45	6 58.3	14 2	30	-1.0	-0.1	45	5 41.7	2 8	30	-0.2	-0.1
46	9 49.3	25 1	36	-2.2		46	6 56.2	14 0	36	-1.3	-0.1	46	5 41.3	2 6	36	-0.2	-0.1
47	9 45.6	24 9	42	-2.5		47	6 54.1	13 8	42	-1.5	-0.1	47	5 40.9	2 4	42	-0.3	-0.1
48	9 42.0	24 8	48	-2.9		48	6 52.1	13 7	48	-1.7	-0.2	48	5 40.5	2 3	48	-0.3	-0.2
49	9 38.4	24 6	54	-3.2		49	6 50.1	13 5	54	-1.9	-0.2	49	5 40.2	2 1	54	-0.4	-0.2
50	9 34.9	24 4				50	6 48.1	13 3				50	5 39.9	1 9			
51	9 31.3	24 2	6	-0.3		51	6 46.1	13 1	6	-0.2	0.0	51	5 39.6	1 7	6	-0.0	0.0
52	9 27.8	24 0	12	-0.7		52	6 44.2	12 9	12	-0.4	0.0	52	5 39.3	1 5	12	-0.0	0.0
53	9 24.3	23 9	18	-1.0		53	6 42.3	12 7	18	-0.5	-0.1	53	5 39.1	1 3	18	-0.1	-0.1
54	9 20.9	23 7	24	-1.4		54	6 40.4	12 5	24	-0.7	-0.1	54	5 38.9	1 1	24	-0.1	-0.1
55	9 17.4	23 5	30	-1.7		55	6 38.5	12 3	30	-0.9	-0.1	55	5 38.7	0 9	30	-0.1	-0.1
56	9 14.0	23 3	36	-2.1		56	6 36.7	12 1	36	-1.1	-0.1	56	5 38.6	0 7	36	-0.1	-0.1
57	9 10.6	23 1	42	-2.4		57	6 34.9	11 9	42	-1.3	-0.1	57	5 38.5	0 5	42	-0.1	-0.1
58	9 7.2	23 0	48	-2.8		58	6 33.1	11 8	48	-1.4	-0.2	58	5 38.4	0 4	48	-0.2	-0.2
59	9 3.8	22 8	54	-3.1		59	6 31.4	11 6	54	-1.6	-0.2	59	5 38.4	0 2	54	-0.2	-0.2

- δ Persei (Algenib)
- α Aurigae (Capella)
- β Aurigae
- γ Minorum (Castor)
- Ursae majoris (Dubhe)
- Ursae majoris
- Ursae majoris (Alioth)
- Ursae majoris (Mizar)
- Ursae majoris (Benetnasch)
- Ursae minoris (Kochab)
- γ Draconis
- α Lyrae (Weğa)
- γ Cygni
- α Cygni (Deneb)
- α Cephei
- Ursae minoris (Nordstern)

Std. wkl. m.	9. Stunde					Std. wkl. m.	10. Stunde					Std. wkl. m.	11. Stunde				
	Höhe	Azimet	Δt	Δh	ΔA		Höhe	Azimet	Δt	Δh	ΔA		Höhe	Azimet	Δt	Δh	ΔA
Δh	+ 1.1	+ 2.1	+ 3.2			Δh	+ 1.1	+ 2.2	+ 3.4			Δh	+ 1.1	+ 2.3	+ 3.4		
ΔA	—	—	—			ΔA	—	—	—			ΔA	—	—	—		

α 1917 = $3^h 2^m 48^s$ Jährliche Änderung $+3.9$

55°N

a Persei (Algenib)

55°N

Std-wkl. m.	0. Stunde					Std-wkl. m.	1. Stunde					Std-wkl. m.	2. Stunde				
	Höhe	Azimut	Δt	Δh	ΔA		Höhe	Azimut	Δt	Δh	ΔA		Höhe	Azimut	Δt	Δh	ΔA
0			sek			0	79° 22' 2	114° 5	sek			0	71° 1' 7	94° 1	sek		
1						1	79 14.4	113.9	6	-0'8	0°0	1	70.53.1	93.9	6	-0'9	0°0
2						2	79 6.6	113.4	12	-1.6	-0.1	2	70.44.5	93.7	12	-1.7	0.0
3						3	78 58.7	112.9	18	-2.4	-0.1	3	70.35.9	93.4	18	-2.6	-0.1
4						4	78 50.8	112.4	24	-3.2	-0.2	4	70.27.3	93.2	24	-3.4	-0.1
5						5	78 42.8	111.9	30	-4.0	-0.2	5	70.18.8	93.0	30	-4.3	-0.1
6						6	78 34.8	111.5	36	-4.8	-0.3	6	70.10.2	92.8	36	-5.2	-0.1
7						7	78 26.7	111.0	42	-5.6	-0.3	7	70 1.6	92.6	42	-6.0	-0.1
8						8	78 18.6	110.6	48	-6.4	-0.4	8	69 53.0	92.3	48	-6.9	-0.2
9						9	78 10.5	110.1	54	-7.2	-0.4	9	69 44.4	92.1	54	-7.7	-0.2
10						10	78 2.4	109.7				10	69 35.8	91.9			
11						11	77 54.3	109.3	6	-0.8	0.0	11	69 27.2	91.7	6	-0.9	0.0
12						12	77 46.2	108.9	12	-1.6	-0.1	12	69 18.6	91.5	12	-1.7	0.0
13						13	77 38.1	108.5	18	-2.5	-0.1	13	69 10.0	91.2	18	-2.6	-0.1
14						14	77 29.9	108.1	24	-3.3	-0.2	14	69 1.4	91.0	24	-3.4	-0.1
15						15	77 21.7	107.7	30	-4.1	-0.2	15	68 52.8	90.8	30	-4.3	-0.1
16						16	77 13.5	107.3	36	-4.9	-0.2	16	68 44.2	90.6	36	-5.2	-0.1
17						17	77 5.3	106.9	42	-5.7	-0.3	17	68 35.6	90.4	42	-6.0	-0.1
18						18	76 57.0	106.5	48	-6.6	-0.3	18	68 27.0	90.2	48	-6.9	-0.2
19						19	76 48.8	106.1	54	-7.4	-0.4	19	68 18.4	90.0	54	-7.7	-0.2
20						20	76 40.5	105.7				20	68 9.8	89.8			
21						21	76 32.2	105.3	6	-0.8	0.0	21	68 1.2	89.6	6	-0.9	0.0
22						22	76 23.9	105.0	12	-1.7	-0.1	22	67 52.6	89.4	12	-1.7	0.0
23						23	76 15.6	104.6	18	-2.5	-0.1	23	67 44.0	89.2	18	-2.6	-0.1
24						24	76 7.3	104.3	24	-3.4	-0.1	24	67 35.3	89.0	24	-3.4	-0.1
25						25	75 59.0	103.9	30	-4.2	-0.2	25	67 26.7	88.8	30	-4.3	-0.1
26						26	75 50.6	103.6	36	-5.0	-0.2	26	67 18.1	88.6	36	-5.2	-0.1
27						27	75 42.3	103.2	42	-5.9	-0.2	27	67 9.5	88.4	42	-6.0	-0.1
28						28	75 33.9	102.9	48	-6.7	-0.3	28	67 0.9	88.2	48	-6.9	-0.2
29						29	75 25.5	102.6	54	-7.6	-0.3	29	66 52.3	88.0	54	-7.7	-0.2
30						30	75 17.0	102.3				30	66 43.7	87.8			
31	82° 48.0	135° 7	6	-0'6	-0'1	31	75 8.6	102.0	6	-0.8	0.0	31	66 35.1	87.6	6	-0.9	0.0
32	82 42.0	134.7	12	-1.3	-0.2	32	75 0.2	101.7	12	-1.7	-0.1	32	66 26.5	87.4	12	-1.7	0.0
33	82 35.8	133.7	18	-1.9	-0.3	33	74 51.8	101.4	18	-2.5	-0.1	33	66 17.9	87.2	18	-2.6	-0.1
34	82 29.6	132.8	24	-2.5	-0.4	34	74 43.3	101.1	24	-3.4	-0.1	34	66 9.3	87.0	24	-3.4	-0.1
35	82 23.2	131.9	30	-3.1	-0.4	35	74 34.9	100.8	30	-4.2	-0.1	35	66 0.7	86.8	30	-4.3	-0.1
36	82 16.7	131.0	36	-3.8	-0.5	36	74 26.4	100.5	36	-5.0	-0.2	36	65 52.2	86.6	36	-5.2	-0.1
37	82 10.2	130.1	42	-4.4	-0.6	37	74 18.0	100.2	42	-5.9	-0.2	37	65 43.6	86.4	42	-6.0	-0.1
38	82 3.6	129.3	48	-5.0	-0.7	38	74 9.5	99.9	48	-6.7	-0.2	38	65 35.0	86.2	48	-6.9	-0.2
39	81 56.9	128.4	54	-5.7	-0.8	39	74 1.0	99.6	54	-7.6	-0.2	39	65 26.4	86.0	54	-7.7	-0.2
40	81 50.1	127.6				40	73 52.5	99.3				40	65 17.8	85.9			
41	81 43.2	126.8	6	-0.7	-0.1	41	73 44.0	99.0	6	-0.8	0.0	41	65 9.2	85.7	6	-0.9	0.0
42	81 36.3	126.0	12	-1.4	-0.1	42	73 35.5	98.7	12	-1.7	0.0	42	65 0.6	85.5	12	-1.7	0.0
43	81 29.3	125.2	18	-2.2	-0.2	43	73 27.0	98.4	18	-2.5	-0.1	43	64 52.0	85.4	18	-2.6	-0.1
44	81 22.2	124.4	24	-2.9	-0.3	44	73 18.5	98.2	24	-3.4	-0.1	44	64 43.5	85.2	24	-3.4	-0.1
45	81 15.1	123.7	30	-3.6	-0.3	45	73 10.0	97.9	30	-4.2	-0.1	45	64 34.9	85.0	30	-4.3	-0.1
46	81 7.9	123.0	36	-4.3	-0.4	46	73 1.5	97.7	36	-5.1	-0.1	46	64 26.3	84.8	36	-5.2	-0.1
47	81 0.6	122.3	42	-5.0	-0.5	47	72 53.0	97.4	42	-5.9	-0.2	47	64 17.7	84.6	42	-6.0	-0.1
48	80 53.3	121.6	48	-5.8	-0.6	48	72 44.4	97.2	48	-6.8	-0.2	48	64 9.2	84.5	48	-6.9	-0.2
49	80 46.0	120.9	54	-6.5	-0.6	49	72 35.9	96.9	54	-7.6	-0.2	49	64 0.6	84.3	54	-7.7	-0.2
50	80 38.6	120.3				50	72 27.4	96.6				50	63 52.1	84.1			
51	80 31.2	119.6	6	-0.8	-0.1	51	72 18.9	96.3	6	-0.9	0.0	51	63 43.5	83.9	6	-0.8	0.0
52	80 23.7	119.0	12	-1.5	-0.1	52	72 10.3	96.1	12	-1.7	0.0	52	63 35.0	83.7	12	-1.7	0.0
53	80 16.2	118.4	18	-2.3	-0.2	53	72 1.8	95.8	18	-2.6	-0.1	53	63 26.4	83.6	18	-2.5	-0.1
54	80 8.6	117.8	24	-3.0	-0.2	54	71 53.2	95.6	24	-3.4	-0.1	54	63 17.9	83.4	24	-3.4	-0.1
55	80 0.9	117.2	30	-3.8	-0.3	55	71 44.6	95.3	30	-4.3	-0.1	55	63 9.3	83.2	30	-4.2	-0.1
56	79 53.2	116.7	36	-4.6	-0.4	56	71 36.0	95.1	36	-5.2	-0.1	56	63 0.8	83.0	36	-5.1	-0.1
57	79 45.5	116.1	42	-5.3	-0.4	57	71 27.5	94.8	42	-6.0	-0.2	57	62 52.2	82.9	42	-5.9	-0.1
58	79 37.8	115.6	48	-6.1	-0.5	58	71 18.9	94.6	48	-6.9	-0.2	58	62 43.7	82.7	48	-6.7	-0.2
59	79 30.0	115.0	54	-6.8	-0.5	59	71 10.3	94.3	54	-7.7	-0.2	59	62 35.2	82.6	54	-7.5	-0.2

m Std-wkl.	0. Stunde			m Std-wkl.	1. Stunde			m Std-wkl.	2. Stunde		
	Höhe	Azimut	ΔA		Höhe	Azimut	ΔA		Höhe	Azimut	ΔA
	1920-1925	1925-1930	1930-1935		1920-1925	1925-1930	1930-1935		1920-1925	1925-1930	1930-1935
Δh	+ 0'9	+ 1'7	+ 2'6	Δh	+ 0'6	+ 1'2	+ 1'8	Δh	+ 0'5	+ 1'1	+ 1'6
ΔA	—	- 0°1	- 0°1	ΔA	- 0°1	- 0°1	- 0°2	ΔA	—	- 0°1	- 0°1

55°N

α Persei (Algenib)

55°N

Std. wkl. m.	3. Stunde					Std. wkl. m.	4. Stunde					Std. wkl. m.	5. Stunde				
	Höhe	Azimut	Δt	Δh	ΔA		Höhe	Azimut	Δt	Δh	ΔA		Höhe	Azimut	Δt	Δh	ΔA
0	62°26'7	82°4	sek			0	54°3'0	73°1	sek			0	46°2'3	64°5	sek		
1	62 18.1	82.2	6	-0.8	-0.0	1	53 54.7	72.9	6	-0.8	-0.0	1	45 54.5	64.4	6	-0.8	
2	62 9.6	82.1	12	-1.7	-0.0	2	53 46.5	72.8	12	-1.6	-0.0	2	45 46.8	64.2	12	-1.6	
3	62 1.1	81.9	18	-2.5	-0.1	3	53 38.3	72.6	18	-2.5	-0.1	3	45 39.1	64.1	18	-2.3	
4	61 52.6	81.8	24	-3.4	-0.1	4	53 30.1	72.5	24	-3.3	-0.1	4	45 31.4	63.9	24	-3.1	
5	61 44.1	81.6	30	-4.2	-0.1	5	53 21.9	72.3	30	-4.1	-0.1	5	45 23.6	63.8	30	-3.9	
6	61 35.6	81.4	36	-5.1	-0.1	6	53 13.7	72.2	36	-4.9	-0.1	6	45 15.9	63.7	36	-4.7	
7	61 27.1	81.3	42	-5.9	-0.1	7	53 5.5	72.0	42	-5.7	-0.1	7	45 8.2	63.5	42	-5.4	
8	61 18.6	81.1	48	-6.8	-0.2	8	52 57.3	71.9	48	-6.6	-0.2	8	45 0.5	63.4	48	-6.2	
9	61 10.1	81.0	54	-7.6	-0.2	9	52 49.1	71.7	54	-7.4	-0.2	9	44 52.8	63.2	54	-7.0	
10	61 1.6	80.8				10	52 41.0	71.6				10	44 45.1	63.1			
11	60 53.1	80.6	6	-0.8	-0.0	11	52 32.8	71.4	6	-0.8	-0.0	11	44 37.4	63.0	6	-0.8	
12	60 44.6	80.5	12	-1.7	-0.0	12	52 24.7	71.3	12	-1.6	-0.0	12	44 29.8	62.8	12	-1.5	
13	60 36.1	80.3	18	-2.5	-0.1	13	52 16.5	71.1	18	-2.4	-0.0	13	44 22.1	62.7	18	-2.3	
14	60 27.6	80.2	24	-3.4	-0.1	14	52 8.4	71.0	24	-3.3	-0.1	14	44 14.5	62.5	24	-3.0	
15	60 19.1	80.0	30	-4.2	-0.1	15	52 0.2	70.8	30	-4.1	-0.1	15	44 6.9	62.4	30	-3.8	
16	60 10.7	79.8	36	-5.1	-0.1	16	51 52.1	70.7	36	-4.9	-0.1	16	43 59.3	62.3	36	-4.6	
17	60 2.2	79.7	42	-5.9	-0.1	17	51 44.0	70.5	42	-5.7	-0.1	17	43 51.7	62.1	42	-5.3	
18	59 53.8	79.5	48	-6.8	-0.2	18	51 35.9	70.4	48	-6.5	-0.1	18	43 44.1	62.0	48	-6.1	
19	59 45.3	79.4	54	-7.6	-0.2	19	51 27.8	70.2	54	-7.3	-0.1	19	43 36.5	61.8	54	-6.8	
20	59 36.9	79.2				20	51 19.7	70.1				20	43 28.9	61.7			
21	59 28.4	79.0	6	-0.8	-0.0	21	51 11.6	70.0	6	-0.8	-0.0	21	43 21.3	61.6	6	-0.8	
22	59 20.0	78.9	12	-1.7	-0.0	22	51 3.5	69.8	12	-1.6	-0.0	22	43 13.8	61.4	12	-1.5	
23	59 11.5	78.7	18	-2.5	-0.1	23	50 55.4	69.7	18	-2.4	-0.0	23	43 6.2	61.3	18	-2.3	
24	59 3.1	78.6	24	-3.4	-0.1	24	50 47.4	69.5	24	-3.2	-0.1	24	42 58.7	61.1	24	-3.0	
25	58 54.6	78.4	30	-4.2	-0.1	25	50 39.3	69.4	30	-4.0	-0.1	25	42 51.2	61.0	30	-3.8	
26	58 46.2	78.2	36	-5.1	-0.1	26	50 31.3	69.3	36	-4.8	-0.1	26	42 43.7	60.9	36	-4.5	
27	58 37.8	78.1	42	-5.9	-0.1	27	50 23.2	69.1	42	-5.6	-0.1	27	42 36.2	60.7	42	-5.3	
28	58 29.4	77.9	48	-6.8	-0.2	28	50 15.2	69.0	48	-6.4	-0.1	28	42 28.7	60.6	48	-6.0	
29	58 21.0	77.8	54	-7.6	-0.2	29	50 7.1	68.8	54	-7.2	-0.1	29	42 21.2	60.4	54	-6.8	
30	58 12.6	77.6				30	49 59.1	68.7				30	42 13.7	60.3			
31	58 4.2	77.4	6	-0.8	-0.0	31	49 51.1	68.6	6	-0.8	-0.0	31	42 6.2	60.2	6	-0.7	
32	57 55.8	77.3	12	-1.7	-0.0	32	49 43.1	68.4	12	-1.6	-0.0	32	41 58.8	60.0	12	-1.5	
33	57 47.4	77.1	18	-2.5	-0.1	33	49 35.1	68.3	18	-2.4	-0.0	33	41 51.3	59.9	18	-2.2	
34	57 39.0	77.0	24	-3.4	-0.1	34	49 27.1	68.1	24	-3.2	-0.1	34	41 43.9	59.7	24	-3.0	
35	57 30.6	76.8	30	-4.2	-0.1	35	49 19.1	68.0	30	-4.0	-0.1	35	41 36.5	59.6	30	-3.7	
36	57 22.3	76.6	36	-5.0	-0.1	36	49 11.2	67.9	36	-4.8	-0.1	36	41 29.1	59.5	36	-4.5	
37	57 13.9	76.5	42	-5.9	-0.1	37	49 3.2	67.7	42	-5.6	-0.1	37	41 21.7	59.3	42	-5.2	
38	57 5.5	76.3	48	-6.7	-0.2	38	48 55.3	67.6	48	-6.4	-0.1	38	41 14.3	59.2	48	-6.0	
39	56 57.1	76.2	54	-7.6	-0.2	39	48 47.3	67.4	54	-7.2	-0.1	39	41 6.9	59.0	54	-6.7	
40	56 48.8	76.0				40	48 39.4	67.3				40	40 59.5	58.9			
41	56 40.4	75.8	6	-0.8	-0.0	41	48 31.4	67.2	6	-0.8	-0.0	41	40 52.1	58.8	6	-0.7	
42	56 32.1	75.7	12	-1.7	-0.0	42	48 23.5	67.0	12	-1.6	-0.0	42	40 44.8	58.6	12	-1.5	
43	56 23.8	75.5	18	-2.5	-0.1	43	48 15.6	66.9	18	-2.4	-0.0	43	40 37.5	58.5	18	-2.2	
44	56 15.5	75.4	24	-3.3	-0.1	44	48 7.7	66.7	24	-3.2	-0.1	44	40 30.2	58.3	24	-2.9	
45	56 7.1	75.2	30	-4.2	-0.1	45	47 59.8	66.6	30	-4.0	-0.1	45	40 22.9	58.2	30	-3.7	
46	55 58.8	75.1	36	-5.0	-0.1	46	47 51.9	66.5	36	-4.8	-0.1	46	40 15.6	58.1	36	-4.4	
47	55 50.5	74.9	42	-5.8	-0.1	47	47 44.0	66.3	42	-5.6	-0.1	47	40 8.3	57.9	42	-5.1	
48	55 42.2	74.8	48	-6.7	-0.2	48	47 36.1	66.2	48	-6.4	-0.1	48	40 1.0	57.8	48	-5.9	
49	55 33.9	74.6	54	-7.5	-0.2	49	47 28.2	66.0	54	-7.2	-0.1	49	39 53.7	57.6	54	-6.6	
50	55 25.6	74.5				50	47 20.4	65.9				50	39 46.5	57.5			
51	55 17.3	74.4	6	-0.8	-0.0	51	47 12.5	65.8	6	-0.8	-0.0	51	39 39.2	57.4	6	-0.8	
52	55 9.0	74.2	12	-1.7	-0.0	52	47 4.7	65.6	12	-1.6	-0.0	52	39 32.0	57.2	12	-1.6	
53	55 0.7	74.1	18	-2.5	-0.1	53	46 56.9	65.5	18	-2.4	-0.0	53	39 24.7	57.1	18	-2.5	
54	54 52.5	73.9	24	-3.3	-0.1	54	46 49.1	65.3	24	-3.1	-0.1	54	39 17.5	56.9	24	-3.3	
55	54 44.2	73.8	30	-4.1	-0.1	55	46 41.3	65.2	30	-3.9	-0.1	55	39 10.3	56.8	30	-4.1	
56	54 36.0	73.7	36	-5.0	-0.1	56	46 33.5	65.1	36	-4.7	-0.1	56	39 3.1	56.7	36	-4.9	
57	54 27.7	73.5	42	-5.8	-0.1	57	46 25.7	64.9	42	-5.5	-0.1	57	38 55.9	56.5	42	-5.8	
58	54 19.5	73.4	48	-6.6	-0.2	58	46 17.9	64.8	48	-6.3	-0.1	58	38 48.8	56.4	48	-6.6	
59	54 11.2	73.2	54	-7.5	-0.2	59	46 10.1	64.6	54	-7.1	-0.1	59	38 41.6	56.2	54	-7.4	

m Std. wkl.	3. Stunde			m Std. wkl.	4. Stunde			m Std. wkl.	5. Stunde		
	Höhe	Azimut	ΔA		Höhe	Azimut	ΔA		Höhe	Azimut	ΔA
	1920-1925	1925-1930	1930-1935		1920-1925	1925-1930	1930-1935		1920-1925	1925-1930	1930-1935
Δh	+ 0.6	+ 1.1	+ 1.7	Δh	+ 0.6	+ 1.2	+ 1.9	Δh	+ 0.7	+ 1.4	+ 2.1
ΔA	—	- 0.1	- 0.1	ΔA	—	- 0.1	- 0.1	ΔA	—	—	- 0.1

α Persei (Algenib)
 α Aurigae (Capella)
 β Aurigae
 Geminorum (Castor)
 Ursae majoris (Dubhe)
 Ursae majoris
 Ursae majoris (Alioth)
 Ursae majoris (Mizar)
 Ursae majoris (Benetnasch)
 Ursae minoris (Kochab)
 γ Draconis
 α Lyrae (Wega)
 γ Cygni
 α Cygni (Deneb)
 α Cephei
 Ursae minoris (Nordstern)

α 1917 = 3^h 18^m 26^s Jährliche Änderung + 4^s 3

55°N

α Persei (Algenib)

55°N

Std-wkl. m.	6. Stunde					Std-wkl. m.	7. Stunde					Std-wkl. m.	8. Stunde				
	Höhe	Azimut	Δt	Δh	ΔA		Höhe	Azimut	Δt	Δh	ΔA		Höhe	Azimut	Δt	Δh	ΔA
0	38°34.5	56°1	sek			0	31°49.2	47°5	sek			0	25°56.9	38°6	sek		
1	38 27.3	56.0	6	-0.7		1	31 42.9	47.3	6	-0.6		1	25 51.5	38.4	6	-0.5	
2	38 20.2	55.8	12	-1.4		2	31 36.6	47.2	12	-1.2		2	25 46.2	38.3	12	-1.1	
3	38 13.1	55.7	18	-2.1		3	31 30.3	47.0	18	-1.9		3	25 40.8	38.1	18	-1.6	
4	38 6.0	55.5	24	-2.8		4	31 24.0	46.8	24	-2.5		4	25 35.5	38.0	24	-2.1	
5	37 58.9	55.4	30	-3.5		5	31 17.7	46.7	30	-3.1		5	25 30.2	37.8	30	-2.6	
6	37 51.9	55.3	36	-4.3		6	31 11.5	46.5	36	-3.7		6	25 24.9	37.7	36	-3.2	
7	37 44.8	55.1	42	-5.0		7	31 5.2	46.4	42	-4.4		7	25 19.6	37.5	42	-3.7	
8	37 37.8	55.0	48	-5.7		8	30 59.0	46.3	48	-5.0		8	25 14.4	37.4	48	-4.2	
9	37 30.7	54.8	54	-6.4		9	30 52.8	46.2	54	-5.6		9	25 9.2	37.2	54	-4.8	
10	37 23.7	54.7				10	30 46.6	46.0				10	25 4.0	37.1			
11	37 16.7	54.6	6	-0.7		11	30 40.4	45.9	6	-0.6		11	24 58.8	37.0	6	-0.5	
12	37 9.7	54.4	12	-1.4		12	30 34.2	45.7	12	-1.2		12	24 53.7	36.8	12	-1.0	
13	37 2.7	54.3	18	-2.1		13	30 28.0	45.6	18	-1.8		13	24 48.5	36.7	18	-1.5	
14	36 55.8	54.1	24	-2.8		14	30 21.9	45.4	24	-2.4		14	24 43.4	36.5	24	-2.0	
15	36 48.8	54.0	30	-3.5		15	30 15.8	45.3	30	-3.0		15	24 38.3	36.4	30	-2.5	
16	36 41.9	53.8	36	-4.2		16	30 9.7	45.2	36	-3.7		16	24 33.2	36.2	36	-3.1	
17	36 34.9	53.7	42	-4.9		17	30 3.6	45.0	42	-4.3		17	24 28.1	36.1	42	-3.6	
18	36 28.0	53.5	48	-5.6		18	29 57.5	44.9	48	-4.9		18	24 23.1	35.9	48	-4.1	
19	36 21.1	53.4	54	-6.3		19	29 51.4	44.7	54	-5.5		19	24 18.0	35.8	54	-4.6	
20	36 14.2	53.2				20	29 45.4	44.6				20	24 13.0	35.6			
21	36 7.3	53.1	6	-0.7		21	29 39.4	44.4	6	-0.6		21	24 8.0	35.4	6	-0.5	
22	36 0.4	52.9	12	-1.4		22	29 33.4	44.3	12	-1.2		22	24 3.0	35.3	12	-1.0	
23	35 53.5	52.8	18	-2.1		23	29 27.4	44.1	18	-1.8		23	23 58.0	35.1	18	-1.5	
24	35 46.7	52.6	24	-2.7		24	29 21.4	44.0	24	-2.4		24	23 53.1	35.0	24	-2.0	
25	35 39.9	52.5	30	-3.4		25	29 15.4	43.8	30	-3.0		25	23 48.2	34.8	30	-2.5	
26	35 33.1	52.4	36	-4.1		26	29 9.5	43.7	36	-3.6		26	23 43.3	34.7	36	-2.9	
27	35 26.3	52.2	42	-4.8		27	29 3.5	43.5	42	-4.2		27	23 38.4	34.5	42	-3.4	
28	35 19.5	52.1	48	-5.5		28	28 57.6	43.4	48	-4.8		28	23 33.5	34.4	48	-3.9	
29	35 12.7	51.9	54	-6.2		29	28 51.7	43.2	54	-5.4		29	23 28.6	34.2	54	-4.4	
30	35 5.9	51.8				30	28 45.8	43.1				30	23 23.8	34.1			
31	34 59.1	51.7	6	-0.7		31	28 39.9	43.0	6	-0.6		31	23 19.0	34.0	6	-0.5	
32	34 52.4	51.5	12	-1.3		32	28 34.1	42.8	12	-1.2		32	23 14.2	33.8	12	-0.9	
33	34 45.7	51.4	18	-2.0		33	28 28.2	42.7	18	-1.7		33	23 9.4	33.7	18	-1.4	
34	34 39.0	51.2	24	-2.7		34	28 22.4	42.5	24	-2.3		34	23 4.7	33.5	24	-1.9	
35	34 32.3	51.1	30	-3.3		35	28 16.6	42.4	30	-2.9		35	22 59.9	33.4	30	-2.3	
36	34 25.6	51.0	36	-4.0		36	28 10.8	42.2	36	-3.5		36	22 55.2	33.2	36	-2.8	
37	34 18.9	50.8	42	-4.7		37	28 5.0	42.1	42	-4.1		37	22 50.5	33.1	42	-3.3	
38	34 12.3	50.7	48	-5.4		38	27 59.3	41.9	48	-4.6		38	22 45.8	32.9	48	-3.8	
39	34 5.6	50.5	54	-6.0		39	27 53.5	41.8	54	-5.2		39	22 41.1	32.8	54	-4.2	
40	33 59.0	50.4				40	27 47.8	41.6				40	22 36.5	32.6			
41	33 52.4	50.2	6	-0.7		41	27 42.1	41.5	6	-0.6		41	22 31.9	32.4	6	-0.4	
42	33 45.8	50.1	12	-1.3		42	27 36.4	41.3	12	-1.1		42	22 27.3	32.3	12	-0.9	
43	33 39.2	49.9	18	-2.0		43	27 30.7	41.2	18	-1.7		43	22 22.7	32.1	18	-1.3	
44	33 32.6	49.8	24	-2.6		44	27 25.1	41.0	24	-2.3		44	22 18.2	32.0	24	-1.8	
45	33 26.0	49.6	30	-3.3		45	27 19.4	40.9	30	-2.8		45	22 13.6	31.8	30	-2.2	
46	33 19.5	49.5	36	-3.9		46	27 13.8	40.7	36	-3.4		46	22 9.1	31.6	36	-2.7	
47	33 12.9	49.3	42	-4.6		47	27 8.2	40.6	42	-4.0		47	22 4.6	31.5	42	-3.1	
48	33 6.4	49.2	48	-5.2		48	27 2.6	40.4	48	-4.5		48	22 0.1	31.3	48	-3.6	
49	32 59.9	49.0	54	-5.9		49	26 57.0	40.3	54	-5.1		49	21 55.6	31.2	54	-4.0	
50	32 53.4	48.9				50	26 51.5	40.1				50	21 51.2	31.0			
51	32 46.9	48.8	6	-0.6		51	26 45.9	39.9	6	-0.5		51	21 46.8	30.8	6	-0.4	
52	32 40.5	48.6	12	-1.3		52	26 40.4	39.8	12	-1.1		52	21 42.4	30.7	12	-0.9	
53	32 34.0	48.5	18	-1.9		53	26 34.9	39.6	18	-1.6		53	21 38.0	30.5	18	-1.3	
54	32 27.6	48.3	24	-2.6		54	26 29.4	39.5	24	-2.2		54	21 33.7	30.4	24	-1.7	
55	32 21.1	48.2	30	-3.2		55	26 23.9	39.3	30	-2.7		55	21 29.3	30.2	30	-2.1	
56	32 14.7	48.1	36	-3.9		56	26 18.5	39.2	36	-3.3		56	21 25.0	30.0	36	-2.6	
57	32 8.3	47.9	42	-4.5		57	26 13.1	39.0	42	-3.8		57	21 20.7	29.9	42	-3.0	
58	32 1.9	47.8	48	-5.2		58	26 7.7	38.9	48	-4.4		58	21 16.4	29.7	48	-3.4	
59	31 55.5	47.6	54	-5.8		59	26 2.3	38.7	54	-4.9		59	21 12.1	29.6	54	-3.9	

	1920-1925	1925-1930	1930-1935		1920-1925	1925-1930	1930-1935		1920-1925	1925-1930	1930-1935
Δh	+0.8	+1.6	+2.4	Δh	+0.9	+1.7	+2.6	Δh	+0.9	+1.9	+2.8
ΔA				ΔA				ΔA			

55°N

α Persei (Algenib)

55°N

Std. wkl. m.	9. Stunde					Std. wkl. m.	10. Stunde					Std. wkl. m.	11. Stunde				
	Höhe	Azimut	Δt	Δh	ΔA		Höhe	Azimut	Δt	Δh	ΔA		Höhe	Azimut	Δt	Δh	ΔA
0	21° 7.9	29.4	sek			0	17° 32.5	20.0	sek		0	15° 19.3	10.0	sek			
1	21 3.7	29.3	6	-0.4		1	17 29.6	19.8	6	-0.3	1	15 17.8	9.8	6	-0.1		
2	20 59.5	29.1	12	-0.8		2	17 26.7	19.7	12	-0.6	2	15 16.4	9.7	12	-0.3		
3	20 55.3	29.0	18	-1.2		3	17 23.8	19.5	18	-0.8	3	15 14.9	9.5	18	-0.4		
4	20 51.1	28.8	24	-1.6		4	17 21.0	19.4	24	-1.1	4	15 13.5	9.4	24	-0.5		
5	20 47.0	28.7	30	-2.0		5	17 18.2	19.2	30	-1.4	5	15 12.1	9.2	30	-0.6		
6	20 42.9	28.5	36	-2.5		6	17 15.4	19.0	36	-1.7	6	15 10.8	9.0	36	-0.8		
7	20 38.8	28.4	42	-2.9		7	17 12.6	18.8	42	-2.0	7	15 9.4	8.9	42	-0.9		
8	20 34.7	28.2	48	-3.3		8	17 9.8	18.7	48	-2.2	8	15 8.1	8.7	48	-1.0		
9	20 30.6	28.1	54	-3.7		9	17 7.1	18.5	54	-2.5	9	15 6.8	8.6	54	-1.2		
10	20 26.6	27.9				10	17 4.4	18.3			10	15 5.6	8.4				
11	20 22.6	27.7	6	-0.4		11	17 1.7	18.1	6	-0.3	11	15 4.3	8.2	6	-0.1		
12	20 18.6	27.6	12	-0.8		12	16 59.0	18.0	12	-0.5	12	15 3.1	8.1	12	-0.2		
13	20 14.6	27.5	18	-1.2		13	16 56.4	17.8	18	-0.8	13	15 1.9	7.9	18	-0.3		
14	20 10.7	27.4	24	-1.6		14	16 53.8	17.6	24	-1.0	14	15 0.8	7.8	24	-0.4		
15	20 6.8	27.2	30	-2.0		15	16 51.2	17.5	30	-1.3	15	14 59.6	7.6	30	-0.5		
16	20 2.9	27.0	36	-2.3		16	16 48.6	17.3	36	-1.6	16	14 58.5	7.4	36	-0.7		
17	19 59.0	26.9	42	-2.7		17	16 46.1	17.1	42	-1.8	17	14 57.4	7.2	42	-0.8		
18	19 55.2	26.7	48	-3.1		18	16 43.6	16.9	48	-2.1	18	14 56.4	7.1	48	-0.9		
19	19 51.3	26.6	54	-3.5		19	16 41.1	16.8	54	-2.3	19	14 55.3	6.9	54	-1.0		
20	19 47.5	26.4				20	16 38.6	16.6			20	14 54.3	6.7				
21	19 43.7	26.2	6	-0.4		21	16 36.1	16.4	6	-0.2	21	14 53.3	6.5	6	-0.1		
22	19 39.9	26.1	12	-0.7		22	16 33.7	16.3	12	-0.5	22	14 52.4	6.4	12	-0.2		
23	19 36.1	25.9	18	-1.1		23	16 31.3	16.1	18	-0.7	23	14 51.4	6.2	18	-0.3		
24	19 32.4	25.8	24	-1.5		24	16 28.9	16.0	24	-1.0	24	14 50.5	6.1	24	-0.4		
25	19 28.7	25.6	30	-1.8		25	16 26.6	15.8	30	-1.2	25	14 49.6	5.9	30	-0.5		
26	19 25.0	25.4	36	-2.2		26	16 24.3	15.6	36	-1.4	26	14 48.8	5.7	36	-0.5		
27	19 21.3	25.3	42	-2.6		27	16 22.0	15.5	42	-1.7	27	14 47.9	5.5	42	-0.6		
28	19 17.7	25.1	48	-3.0		28	16 19.7	15.3	48	-1.9	28	14 47.1	5.4	48	-0.7		
29	19 14.1	25.0	54	-3.3		29	16 17.4	15.2	54	-2.2	29	14 46.3	5.2	54	-0.8		
30	19 10.5	24.8				30	16 15.2	15.0			30	14 45.5	5.0				
31	19 6.9	24.6	6	-0.3		31	16 13.0	14.8	6	-0.2	31	14 44.7	4.8	6	-0.1		
32	19 3.3	24.5	12	-0.7		32	16 10.8	14.7	12	-0.4	32	14 44.0	4.7	12	-0.1		
33	18 59.7	24.3	18	-1.0		33	16 8.6	14.5	18	-0.6	33	14 43.3	4.5	18	-0.2		
34	18 56.2	24.2	24	-1.4		34	16 6.5	14.4	24	-0.8	34	14 42.7	4.4	24	-0.2		
35	18 52.7	24.0	30	-1.7		35	16 4.4	14.2	30	-1.0	35	14 42.0	4.2	30	-0.3		
36	18 49.2	23.8	36	-2.1		36	16 2.3	14.0	36	-1.3	36	14 41.4	4.0	36	-0.4		
37	18 45.7	23.7	42	-2.4		37	16 0.2	13.8	42	-1.5	37	14 40.8	3.8	42	-0.4		
38	18 42.3	23.5	48	-2.8		38	15 58.2	13.7	48	-1.7	38	14 40.3	3.7	48	-0.5		
39	18 38.9	23.4	54	-3.1		39	15 56.1	13.5	54	-1.9	39	14 39.7	3.5	54	-0.5		
40	18 35.5	23.2				40	15 54.1	13.3			40	14 39.2	3.3				
41	18 32.1	23.0	6	-0.3		41	15 52.1	13.1	6	-0.2	41	14 38.7	3.1	6	-0.0		
42	18 28.8	22.9	12	-0.6		42	15 50.2	13.0	12	-0.4	42	14 38.3	3.0	12	-0.1		
43	18 25.5	22.7	18	-1.0		43	15 48.3	12.8	18	-0.6	43	14 37.8	2.8	18	-0.1		
44	18 22.2	22.6	24	-1.3		44	15 46.4	12.7	24	-0.8	44	14 37.4	2.7	24	-0.1		
45	18 18.9	22.4	30	-1.6		45	15 44.5	12.5	30	-1.0	45	14 37.0	2.5	30	-0.1		
46	18 15.7	22.2	36	-1.9		46	15 42.7	12.3	36	-1.1	46	14 36.7	2.3	36	-0.2		
47	18 12.4	22.1	42	-2.2		47	15 40.8	12.2	42	-1.3	47	14 36.3	2.2	42	-0.2		
48	18 9.2	21.9	48	-2.6		48	15 39.0	12.0	48	-1.5	48	14 36.0	2.0	48	-0.2		
49	18 6.0	21.8	54	-2.9		49	15 37.2	11.9	54	-1.7	49	14 35.7	1.9	54	-0.3		
50	18 2.9	21.6				50	15 35.5	11.7			50	14 35.5	1.7				
51	17 59.7	21.4	6	-0.3		51	15 33.8	11.5	6	-0.2	51	14 35.2	1.5	6	-0.0		
52	17 56.6	21.3	12	-0.6		52	15 32.1	11.4	12	-0.3	52	14 35.0	1.4	12	-0.0		
53	17 53.5	21.1	18	-0.9		53	15 30.4	11.2	18	-0.5	53	14 34.8	1.2	18	-0.0		
54	17 50.5	21.0	24	-1.2		54	15 28.8	11.1	24	-0.7	54	14 34.7	1.1	24	-0.0		
55	17 47.4	20.8	30	-1.5		55	15 27.1	10.9	30	-0.8	55	14 34.5	0.9	30	-0.1		
56	17 44.4	20.6	36	-1.9		56	15 25.5	10.7	36	-1.0	56	14 34.4	0.7	36	-0.1		
57	17 41.4	20.5	42	-2.2		57	15 23.9	10.5	42	-1.2	57	14 34.3	0.5	42	-0.1		
58	17 38.4	20.3	48	-2.5		58	15 22.4	10.4	48	-1.3	58	14 34.3	0.4	48	-0.1		
59	17 35.4	20.2	54	-2.8		59	15 20.8	10.2	54	-1.5	59	14 34.2	0.2	54	-0.1		

m Std. wkl.	Höhe	Azimut	Δt	Δh	ΔA	m Std. wkl.	Höhe	Azimut	Δt	Δh	ΔA	m Std. wkl.	Höhe	Azimut	Δt	Δh	ΔA
	9. Stunde						10. Stunde						11. Stunde				
Δh	1920-1925	1925-1930	1930-1935	Δh	1920-1925	1925-1930	1930-1935	Δh	1920-1925	1925-1930	1930-1935	Δh	1920-1925	1925-1930	1930-1935		
ΔA	+ 1'0	+ 2'0	+ 3'1	Δh	+ 1'1	+ 2'1	+ 3'2	Δh	+ 1'1	+ 2'2	+ 3'3	ΔA	-	-	-		
ΔA	-	-	-	ΔA	-	-	-	ΔA	-	-	-	ΔA	-	-	-		

α Aurigae
(Capella)

β Aurigae

Geminorum
(Castor)Ursae majoris
(Dubhe)

Ursae majoris

Ursae majoris
(Alioth)Ursae majoris
(Mizar)Ursae majoris
Benetnasch)Ursae minoris
(Kochab)

γ Draconis

α Lyrae
(Weğa)

γ Cygni

α Cygni
(Deneb)

α Cephei

Ursae minoris
(Nordstern)

55°N

α Aurigae (Capella)

55°N

Std- wkl. m.	0. Stunde					Std- wkl. m.	1. Stunde					Std- wkl. m.	2. Stunde				
	Höhe	Azimut	Δt	Δh	ΔA		Höhe	Azimut	Δt	Δh	ΔA		Höhe	Azimut	Δt	Δh	ΔA
	sek						sek						sek				
						0	76° 52.3	127° 06'	6	-0.7	-0.0	0	69° 4.0	103° 02'	6	-0.8	0.0
						1	76 45.5	127.0	6	-0.7	-0.0	1	68 55.6	102.9	6	-0.8	0.0
						2	76 38.6	126.4	12	-1.4	-0.1	2	68 47.2	102.6	12	-1.7	-0.1
						3	76 31.6	125.9	18	-2.1	-0.2	3	68 38.8	102.4	18	-2.5	-0.1
						4	76 24.6	125.3	24	-2.8	-0.2	4	68 30.4	102.1	24	-3.4	-0.1
						5	76 17.5	124.7	30	-3.5	-0.3	5	68 22.0	101.8	30	-4.2	-0.1
						6	76 10.4	124.2	36	-4.3	-0.3	6	68 13.6	101.5	36	-5.0	-0.2
						7	76 3.3	123.7	42	-5.0	-0.4	7	68 5.2	101.2	42	-5.9	-0.2
						8	75 56.1	123.1	48	-5.7	-0.4	8	67 56.7	101.0	48	-6.7	-0.2
						9	75 48.9	122.6	54	-6.4	-0.5	9	67 48.3	100.7	54	-7.6	-0.3
						10	75 41.6	122.1				10	67 39.8	100.4			
						11	75 34.3	121.6	6	-0.7	0.0	11	67 31.4	100.1	6	-0.8	0.0
						12	75 27.0	121.1	12	-1.5	-0.1	12	67 22.9	99.9	12	-1.7	-0.1
						13	75 19.6	120.7	18	-2.2	-0.1	13	67 14.4	99.6	18	-2.5	-0.1
						14	75 12.2	120.2	24	-3.0	-0.2	14	67 5.9	99.4	24	-3.4	-0.1
						15	75 4.8	119.7	30	-3.7	-0.2	15	66 57.4	99.1	30	-4.2	-0.1
						16	74 57.3	119.2	36	-4.5	-0.3	16	66 48.9	98.8	36	-5.1	-0.2
						17	74 49.8	118.8	42	-5.2	-0.3	17	66 40.4	98.6	42	-5.9	-0.2
						18	74 42.2	118.3	48	-6.0	-0.4	18	66 31.9	98.3	48	-6.8	-0.2
						19	74 34.6	117.9	54	-6.7	-0.4	19	66 23.4	98.1	54	-7.6	-0.3
						20	74 27.0	117.4				20	66 14.8	97.8			
						21	74 19.3	117.0	6	-0.8	0.0	21	66 6.3	97.6	6	-0.8	0.0
						22	74 11.6	116.6	12	-1.6	-0.1	22	65 57.8	97.3	12	-1.7	0.0
						23	74 3.9	116.1	18	-2.3	-0.1	23	65 49.3	97.1	18	-2.5	-0.1
						24	73 56.2	115.7	24	-3.1	-0.2	24	65 40.8	96.8	24	-3.4	-0.1
						25	73 48.4	115.3	30	-3.9	-0.2	25	65 32.3	96.6	30	-4.2	-0.1
						26	73 40.6	114.9	36	-4.7	-0.2	26	65 23.7	96.4	36	-5.1	-0.1
						27	73 32.8	114.5	42	-5.5	-0.3	27	65 15.1	96.1	42	-5.9	-0.2
						28	73 25.0	114.1	48	-6.2	-0.3	28	65 6.5	95.9	48	-6.8	-0.2
						29	73 17.1	113.7	54	-7.0	-0.4	29	64 58.0	95.6	54	-7.6	-0.2
						30	73 9.2	113.3				30	64 49.4	95.4			
30	79° 45.1	149° 03'				31	73 1.3	112.9	6	-0.8	0.0	31	64 40.9	95.2	6	-0.9	0.0
31	79 40.6	148.4	6	-0.5	-0.1	32	72 53.4	112.5	12	-1.6	-0.1	32	64 32.3	94.9	12	-1.7	0.0
32	79 36.1	147.6	12	-1.0	-0.2	33	72 45.4	112.2	18	-2.4	-0.1	33	64 23.8	94.7	18	-2.6	-0.1
33	79 31.4	146.7	18	-1.5	-0.3	34	72 37.4	111.8	24	-3.2	-0.2	34	64 15.2	94.4	24	-3.4	-0.1
34	79 26.7	145.9	24	-2.0	-0.4	35	72 29.4	111.4	30	-4.0	-0.2	35	64 6.6	94.2	30	-4.3	-0.1
35	79 21.8	145.0	30	-2.5	-0.4	36	72 21.4	111.0	36	-4.8	-0.2	36	63 58.0	94.0	36	-5.2	-0.1
36	79 16.8	144.2	36	-3.0	-0.5	37	72 13.4	110.6	42	-5.6	-0.3	37	63 49.4	93.8	42	-6.0	-0.1
37	79 11.7	143.4	42	-3.5	-0.6	38	72 5.3	110.3	48	-6.4	-0.3	38	63 40.8	93.5	48	-6.9	-0.2
38	79 6.6	142.6	48	-4.0	-0.7	39	71 57.2	109.9	54	-7.2	-0.4	39	63 32.2	93.3	54	-7.7	-0.2
39	79 1.3	141.8	54	-4.5	-0.8	40	71 49.1	109.5				40	63 23.6	93.1			
40	78 55.9	141.0				41	71 41.0	109.2	6	-0.8	0.0	41	63 15.0	92.9	6	-0.9	0.0
41	78 50.4	140.2	6	-0.6	-0.1	42	71 32.8	108.8	12	-1.6	-0.1	42	63 6.4	92.7	12	-1.7	0.0
42	78 44.9	139.4	12	-1.2	-0.1	43	71 24.7	108.5	18	-2.5	-0.1	43	62 57.8	92.4	18	-2.6	-0.1
43	78 39.2	138.6	18	-1.7	-0.2	44	71 16.5	108.1	24	-3.3	-0.1	44	62 49.2	92.2	24	-3.4	-0.1
44	78 33.5	137.9	24	-2.3	-0.3	45	71 8.3	107.7	30	-4.1	-0.2	45	62 40.6	92.0	30	-4.3	-0.1
45	78 27.7	137.2	30	-2.9	-0.4	46	71 0.1	107.5	36	-4.9	-0.2	46	62 32.0	91.8	36	-5.2	-0.1
46	78 21.8	136.5	36	-3.5	-0.4	47	70 51.9	107.2	42	-5.7	-0.2	47	62 23.4	91.6	42	-6.0	-0.1
47	78 15.8	135.8	42	-4.1	-0.5	48	70 43.7	106.9	48	-6.6	-0.3	48	62 14.8	91.4	48	-6.9	-0.2
48	78 9.8	135.2	48	-4.6	-0.6	49	70 35.5	106.5	54	-7.4	-0.3	49	62 6.2	91.2	54	-7.7	-0.2
49	78 3.7	134.5	54	-5.2	-0.7	50	70 27.2	106.2				50	61 57.6	91.0			
50	77 57.6	133.8				51	70 19.0	105.9	6	-0.8	0.0	51	61 49.0	90.8	6	-0.9	0.0
51	77 51.3	133.1	6	-0.6	-0.1	52	70 10.7	105.6	12	-1.7	-0.1	52	61 40.4	90.6	12	-1.7	0.0
52	77 45.0	132.5	12	-1.3	-0.1	53	70 2.4	105.3	18	-2.5	-0.1	53	61 31.8	90.3	18	-2.6	-0.1
53	77 38.6	131.8	18	-1.9	-0.2	54	69 54.1	105.0	24	-3.3	-0.1	54	61 23.2	90.1	24	-3.4	-0.1
54	77 32.2	131.2	24	-2.6	-0.2	55	69 45.8	104.7	30	-4.1	-0.1	55	61 14.6	89.9	30	-4.3	-0.1
55	77 25.7	130.6	30	-3.2	-0.3	56	69 37.4	104.4	36	-5.0	-0.2	56	61 6.0	89.7	36	-5.2	-0.1
56	77 19.1	130.0	36	-3.9	-0.4	57	69 29.1	104.1	42	-5.8	-0.2	57	60 57.4	89.5	42	-6.0	-0.1
57	77 12.5	129.4	42	-4.5	-0.4	58	69 20.7	103.8	48	-6.6	-0.2	58	60 48.8	89.3	48	-6.9	-0.2
58	77 5.8	128.8	48	-5.2	-0.5	59	69 12.4	103.5	54	-7.5	-0.3	59	60 40.2	89.1	54	-7.7	-0.2
59	76 59.1	128.2	54	-5.8	-0.5												

Std- wkl. m.	0. Stunde					Std- wkl. m.	1. Stunde					Std- wkl. m.	2. Stunde				
	Höhe	Azimut	Δt	Δh	ΔA		Höhe	Azimut	Δt	Δh	ΔA		Höhe	Azimut	Δt	Δh	ΔA
Δh	+0.3	+0.5	+0.8			Δh	+0.2	+0.4	+0.6			Δh	+0.2	+0.3	+0.5		
ΔA						ΔA						ΔA					

α 1917 = 5^b 10^m 35^s Jährliche Änderung +4.^s 4

55°N

α Aurigae (Capella)

55°N

Std. wkl. m.	3. Stunde					Std. wkl. m.	4. Stunde					Std. wkl. m.	5. Stunde				
	Höhe	Azimet	Δt	Δh	ΔA		Höhe	Azimet	Δt	Δh	ΔA		Höhe	Azimet	Δt	Δh	ΔA
0	60°31.6	88.9	sek			0	51°59.6	78.9	sek			0	43°45.9	68.5	sek		
1	60 23.0	88.7	6	-0.9	0.0	1	51 51.2	77.9	6	-0.8	0.0	1	43 37.9	68.3	6	-0.8	0.0
2	60 14.4	88.5	12	-1.7	0.0	2	51 42.8	77.8	12	-1.7	0.0	2	43 29.9	68.2	12	-1.6	0.0
3	60 5.8	88.3	18	-2.6	-0.1	3	51 34.4	77.5	18	-2.5	-0.1	3	43 21.9	68.0	18	-2.4	0.0
4	59 57.2	88.1	24	-3.4	-0.1	4	51 26.0	77.4	24	-3.4	-0.1	4	43 13.9	67.9	24	-3.2	-0.1
5	59 48.6	87.9	30	-4.3	-0.1	5	51 17.6	77.2	30	-4.2	-0.1	5	43 5.9	67.7	30	-4.0	-0.1
6	59 40.0	87.7	36	-5.2	-0.1	6	51 9.2	77.0	36	-5.0	-0.1	6	42 58.0	67.6	36	-4.8	-0.1
7	59 31.4	87.5	42	-6.0	-0.1	7	51 0.8	76.9	42	-5.9	-0.1	7	42 50.0	67.4	42	-5.6	-0.1
8	59 22.8	87.4	48	-6.9	-0.2	8	50 52.4	76.7	48	-6.7	-0.2	8	42 42.1	67.3	48	-6.4	-0.1
9	59 14.2	87.2	54	-7.7	-0.2	9	50 44.0	76.6	54	-7.6	-0.2	9	42 34.1	67.1	54	-7.2	-0.1
10	59 5.6	87.0				10	50 35.7	76.4				10	42 26.2	67.0			
11	58 57.0	86.8	6	-0.9	0.0	11	50 27.3	76.2	6	-0.8	0.0	11	42 18.3	66.8	6	-0.8	0.0
12	58 48.4	86.6	12	-1.7	0.0	12	50 19.0	76.1	12	-1.7	0.0	12	42 10.4	66.7	12	-1.6	0.0
13	58 39.8	86.4	18	-2.6	-0.1	13	50 10.6	75.9	18	-2.5	0.0	13	42 2.5	66.5	18	-2.4	0.0
14	58 31.2	86.2	24	-3.4	-0.1	14	50 2.3	75.8	24	-3.3	-0.1	14	41 54.6	66.4	24	-3.2	-0.1
15	58 22.6	86.0	30	-4.3	-0.1	15	49 53.9	75.6	30	-4.2	-0.1	15	41 46.7	66.2	30	-4.0	-0.1
16	58 14.1	85.8	36	-5.2	-0.1	16	49 45.6	75.4	36	-5.0	-0.1	16	41 38.9	66.1	36	-4.7	-0.1
17	58 5.5	85.6	42	-6.0	-0.1	17	49 37.2	75.3	42	-5.8	-0.1	17	41 31.0	65.9	42	-5.5	-0.1
18	57 56.9	85.5	48	-6.9	-0.2	18	49 28.9	75.1	48	-6.7	-0.1	18	41 23.2	65.8	48	-6.3	-0.1
19	57 48.3	85.3	54	-7.7	-0.2	19	49 20.6	75.0	54	-7.5	-0.1	19	41 15.3	65.6	54	-7.1	-0.1
20	57 39.8	85.1				20	49 12.3	74.8				20	41 7.5	65.5			
21	57 31.2	84.9	6	-0.8	0.0	21	49 4.0	74.6	6	-0.8	0.0	21	40 59.7	65.3	6	-0.8	0.0
22	57 22.6	84.7	12	-1.7	0.0	22	48 55.7	74.5	12	-1.7	0.0	22	40 51.9	65.2	12	-1.6	0.0
23	57 14.0	84.6	18	-2.5	-0.1	23	48 47.4	74.3	18	-2.5	0.0	23	40 44.1	65.0	18	-2.3	0.0
24	57 5.5	84.4	24	-3.4	-0.1	24	48 39.2	74.2	24	-3.3	-0.1	24	40 36.3	64.9	24	-3.1	-0.1
25	56 56.9	84.2	30	-4.2	-0.1	25	48 30.9	74.0	30	-4.2	-0.1	25	40 28.5	64.7	30	-3.9	-0.1
26	56 48.4	84.0	36	-5.1	-0.1	26	48 22.6	73.8	36	-5.0	-0.1	26	40 20.7	64.5	36	-4.7	-0.1
27	56 39.8	83.8	42	-5.9	-0.1	27	48 14.3	73.7	42	-5.8	-0.1	27	40 12.9	64.4	42	-5.5	-0.1
28	56 31.3	83.7	48	-6.8	-0.2	28	48 6.1	73.5	48	-6.7	-0.1	28	40 5.2	64.2	48	-6.2	-0.1
29	56 22.7	83.5	54	-7.6	-0.2	29	47 57.8	73.4	54	-7.5	-0.1	29	39 57.4	64.1	54	-7.0	-0.1
30	56 14.2	83.3				30	47 49.6	73.2				30	39 49.7	63.9			
31	56 5.6	83.1	6	-0.8	0.0	31	47 41.4	73.0	6	-0.8	0.0	31	39 42.0	63.7	6	-0.8	0.0
32	55 57.1	82.9	12	-1.7	0.0	32	47 33.2	72.9	12	-1.6	0.0	32	39 34.3	63.6	12	-1.5	0.0
33	55 48.5	82.8	18	-2.5	-0.1	33	47 24.9	72.7	18	-2.5	0.0	33	39 26.6	63.4	18	-2.3	0.0
34	55 40.0	82.6	24	-3.4	-0.1	34	47 16.7	72.6	24	-3.3	-0.1	34	39 18.9	63.3	24	-3.1	-0.1
35	55 31.5	82.4	30	-4.2	-0.1	35	47 8.5	72.4	30	-4.1	-0.1	35	39 11.2	63.1	30	-3.8	-0.1
36	55 23.0	82.2	36	-5.1	-0.1	36	47 0.3	72.2	36	-4.9	-0.1	36	39 3.6	63.0	36	-4.6	-0.1
37	55 14.4	82.0	42	-5.9	-0.1	37	46 52.1	72.1	42	-5.7	-0.1	37	38 55.9	62.8	42	-5.4	-0.1
38	55 5.9	81.9	48	-6.8	-0.2	38	46 43.9	71.9	48	-6.6	-0.1	38	38 48.3	62.7	48	-6.2	-0.1
39	54 57.4	81.7	54	-7.6	-0.2	39	46 35.7	71.8	54	-7.4	-0.1	39	38 40.6	62.5	54	-6.9	-0.1
40	54 48.9	81.5				40	46 27.6	71.6				40	38 33.0	62.4			
41	54 40.4	81.3	6	-0.8	0.0	41	46 19.4	71.4	6	-0.8	0.0	41	38 25.4	62.2	6	-0.8	0.0
42	54 31.9	81.1	12	-1.7	0.0	42	46 11.3	71.3	12	-1.6	0.0	42	38 17.8	62.1	12	-1.5	0.0
43	54 23.4	81.0	18	-2.5	-0.1	43	46 3.1	71.1	18	-2.4	0.0	43	38 10.2	61.9	18	-2.3	0.0
44	54 14.9	80.8	24	-3.4	-0.1	44	45 55.0	71.0	24	-3.2	-0.1	44	38 2.6	61.8	24	-3.0	-0.1
45	54 6.4	80.6	30	-4.2	-0.1	45	45 46.8	70.8	30	-4.1	-0.1	45	37 55.0	61.6	30	-3.8	-0.1
46	53 57.9	80.4	36	-5.1	-0.1	46	45 38.7	70.7	36	-4.9	-0.1	46	37 47.4	61.5	36	-4.6	-0.1
47	53 49.4	80.3	42	-5.9	-0.1	47	45 30.6	70.5	42	-5.7	-0.1	47	37 39.8	61.3	42	-5.3	-0.1
48	53 41.0	80.1	48	-6.8	-0.2	48	45 22.5	70.4	48	-6.5	-0.1	48	37 32.3	61.2	48	-6.1	-0.1
49	53 32.5	80.0	54	-7.6	-0.2	49	45 14.4	70.2	54	-7.3	-0.1	49	37 24.8	61.0	54	-6.8	-0.1
50	53 24.0	79.8				50	45 6.3	70.1				50	37 17.3	60.9			
51	53 15.5	79.6	6	-0.8	0.0	51	44 58.2	69.9	6	-0.8	0.0	51	37 9.8	60.7	6	-0.7	0.0
52	53 7.1	79.4	12	-1.7	0.0	52	44 50.2	69.8	12	-1.6	0.0	52	37 2.3	60.6	12	-1.5	0.0
53	52 58.6	79.3	18	-2.5	-0.1	53	44 42.1	69.6	18	-2.4	0.0	53	36 54.8	60.4	18	-2.2	0.0
54	52 50.2	79.1	24	-3.4	-0.1	54	44 34.1	69.5	24	-3.2	-0.1	54	36 47.3	60.3	24	-3.0	-0.1
55	52 41.7	78.9	30	-4.2	-0.1	55	44 26.0	69.3	30	-4.0	-0.1	55	36 39.8	60.1	30	-3.7	-0.1
56	52 33.3	78.7	36	-5.1	-0.1	56	44 18.0	69.1	36	-4.8	-0.1	56	36 32.4	60.0	36	-4.5	-0.1
57	52 24.8	78.6	42	-5.9	-0.1	57	44 9.9	69.0	42	-5.6	-0.1	57	36 24.9	59.8	42	-5.2	-0.1
58	52 16.4	78.4	48	-6.8	-0.2	58	44 1.9	68.8	48	-6.4	-0.1	58	36 17.5	59.7	48	-6.0	-0.1
59	52 8.0	78.3	54	-7.6	-0.2	59	43 53.9	68.7	54	-7.2	-0.1	59	36 10.1	59.5	54	-6.7	-0.1

- α Aurigae (Capella)
- β Aurigae
- Geminorum (Castor)
- Ursae majoris (Dubhe)
- Ursae majoris
- Ursae majoris (Alioth)
- Ursae majoris (Mizar)
- Ursae majoris Benetnasch)
- Ursae minoris (Kochab)
- γ Draconis
- α Lyrae (Weğa)
- γ Cygni
- α Cygni (Deneb)
- α Cephei
- Ursae minoris (Nordstern)

m	3. Stunde			m	4. Stunde			m	5. Stunde		
	Höhe	Azimet	Δt		Höhe	Azimet	Δt		Höhe	Azimet	Δt
Δh	+ 0.2	+ 0.3	+ 0.5	Δh	+ 0.2	+ 0.4	+ 0.5	Δh	+ 0.2	+ 0.4	+ 0.6
ΔA	—	—	—	ΔA	—	—	—	ΔA	—	—	—

Std-wkl. m.	6. Stunde					Std-wkl. m.	7. Stunde					Std-wkl. m.	8. Stunde				
	Höhe	Azimuth	Δt	Δh	ΔA		Höhe	Azimuth	Δt	Δh	ΔA		Höhe	Azimuth	Δt	Δh	ΔA
0	36° 2' 7	59° 4	sek			0	29° 1' 3	50° 2	sek			0	22° 53' 2	40° 8	sek		
1	35 55.3	59.2	6	-0.7	0.0	1	28 54.7	50.0	6	-0.7	0.0	1	22 47.6	40.6	6	-0.6	0.0
2	35 47.9	59.1	12	-1.5	0.0	2	28 48.1	49.9	12	-1.3	0.0	2	22 42.0	40.5	12	-1.1	0.0
3	35 40.5	58.9	18	-2.2	0.0	3	28 41.5	49.7	18	-2.0	0.0	3	22 36.4	40.3	18	-1.7	0.0
4	35 33.2	58.8	24	-2.9	-0.1	4	28 35.0	49.6	24	-2.6	-0.1	4	22 30.8	40.2	24	-2.2	-0.1
5	35 25.8	58.6	30	-3.7	-0.1	5	28 28.4	49.4	30	-3.3	-0.1	5	22 25.2	40.0	30	-2.8	-0.1
6	35 18.5	58.4	36	-4.4	-0.1	6	28 21.9	49.3	36	-3.9	-0.1	6	22 19.7	39.8	36	-3.3	-0.1
7	35 11.2	58.3	42	-5.1	-0.1	7	28 15.4	49.1	42	-4.6	-0.1	7	22 14.2	39.7	42	-3.9	-0.1
8	35 3.9	58.1	48	-5.9	-0.1	8	28 8.9	49.0	48	-5.2	-0.1	8	22 8.7	39.5	48	-4.4	-0.1
9	34 56.6	58.0	54	-6.6	-0.1	9	28 2.4	48.8	54	-5.9	-0.1	9	22 3.2	39.4	54	-5.0	-0.1
10	34 49.3	57.8				10	27 55.9	48.7				10	21 57.7	39.2			
11	34 42.0	57.6	6	-0.7	0.0	11	27 49.4	48.5	6	-0.6	0.0	11	21 52.3	39.0	6	-0.5	0.0
12	34 34.7	57.5	12	-1.4	0.0	12	27 43.0	48.3	12	-1.3	0.0	12	21 47.0	38.9	12	-1.1	0.0
13	34 27.4	57.3	18	-2.2	0.0	13	27 36.6	48.2	18	-1.9	0.0	13	21 41.6	38.7	18	-1.6	0.0
14	34 20.2	57.2	24	-2.9	-0.1	14	27 30.2	48.1	24	-2.6	-0.1	14	21 36.2	38.6	24	-2.1	-0.1
15	34 13.0	57.0	30	-3.6	-0.1	15	27 23.8	47.9	30	-3.2	-0.1	15	21 30.8	38.4	30	-2.7	-0.1
16	34 5.8	56.9	36	-4.3	-0.1	16	27 17.4	47.7	36	-3.8	-0.1	16	21 25.5	38.2	36	-3.2	-0.1
17	33 58.6	56.7	42	-5.1	-0.1	17	27 11.0	47.6	42	-4.5	-0.1	17	21 20.2	38.1	42	-3.7	-0.1
18	33 51.4	56.6	48	-5.8	-0.1	18	27 4.7	47.4	48	-5.1	-0.1	18	21 14.9	37.9	48	-4.3	-0.1
19	33 44.2	56.4	54	-6.5	-0.1	19	26 58.4	47.3	54	-5.8	-0.1	19	21 9.6	37.8	54	-4.8	-0.1
20	33 37.0	56.3				20	26 52.1	47.1				20	21 4.3	37.6			
21	33 29.8	56.1	6	-0.7	0.0	21	26 45.8	46.9	6	-0.6	0.0	21	20 59.0	37.4	6	-0.5	0.0
22	33 22.7	56.0	12	-1.4	0.0	22	26 39.5	46.8	12	-1.2	0.0	22	20 53.8	37.3	12	-1.0	0.0
23	33 15.6	55.8	18	-2.1	0.0	23	26 33.2	46.6	18	-1.9	0.0	23	20 48.6	37.1	18	-1.5	0.0
24	33 8.5	55.7	24	-2.8	-0.1	24	26 27.0	46.5	24	-2.5	-0.1	24	20 43.4	37.0	24	-2.0	-0.1
25	33 1.4	55.5	30	-3.5	-0.1	25	26 20.8	46.3	30	-3.1	-0.1	25	20 38.2	36.8	30	-2.5	-0.1
26	32 54.3	55.4	36	-4.3	-0.1	26	26 14.6	46.2	36	-3.7	-0.1	26	20 33.1	36.6	36	-3.1	-0.1
27	32 47.2	55.2	42	-5.0	-0.1	27	26 8.4	46.0	42	-4.3	-0.1	27	20 28.0	36.5	42	-3.6	-0.1
28	32 40.1	55.1	48	-5.7	-0.1	28	26 2.2	45.9	48	-5.0	-0.1	28	20 22.9	36.3	48	-4.1	-0.1
29	32 33.0	54.9	54	-6.4	-0.1	29	25 56.0	45.7	54	-5.6	-0.1	29	20 17.8	36.2	54	-4.6	-0.1
30	32 26.0	54.8				30	25 49.9	45.6				30	20 12.8	36.0			
31	32 19.0	54.6	6	-0.7	0.0	31	25 43.7	45.4	6	-0.6	0.0	31	20 7.7	35.8	6	-0.5	0.0
32	32 12.0	54.5	12	-1.4	0.0	32	25 37.6	45.3	12	-1.2	0.0	32	20 2.7	35.7	12	-1.0	0.0
33	32 5.0	54.3	18	-2.1	0.0	33	25 31.5	45.1	18	-1.8	0.0	33	19 57.7	35.5	18	-1.5	0.0
34	31 58.0	54.2	24	-2.8	-0.1	34	25 25.4	45.0	24	-2.4	-0.1	34	19 52.7	35.4	24	-2.0	-0.1
35	31 51.0	54.0	30	-3.5	-0.1	35	25 19.3	44.8	30	-3.0	-0.1	35	19 47.7	35.2	30	-2.5	-0.1
36	31 44.1	53.9	36	-4.2	-0.1	36	25 13.3	44.6	36	-3.7	-0.1	36	19 42.7	35.0	36	-3.0	-0.1
37	31 37.1	53.7	42	-4.9	-0.1	37	25 7.2	44.5	42	-4.3	-0.1	37	19 37.8	34.9	42	-3.5	-0.1
38	31 30.2	53.6	48	-5.6	-0.1	38	25 1.2	44.3	48	-4.9	-0.1	38	19 32.9	34.7	48	-4.0	-0.1
39	31 23.3	53.4	54	-6.3	-0.1	39	24 55.2	44.2	54	-5.5	-0.1	39	19 28.0	34.6	54	-4.5	-0.1
40	31 16.4	53.3				40	24 49.2	44.0				40	19 23.1	34.4			
41	31 9.5	53.1	6	-0.7	0.0	41	24 43.2	43.8	6	-0.6	0.0	41	19 18.3	34.2	6	-0.5	0.0
42	31 2.6	53.0	12	-1.4	0.0	42	24 37.3	43.7	12	-1.2	0.0	42	19 13.5	34.1	12	-0.9	0.0
43	30 55.7	52.8	18	-2.0	0.0	43	24 31.4	43.5	18	-1.8	0.0	43	19 8.7	33.9	18	-1.4	0.0
44	30 48.8	52.7	24	-2.7	-0.1	44	24 25.5	43.4	24	-2.4	-0.1	44	19 3.9	33.8	24	-1.9	-0.1
45	30 42.0	52.5	30	-3.4	-0.1	45	24 19.6	43.2	30	-3.0	-0.1	45	18 59.1	33.6	30	-2.3	-0.1
46	30 35.2	52.4	36	-4.1	-0.1	46	24 13.7	43.0	36	-3.5	-0.1	46	18 54.4	33.4	36	-2.8	-0.1
47	30 28.4	52.2	42	-4.8	-0.1	47	24 7.8	42.9	42	-4.1	-0.1	47	18 49.6	33.3	42	-3.3	-0.1
48	30 21.7	52.1	48	-5.4	-0.1	48	24 2.0	42.7	48	-4.7	-0.1	48	18 44.9	33.1	48	-3.8	-0.1
49	30 14.9	51.9	54	-6.1	-0.1	49	23 56.1	42.6	54	-5.3	-0.1	49	18 40.2	33.0	54	-4.2	-0.1
50	30 8.2	51.8				50	23 50.3	42.4				50	18 35.6	32.8			
51	30 1.4	51.6	6	-0.7	0.0	51	23 44.5	42.2	6	-0.6	0.0	51	18 30.9	32.6	6	-0.5	0.0
52	29 54.7	51.5	12	-1.3	0.0	52	23 38.7	42.1	12	-1.1	0.0	52	18 26.3	32.5	12	-0.9	0.0
53	29 48.0	51.3	18	-2.0	0.0	53	23 32.9	41.9	18	-1.7	0.0	53	18 21.7	32.3	18	-1.4	0.0
54	29 41.3	51.2	24	-2.7	-0.1	54	23 27.2	41.8	24	-2.3	-0.1	54	18 17.1	32.2	24	-1.8	-0.1
55	29 34.6	51.0	30	-3.3	-0.1	55	23 21.5	41.6	30	-2.8	-0.1	55	18 12.5	32.0	30	-2.3	-0.1
56	29 27.9	50.8	36	-4.0	-0.1	56	23 15.8	41.4	36	-3.4	-0.1	56	18 8.0	31.8	36	-2.8	-0.1
57	29 21.2	50.7	42	-4.7	-0.1	57	23 10.1	41.3	42	-4.0	-0.1	57	18 3.5	31.6	42	-3.2	-0.1
58	29 14.6	50.5	48	-5.4	-0.1	58	23 4.5	41.1	48	-4.6	-0.1	58	17 59.0	31.5	48	-3.7	-0.1
59	29 7.9	50.4	54	-6.0	-0.1	59	22 58.8	41.0	54	-5.1	-0.1	59	17 54.5	31.3	54	-4.1	-0.1

6. Stunde			7. Stunde			8. Stunde					
Δh	+ 0.2	+ 0.4	+ 0.7	Δh	+ 0.2	+ 0.5	+ 0.7	Δh	+ 0.3	+ 0.5	+ 0.8
ΔA	—	—	—	ΔA	—	—	—	ΔA	—	—	—

55°N

α Aurigae (Capella)

55°N

Std-wkl. m.	9. Stunde					Std-wkl. m.	10. Stunde					Std-wkl. m.	11. Stunde				
	Höhe	Azimuth	Δt	Δh	ΔA		Höhe	Azimuth	Δt	Δh	ΔA		Höhe	Azimuth	Δt	Δh	ΔA
0	17° 50' 0	31° 1	sek			0	14° 3' 2	21° 0	sek			0	11° 42' 7	10° 6	sek		
1	17 45.6	30 9	6	-0'4	0°0	1	14 0.1	20 8	6	-0'3	0°0	1	11 41.1	10.4	6	-0'1	0°0
2	17 41.2	30 8	12	-0.9	0.0	2	13 57.1	20 7	12	-0.6	0.0	2	11 39.5	10.2	12	-0.3	0.0
3	17 36.8	30.6	18	-1.3	-0.1	3	13 54.1	20 5	18	-0.9	-0.1	3	11 38.0	10.1	18	-0.4	-0.1
4	17 32.4	30 5	24	-1.7	-0.1	4	13 51.1	20 4	24	-1.2	-0.1	4	11 36.5	9.9	24	-0.6	-0.1
5	17 28.0	30.3	30	-2.1	-0.1	5	13 48.1	20 2	30	-1.5	-0.1	5	11 35.0	9.7	30	-0.7	-0.1
6	17 23.7	30.1	36	-2.6	-0.1	6	13 45.2	20 0	36	-1.8	-0.1	6	11 33.6	9.5	36	-0.9	-0.1
7	17 19.4	30.0	42	-3.1	-0.1	7	13 42.3	19 8	42	-2.1	-0.1	7	11 32.2	9.3	42	-1.0	-0.1
8	17 15.1	29.9	48	-3.5	-0.1	8	13 39.4	19 7	48	-2.4	-0.1	8	11 30.8	9.2	48	-1.2	-0.1
9	17 10.8	29.7	54	-3.9	-0.2	9	13 36.5	19 5	54	-2.7	-0.2	9	11 29.4	9.0	54	-1.3	-0.2
10	17 6.6	29.5				10	13 33.7	19 3				10	11 28.1	8 8			
11	17 2.4	29.3	6	-0.4	0.0	11	13 30.8	19 1	6	-0.3	0.0	11	11 26.8	8 6	6	-0.4	0.0
12	16 58.2	29 2	12	-0.8	0.0	12	13 28.0	19 0	12	-0.6	0.0	12	11 25.6	8 5	12	-0.2	0.0
13	16 54.0	29 0	18	-1.2	-0.1	13	13 25.2	18 8	18	-0.8	-0.1	13	11 24.3	8 3	18	-0.3	-0.1
14	16 49.9	28 9	24	-1.6	-0.1	14	13 22.5	18 7	24	-1.1	-0.1	14	11 23.1	8 2	24	-0.4	-0.1
15	16 45.7	28 7	30	-2.0	-0.1	15	13 19.7	18 5	30	-1.4	-0.1	15	11 21.9	8 0	30	-0.5	-0.1
16	16 41.6	28 5	36	-2.5	-0.1	16	13 17.0	18 3	36	-1.7	-0.1	16	11 20.7	7 8	36	-0.7	-0.1
17	16 37.5	28 3	42	-2.9	-0.1	17	13 14.3	18 1	42	-2.0	-0.1	17	11 19.5	7 6	42	-0.8	-0.1
18	16 33.5	28 2	48	-3.3	-0.1	18	13 11.7	18 0	48	-2.2	-0.1	18	11 18.4	7 5	48	-0.9	-0.1
19	16 29.4	28 0	54	-3.7	-0.2	19	13 9.0	17 8	54	-2.5	-0.2	19	11 17.3	7 3	54	-1.0	-0.2
20	16 25.4	27 8				20	13 6.4	17 6				20	11 16.2	7 1			
21	16 21.4	27 6	6	-0.4	0.0	21	13 3.8	17 4	6	-0.2	0.0	21	11 15.1	6 9	6	-0.4	0.0
22	16 17.5	27 5	12	-0.8	0.0	22	13 1.3	17 3	12	-0.5	0.0	22	11 14.1	6 7	12	-0.2	0.0
23	16 13.5	27 3	18	-1.2	-0.1	23	12 58.7	17 1	18	-0.7	-0.1	23	11 13.1	6 6	18	-0.3	-0.1
24	16 9.6	27 2	24	-1.6	-0.1	24	12 56.2	17 0	24	-1.0	-0.1	24	11 12.2	6 4	24	-0.4	-0.1
25	16 5.7	27 0	30	-2.0	-0.1	25	12 53.7	16 8	30	-1.2	-0.1	25	11 11.3	6 2	30	-0.4	-0.1
26	16 1.8	26 8	36	-2.3	-0.1	26	12 51.3	16 6	36	-1.5	-0.1	26	11 10.4	6 0	36	-0.5	-0.1
27	15 57.9	26 6	42	-2.7	-0.1	27	12 48.8	16 4	42	-1.7	-0.1	27	11 9.5	5 8	42	-0.6	-0.1
28	15 54.1	26 5	48	-3.1	-0.1	28	12 46.4	16 3	48	-2.0	-0.1	28	11 8.6	5 7	48	-0.7	-0.1
29	15 50.3	26 3	54	-3.5	-0.2	29	12 44.0	16 1	54	-2.2	-0.2	29	11 7.8	5 5	54	-0.8	-0.2
30	15 46.5	26 1				30	12 41.7	15 9				30	11 7 0	5 3			
31	15 42.7	25 9	6	-0.4	0.0	31	12 39.3	15 7	6	-0.2	0.0	31	11 6 2	5 1	6	-0.1	0.0
32	15 38.9	25 8	12	-0.7	0.0	32	12 37.0	15 5	12	-0.4	0.0	32	11 5 4	4 9	12	-0.1	0.0
33	15 35.2	25 6	18	-1.1	-0.1	33	12 34.7	15 4	18	-0.7	-0.1	33	11 4 7	4 8	18	-0.2	-0.1
34	15 31.5	25 5	24	-1.5	-0.1	34	12 32.5	15 2	24	-0.9	-0.1	34	11 4 0	4 6	24	-0.3	-0.1
35	15 27.8	25 3	30	-1.8	-0.1	35	12 30.2	15 0	30	-1.1	-0.1	35	11 3 3	4 4	30	-0.3	-0.1
36	15 24.1	25 1	36	-2.2	-0.1	36	12 28.0	14 8	36	-1.3	-0.1	36	11 2 7	4 2	36	-0.4	-0.1
37	15 20.5	24 9	42	-2.6	-0.1	37	12 25.8	14 6	42	-1.5	-0.1	37	11 2 1	4 0	42	-0.5	-0.1
38	15 16.9	24 8	48	-3.0	-0.1	38	12 23.7	14 5	48	-1.8	-0.1	38	11 1 5	3 9	48	-0.6	-0.1
39	15 13.3	24 6	54	-3.3	-0.2	39	12 21.6	14 3	54	-2.0	-0.2	39	11 0 9	3 7	54	-0.6	-0.2
40	15 9.7	24 4				40	12 19.5	14 1				40	11 0 3	3 5			
41	15 6.2	24 2	6	-0.3	0.0	41	12 17.4	13 9	6	-0.2	0.0	41	10 59 8	3 3	6	0.0	0.0
42	15 2.7	24 1	12	-0.7	0.0	42	12 15.4	13 8	12	-0.4	0.0	42	10 59 3	3 1	12	-0.1	0.0
43	14 59.2	23 9	18	-4.0	-0.1	43	12 13.3	13 6	18	-0.6	-0.1	43	10 58 8	3 0	18	-0.1	0.1
44	14 55.7	23 8	24	-4.4	-0.1	44	12 11.3	13 5	24	-0.8	-0.1	44	10 58 4	2 8	24	-0.2	-0.1
45	14 52.2	23 6	30	-4.7	-0.1	45	12 9.3	13 3	30	-0.9	-0.1	45	10 58 0	2 6	30	-0.2	-0.1
46	14 48.8	23 4	36	-5.0	-0.1	46	12 7.4	13 1	36	-1.1	-0.1	46	10 57 6	2 4	36	-0.2	-0.1
47	14 45.4	23 2	42	-5.3	-0.1	47	12 5.4	12 9	42	-1.3	-0.1	47	10 57 2	2 3	42	-0.3	-0.1
48	14 42.0	23 1	48	-5.6	-0.1	48	12 3.5	12 8	48	-1.5	-0.1	48	10 56 9	2 1	48	-0.3	-0.1
49	14 38.6	22 9	54	-5.9	-0.2	49	12 1.6	12 6	54	-1.7	-0.2	49	10 56 6	2 0	54	-0.4	-0.2
50	14 35.3	22 7				50	11 59 8	12 4				50	10 56 4	1 8			
51	14 32.0	22 5	6	-0.3	0.0	51	11 58 0	12 2	6	-0.2	0.0	51	10 56 1	1 6	6	0.0	0.0
52	14 28.7	22 4	12	-0.6	0.0	52	11 56 2	12 0	12	-0.3	0.0	52	10 55 9	1 4	12	0.0	0.0
53	14 25.4	22 2	18	-1.0	-0.1	53	11 54 4	11 9	18	-0.5	-0.1	53	10 55 7	1 3	18	-0.1	-0.1
54	14 22.2	22 1	24	-1.3	-0.1	54	11 52 7	11 7	24	-0.7	-0.1	54	10 55 5	1 1	24	-0.1	-0.1
55	14 19.0	21 9	30	-1.6	-0.1	55	11 50 9	11 5	30	-0.8	-0.1	55	10 55 3	0 9	30	-0.1	-0.1
56	14 15.8	21 7	36	-1.9	-0.1	56	11 49 2	11 3	36	-1.0	-0.1	56	10 55 2	0 7	36	-0.1	-0.1
57	14 12.6	21 5	42	-2.2	-0.1	57	11 47 5	11 1	42	-1.2	-0.1	57	10 55 1	0 5	42	-0.1	-0.1
58	14 9.5	21 4	48	-2.6	-0.1	58	11 45 9	11 0	48	-1.4	-0.1	58	10 55 0	0 4	48	-0.2	-0.1
59	14 6.3	21 2	54	-2.9	-0.2	59	11 44 3	10 8	54	-1.5	-0.2	59	10 55 0	0 2	54	-0.2	-0.2

m Std-wkl.	9. Stunde					m Std-wkl.	10. Stunde					m Std-wkl.	11. Stunde				
	Höhe	Azimuth	Δt	Δh	ΔA		Höhe	Azimuth	Δt	Δh	ΔA		Höhe	Azimuth	Δt	Δh	ΔA
Δh	+ 0' 3	+ 0' 6	+ 0' 8			Δh	+ 0' 3	+ 0' 6	+ 0' 9			Δh	+ 0' 3	+ 0' 6	+ 0' 9		
ΔA	—	—	—			ΔA	—	—	—			ΔA	—	—	—		

- β Aurigae
- Geminarum (Castor)
- Ursae majoris (Dubhe)
- Ursae majoris
- Ursae majoris (Alioth)
- Ursae majoris (Mizar)
- Ursae majoris Benetnasch)
- Ursae minoris (Kochab)
- γ Draconis
- α Lyrae (Weğa)
- γ Cygni
- α Cygni (Deneb)
- α Cephei
- Ursae minoris (Nordstern)

α 1917 = 5^h 10^m 35^s Jährliche Änderung + 4^s 4.

55°N

β Aurigae

55°N

Std. wkl. m.	1. Stunde					Std. wkl. m.	2. Stunde				
	Höhe	Azimut	Δt	Δh	ΔA		Höhe	Azimut	Δt	Δh	ΔA
0	76° 7.1	130.2	sek			0	68° 28.3	105.3	sek		
1	76 0.5	129.6	6	-0.7	-0.1	1	68 20.0	105.0	6	-0.8	0.0
2	75 53.8	129.1	12	-1.4	-0.1	2	68 11.7	104.7	12	-1.7	-0.1
3	75 47.1	128.5	18	-2.0	-0.2	3	68 3.4	104.4	18	-2.5	-0.1
4	75 40.3	128.0	24	-2.7	-0.2	4	67 55.0	104.1	24	-3.3	-0.1
5	75 33.5	127.4	30	-3.4	-0.3	5	67 46.7	103.8	30	-4.2	-0.1
6	75 26.6	126.9	36	-4.1	-0.4	6	67 38.3	103.5	36	-5.0	-0.2
7	75 19.7	126.4	42	-4.8	-0.4	7	67 29.9	103.2	42	-5.8	-0.2
8	75 12.8	125.8	48	-5.4	-0.5	8	67 21.5	103.0	48	-6.7	-0.2
9	75 5.8	125.3	54	-6.1	-0.5	9	67 13.1	102.7	54	-7.5	-0.3
10	74 58.8	124.8				10	67 4.7	102.4			
11	74 51.7	124.3	6	-0.7	0.0	11	66 56.3	102.1	6	-0.8	0.0
12	74 44.6	123.8	12	-1.5	-0.1	12	66 47.9	101.9	12	-1.7	-0.1
13	74 37.4	123.3	18	-2.2	-0.1	13	66 39.5	101.6	18	-2.5	-0.1
14	74 30.2	122.8	24	-2.9	-0.2	14	66 31.1	101.4	24	-3.4	-0.1
15	74 22.9	122.3	30	-3.6	-0.3	15	66 22.7	101.1	30	-4.2	-0.1
16	74 15.6	121.8	36	-4.4	-0.3	16	66 14.2	100.8	36	-5.1	-0.2
17	74 8.3	121.4	42	-5.1	-0.3	17	66 5.8	100.6	42	-5.9	-0.2
18	74 0.9	120.9	48	-5.8	-0.4	18	65 57.3	100.3	48	-6.8	-0.2
19	73 53.5	120.5	54	-6.6	-0.4	19	65 48.8	100.1	54	-7.6	-0.3
20	73 46.1	120.0				20	65 40.3	99.8			
21	73 38.6	119.6	6	-0.8	0.0	21	65 31.8	99.5	6	-0.8	0.0
22	73 31.1	119.1	12	-1.5	-0.1	22	65 23.3	99.3	12	-1.7	-0.1
23	73 23.6	118.7	18	-2.3	-0.1	23	65 14.8	99.0	18	-2.5	-0.1
24	73 16.0	118.2	24	-3.0	-0.2	24	65 6.3	98.8	24	-3.4	-0.1
25	73 8.4	117.8	30	-3.8	-0.2	25	64 57.8	98.5	30	-4.2	-0.1
26	73 0.8	117.4	36	-4.6	-0.3	26	64 49.3	98.2	36	-5.1	-0.2
27	72 53.2	117.0	42	-5.3	-0.3	27	64 40.8	98.0	42	-5.9	-0.2
28	72 45.5	116.5	48	-6.1	-0.4	28	64 32.3	97.7	48	-6.8	-0.2
29	72 37.8	116.1	54	-6.8	-0.4	29	64 23.8	97.5	54	-7.7	-0.3
30	72 30.0	115.7				30	64 15.2	97.2			
31	72 22.3	115.3	6	-0.8	0.0	31	64 6.7	97.0	6	-0.8	0.0
32	72 14.5	115.0	12	-1.6	-0.1	32	63 58.1	96.7	12	-1.7	0.0
33	72 6.7	114.6	18	-2.4	-0.1	33	63 49.6	96.5	18	-2.5	-0.1
34	71 58.8	114.3	24	-3.2	-0.2	34	63 41.0	96.2	24	-3.4	-0.1
35	71 51.0	113.9	30	-3.9	-0.2	35	63 32.5	96.0	30	-4.2	-0.1
36	71 43.1	113.5	36	-4.7	-0.2	36	63 23.9	95.8	36	-5.1	-0.1
37	71 35.2	113.1	42	-5.5	-0.3	37	63 15.4	95.6	42	-5.9	-0.1
38	71 27.2	112.7	48	-6.3	-0.3	38	63 6.8	95.3	48	-6.8	-0.2
39	71 19.3	112.3	54	-7.1	-0.4	39	62 58.3	95.1	54	-7.6	-0.2
40	71 11.3	111.9				40	62 49.7	94.9			
41	71 3.3	111.6	6	-0.8	0.0	41	62 41.2	94.7	6	-0.9	0.0
42	70 53.3	111.2	12	-1.6	-0.1	42	62 32.6	94.5	12	-1.7	0.0
43	70 45.3	110.9	18	-2.4	-0.1	43	62 24.0	94.2	18	-2.6	-0.1
44	70 39.2	110.5	24	-3.2	-0.1	44	62 15.4	94.0	24	-3.4	-0.1
45	70 31.2	110.2	30	-4.0	-0.1	45	62 6.8	93.8	30	-4.3	-0.1
46	70 23.1	109.9	36	-4.9	-0.2	46	61 58.2	93.6	36	-5.2	-0.1
47	70 15.0	109.5	42	-5.7	-0.2	47	61 49.6	93.4	42	-6.0	-0.1
48	70 6.9	109.2	48	-6.5	-0.2	48	61 41.0	93.1	48	-6.9	-0.2
49	69 58.8	108.8	54	-7.3	-0.3	49	61 32.4	92.9	54	-7.7	-0.2
50	69 50.6	108.5				50	61 23.8	92.7			
51	69 42.4	108.2	6	-0.8	0.0	51	61 15.2	92.5	6	-0.9	0.0
52	69 34.2	107.9	12	-1.6	-0.1	52	61 6.6	92.3	12	-1.7	0.0
53	69 26.0	107.5	18	-2.5	-0.1	53	60 58.0	92.0	18	-2.6	-0.1
54	69 17.8	107.2	24	-3.3	-0.1	54	60 49.4	91.8	24	-3.4	-0.1
55	69 9.6	106.9	30	-4.1	-0.1	55	60 40.8	91.6	30	-4.3	-0.1
56	69 1.3	106.6	36	-4.9	-0.2	56	60 32.2	91.4	36	-5.2	-0.1
57	68 53.1	106.3	42	-5.7	-0.2	57	60 23.6	91.2	42	-6.0	-0.1
58	68 44.8	105.9	48	-6.6	-0.2	58	60 15.0	91.0	48	-6.9	-0.2
59	68 36.6	105.6	54	-7.4	-0.3	59	60 6.4	90.8	54	-7.7	-0.2
m Std. wkl.	Höhe	Azimut	Δt	Δh	ΔA	m Std. wkl.	Höhe	Azimut	Δt	Δh	ΔA

	1. Stunde				2. Stunde		
	1920-1925	1925-1930	1930-1935		1920-1925	1925-1930	1930-1935
Δh	—	—	—	Δh	—	—	—
ΔA	—	—	—	ΔA	—	—	—

Std- wkl. m.	3. Stunde					Std- wkl. m.	4. Stunde					Std- wkl. m.	5. Stunde				
	Höhe	Azimuth	Δt	Δh	ΔA		Höhe	Azimuth	Δt	Δh	ΔA		Höhe	Azimuth	Δt	Δh	ΔA
0	59°57'8	90°6	sek			0	51°24'6	79°3	sek			0	43° 8'0	69°5	sek		
1	59 49.2	90.4	6	-0.9	0.0	1	51 16.1	79.1	6	-0.8	0.0	1	42 59.9	69.4	6	-0.8	0.0
2	59 40.6	90.2	12	-1.7	0.0	2	51 7.7	79.0	12	-1.7	0.0	2	42 51.9	69.2	12	-1.6	0.0
3	59 32.0	89.9	18	-2.6	-0.1	3	50 59.2	78.8	18	-2.5	0.0	3	42 43.8	69.1	18	-2.4	0.0
4	59 23.4	89.7	24	-3.4	-0.1	4	50 50.8	78.7	24	-3.4	-0.1	4	42 35.8	68.9	24	-3.2	-0.1
5	59 14.8	89.5	30	-4.3	-0.1	5	50 42.3	78.5	30	-4.2	-0.1	5	42 27.8	68.8	30	-4.0	-0.1
6	59 6.2	89.3	36	-5.2	-0.1	6	50 33.9	78.3	36	-5.1	-0.1	6	42 19.8	68.6	36	-4.8	-0.1
7	58 57.6	89.1	42	-6.0	-0.1	7	50 25.5	78.2	42	-5.9	-0.1	7	42 11.8	68.5	42	-5.6	-0.1
8	58 49.0	88.9	48	-6.9	-0.2	8	50 17.1	78.0	48	-6.8	-0.1	8	42 3.8	68.3	48	-6.4	-0.1
9	58 40.4	88.7	54	-7.7	-0.2	9	50 8.7	77.9	54	-7.6	-0.1	9	41 55.8	68.2	54	-7.2	-0.1
10	58 31.8	88.5				10	50 0.3	77.7				10	41 47.8	68.0			
11	58 23.2	88.3	6	-0.9	0.0	11	49 51.9	77.5	6	-0.8	0.0	11	41 39.8	67.8	6	-0.8	0.0
12	58 14.6	88.1	12	-1.7	0.0	12	49 43.5	77.3	12	-1.7	0.0	12	41 31.9	67.7	12	-1.6	0.0
13	58 6.0	87.9	18	-2.6	-0.1	13	49 35.1	77.2	18	-2.5	0.0	13	41 23.9	67.5	18	-2.4	0.0
14	57 57.4	87.7	24	-3.4	-0.1	14	49 26.7	77.0	24	-3.3	-0.1	14	41 16.0	67.4	24	-3.2	-0.1
15	57 48.8	87.5	30	-4.3	-0.1	15	49 18.3	76.8	30	-4.2	-0.1	15	41 8.0	67.2	30	-4.0	-0.1
16	57 40.2	87.3	36	-5.2	-0.1	16	49 9.9	76.6	36	-5.0	-0.1	16	41 0.1	67.0	36	-4.8	-0.1
17	57 31.6	87.1	42	-6.0	-0.1	17	49 1.5	76.5	42	-5.8	-0.1	17	40 52.2	66.9	42	-5.6	-0.1
18	57 23.0	87.0	48	-6.9	-0.2	18	48 53.2	76.3	48	-6.7	-0.1	18	40 44.3	66.7	48	-6.4	-0.1
19	57 14.4	86.8	54	-7.7	-0.2	19	48 44.8	76.2	54	-7.5	-0.1	19	40 36.4	66.6	54	-7.2	-0.1
20	57 5.8	86.6				20	48 36.5	76.0				20	40 28.5	66.4			
21	56 57.2	86.4	6	-0.9	0.0	21	48 28.1	75.8	6	-0.8	0.0	21	40 20.6	66.2	6	-0.8	0.0
22	56 48.6	86.2	12	-1.7	0.0	22	48 19.8	75.6	12	-1.7	0.0	22	40 12.8	66.1	12	-1.6	0.0
23	56 40.1	86.0	18	-2.6	-0.1	23	48 11.4	75.5	18	-2.5	0.0	23	40 4.9	65.9	18	-2.4	0.0
24	56 31.5	85.8	24	-3.4	-0.1	24	48 3.1	75.3	24	-3.3	-0.1	24	39 57.1	65.8	24	-3.2	-0.1
25	56 22.9	85.6	30	-4.3	-0.1	25	47 54.8	75.1	30	-4.2	-0.1	25	39 49.2	65.6	30	-4.0	-0.1
26	56 14.3	85.4	36	-5.2	-0.1	26	47 46.5	74.9	36	-5.0	-0.1	26	39 41.4	65.4	36	-4.7	-0.1
27	56 5.7	85.2	42	-6.0	-0.1	27	47 38.2	74.8	42	-5.8	-0.1	27	39 33.6	65.3	42	-5.5	-0.1
28	55 57.2	85.1	48	-6.9	-0.2	28	47 29.9	74.6	48	-6.7	-0.1	28	39 25.8	65.1	48	-6.3	-0.1
29	55 48.6	84.9	54	-7.7	-0.2	29	47 21.6	74.5	54	-7.5	-0.1	29	39 18.0	65.0	54	-7.1	-0.1
30	55 40.0	84.7				30	47 13.3	74.3				30	39 10.2	64.8			
31	55 31.4	84.5	6	-0.9	0.0	31	47 5.0	74.1	6	-0.8	0.0	31	39 2.4	64.7	6	-0.9	0.0
32	55 22.9	84.3	12	-1.7	0.0	32	46 56.8	74.0	12	-1.6	0.0	32	38 54.6	64.5	12	-1.7	0.0
33	55 14.3	84.2	18	-2.6	-0.1	33	46 48.5	73.8	18	-2.5	0.0	33	38 46.8	64.4	18	-2.6	0.0
34	55 5.8	84.0	24	-3.4	-0.1	34	46 40.2	73.7	24	-3.3	-0.1	34	38 39.1	64.2	24	-3.5	-0.1
35	54 57.2	83.8	30	-4.3	-0.1	35	46 31.9	73.5	30	-4.1	-0.1	35	38 31.3	64.1	30	-4.4	-0.1
36	54 48.7	83.6	36	-5.2	-0.1	36	46 23.7	73.3	36	-4.9	-0.1	36	38 23.6	63.9	36	-5.2	-0.1
37	54 40.1	83.4	42	-6.0	-0.1	37	46 15.4	73.2	42	-5.8	-0.1	37	38 15.9	63.8	42	-6.1	-0.1
38	54 31.6	83.3	48	-6.9	-0.2	38	46 7.2	73.0	48	-6.6	-0.1	38	38 8.2	63.6	48	-7.0	-0.1
39	54 23.0	83.1	54	-7.7	-0.2	39	45 59.0	72.9	54	-7.4	-0.1	39	38 0.5	63.5	54	-7.9	-0.1
40	54 14.5	82.9				40	45 50.8	72.7				40	37 52.8	63.3			
41	54 5.9	82.7	6	-0.8	0.0	41	45 42.6	72.5	6	-0.8	0.0	41	37 45.1	63.2	6	-0.8	0.0
42	53 57.4	82.5	12	-1.7	0.0	42	45 34.4	72.4	12	-1.6	0.0	42	37 37.4	63.0	12	-1.5	0.0
43	53 48.9	82.4	18	-2.5	-0.1	43	45 26.2	72.2	18	-2.5	0.0	43	37 29.7	62.9	18	-2.3	0.0
44	53 40.4	82.2	24	-3.4	-0.1	44	45 18.0	72.1	24	-3.3	-0.1	44	37 22.1	62.7	24	-3.0	-0.1
45	53 31.9	82.0	30	-4.2	-0.1	45	45 9.8	71.9	30	-4.1	-0.1	45	37 14.4	62.6	30	-3.8	-0.1
46	53 23.4	81.8	36	-5.1	-0.1	46	45 1.6	71.7	36	-4.9	-0.1	46	37 6.8	62.4	36	-4.6	-0.1
47	53 14.9	81.6	42	-5.9	-0.1	47	44 53.4	71.6	42	-5.7	-0.1	47	36 59.2	62.3	42	-5.3	-0.1
48	53 6.4	81.5	48	-6.8	-0.2	48	44 45.3	71.4	48	-6.6	-0.1	48	36 51.6	62.1	48	-6.1	-0.1
49	52 57.9	81.3	54	-7.6	-0.2	49	44 37.1	71.3	54	-7.4	-0.1	49	36 44.0	62.0	54	-6.8	-0.1
50	52 49.4	81.1				50	44 29.0	71.1				50	36 36.4	61.8			
51	52 40.9	80.9	6	-0.8	0.0	51	44 20.9	70.9	6	-0.8	0.0	51	36 28.8	61.6	6	-0.7	0.0
52	52 32.4	80.7	12	-1.7	0.0	52	44 12.8	70.8	12	-1.6	0.0	52	36 21.3	61.5	12	-1.5	0.0
53	52 23.9	80.6	18	-2.5	-0.1	53	44 4.6	70.6	18	-2.4	0.0	53	36 13.7	61.3	18	-2.2	0.0
54	52 15.4	80.4	24	-3.4	-0.1	54	43 56.5	70.5	24	-3.2	-0.1	54	36 6.2	61.2	24	-3.0	-0.1
55	52 6.9	80.2	30	-4.2	-0.1	55	43 48.4	70.3	30	-4.0	-0.1	55	35 58.7	61.0	30	-3.7	-0.1
56	51 58.4	80.0	36	-5.1	-0.1	56	43 40.3	70.1	36	-4.9	-0.1	56	35 51.2	60.8	36	-4.5	-0.1
57	51 49.9	79.8	42	-5.9	-0.1	57	43 32.2	70.0	42	-5.7	-0.1	57	35 43.7	60.7	42	-5.2	-0.1
58	51 41.5	79.7	48	-6.8	-0.2	58	43 24.1	69.8	48	-6.5	-0.1	58	35 36.2	60.5	48	-6.0	-0.1
59	51 33.0	79.5	54	-7.6	-0.2	59	43 16.0	69.7	54	-7.3	-0.1	59	35 28.7	60.4	54	-6.7	-0.1
m Std- wkl.	Höhe	Azimuth	Δt	Δh	ΔA	m Std- wkl.	Höhe	Azimuth	Δt	Δh	ΔA	m Std- wkl.	Höhe	Azimuth	Δt	Δh	ΔA

- β Aurigae
- Geminorum (Castor)
- Ursae majoris (Dubhe)
- Ursae majoris
- Ursae majoris (Alioth)
- Ursae majoris (Mizar)
- Ursae majoris Benetnasch)
- Ursae minoris (Kochab)
- γ Draconis
- α Lyrae (Weğa)
- γ Cygni
- α Cygni (Deneb)
- α Cephei
- Ursae minoris (Nordstern)

	1920-1925	1925-1930	1930-1935		1920-1925	1925-1930	1930-1935		1920-1925	1925-1930	1930-1935
Δh	—	—	—	Δh	—	—	—	Δh	—	—	—
ΔA	—	—	—	ΔA	—	—	—	ΔA	—	—	—

55°N

 β Aurigae

55°N

Std. wkl. m.	6. Stunde					Std. wkl. m.	7. Stunde					Std. wkl. m.	8. Stunde				
	Höhe	Azimuth	Δt	Δh	ΔA		Höhe	Azimuth	Δt	Δh	ΔA		Höhe	Azimuth	Δt	Δh	ΔA
0	35°21.2	60.2	sek			0	28°15.9	50.9	sek			0	22°3.8	41.4	sek		
1	35 13.7	60.1	6	-0.7	0.0	1	28 9.2	50.7	6	-0.7	0.0	1	21 58.1	41.2	6	-0.6	0.0
2	35 6.3	59.9	12	-1.5	0.0	2	28 2.6	50.6	12	-1.3	0.0	2	21 52.4	41.1	12	-1.1	0.0
3	34 58.8	59.8	18	-2.2	0.0	3	27 55.9	50.4	18	-2.0	0.0	3	21 46.7	40.9	18	-1.7	0.0
4	34 51.4	59.6	24	-3.0	-0.1	4	27 49.3	50.3	24	-2.6	-0.1	4	21 41.1	40.8	24	-2.2	-0.1
5	34 44.0	59.5	30	-3.7	-0.1	5	27 42.7	50.1	30	-3.3	-0.1	5	21 35.5	40.6	30	-2.8	-0.1
6	34 36.6	59.3	36	-4.4	-0.1	6	27 36.1	49.9	36	-4.0	-0.1	6	21 29.9	40.4	36	-3.4	-0.1
7	34 29.2	59.2	42	-5.2	-0.1	7	27 29.5	49.8	42	-4.6	-0.1	7	21 24.3	40.3	42	-3.9	-0.1
8	34 21.9	59.0	48	-5.9	-0.1	8	27 22.9	49.6	48	-5.3	-0.1	8	21 18.8	40.1	48	-4.5	-0.1
9	34 14.5	58.9	54	-6.7	-0.1	9	27 16.3	49.5	54	-5.9	-0.1	9	21 13.3	40.0	54	-5.0	-0.1
10	34 7.2	58.7				10	27 9.8	49.3				10	21 7.8	39.8			
11	33 59.8	58.5	6	-0.7	0.0	11	27 3.3	49.2	6	-0.6	0.0	11	21 2.3	39.6	6	-0.5	0.0
12	33 52.5	58.4	12	-1.5	0.0	12	26 56.8	49.0	12	-1.3	0.0	12	20 56.8	39.5	12	-1.1	0.0
13	33 45.2	58.2	18	-2.2	0.0	13	26 50.3	48.9	18	-1.9	0.0	13	20 51.3	39.3	18	-1.6	0.0
14	33 37.9	58.1	24	-2.9	-0.1	14	26 43.8	48.7	24	-2.6	-0.1	14	20 45.9	39.2	24	-2.2	-0.1
15	33 30.6	57.9	30	-3.6	-0.1	15	26 37.3	48.6	30	-3.2	-0.1	15	20 40.5	39.0	30	-2.7	-0.1
16	33 23.3	57.7	36	-4.4	-0.1	16	26 30.9	48.4	36	-3.9	-0.1	16	20 35.1	38.8	36	-3.2	-0.1
17	33 16.0	57.6	42	-5.1	-0.1	17	26 24.5	48.3	42	-4.5	-0.1	17	20 29.7	38.7	42	-3.8	-0.1
18	33 8.7	57.4	48	-5.8	-0.1	18	26 18.1	48.1	48	-5.2	-0.1	18	20 24.3	38.5	48	-4.3	-0.1
19	33 1.4	57.3	54	-6.6	-0.1	19	26 11.7	48.0	54	-5.8	-0.1	19	20 18.9	38.4	54	-4.9	-0.1
20	32 54.2	57.1				20	26 5.3	47.8				20	20 13.6	38.2			
21	32 47.0	57.0	6	-0.7	0.0	21	25 58.9	47.6	6	-0.6	0.0	21	20 8.3	38.0	6	-0.5	0.0
22	32 39.8	56.8	12	-1.4	0.0	22	25 52.6	47.5	12	-1.3	0.0	22	20 3.0	37.9	12	-1.0	0.0
23	32 32.6	56.7	18	-2.1	0.0	23	25 46.2	47.3	18	-1.9	0.0	23	19 57.7	37.7	18	-1.6	0.0
24	32 25.4	56.5	24	-2.9	-0.1	24	25 39.9	47.2	24	-2.5	-0.1	24	19 52.5	37.6	24	-2.1	-0.1
25	32 18.2	56.4	30	-3.6	-0.1	25	25 33.6	47.0	30	-3.1	-0.1	25	19 47.3	37.4	30	-2.6	-0.1
26	32 11.1	56.2	36	-4.3	-0.1	26	25 27.3	46.8	36	-3.8	-0.1	26	19 42.1	37.2	36	-3.1	-0.1
27	32 4.0	56.1	42	-5.0	-0.1	27	25 21.0	46.7	42	-4.4	-0.1	27	19 36.9	37.0	42	-3.6	-0.1
28	31 56.9	55.9	48	-5.7	-0.1	28	25 14.8	46.5	48	-5.0	-0.1	28	19 31.7	36.9	48	-4.2	-0.1
29	31 49.8	55.8	54	-6.4	-0.1	29	25 8.6	46.4	54	-5.7	-0.1	29	19 26.5	36.7	54	-4.7	-0.1
30	31 42.7	55.6				30	25 2.4	46.2				30	19 21.4	36.5			
31	31 35.6	55.4	6	-0.7	0.0	31	24 56.2	46.0	6	-0.6	0.0	31	19 16.3	36.3	6	-0.5	0.0
32	31 28.5	55.3	12	-1.4	0.0	32	24 50.0	45.9	12	-1.2	0.0	32	19 11.2	36.2	12	-1.0	0.0
33	31 21.4	55.1	18	-2.1	0.0	33	24 43.8	45.7	18	-1.8	0.0	33	19 6.1	36.0	18	-1.5	0.0
34	31 14.4	55.0	24	-2.8	-0.1	34	24 37.7	45.6	24	-2.4	-0.1	34	19 1.1	35.9	24	-2.0	-0.1
35	31 7.3	54.8	30	-3.5	-0.1	35	24 31.5	45.4	30	-3.0	-0.1	35	18 56.1	35.7	30	-2.5	-0.1
36	31 0.3	54.6	36	-4.2	-0.1	36	24 25.4	45.2	36	-3.7	-0.1	36	18 51.1	35.5	36	-3.0	-0.1
37	30 53.3	54.5	42	-4.9	-0.1	37	24 19.3	45.1	42	-4.3	-0.1	37	18 46.1	35.4	42	-3.5	-0.1
38	30 46.3	54.3	48	-5.6	-0.1	38	24 13.2	44.9	48	-4.9	-0.1	38	18 41.1	35.2	48	-4.0	-0.1
39	30 39.3	54.2	54	-6.3	-0.1	39	24 7.1	44.8	54	-5.5	-0.1	39	18 36.1	35.1	54	-4.5	-0.1
40	30 32.3	54.0				40	24 1.1	44.6				40	18 31.2	34.9			
41	30 25.3	53.9	6	-0.7	0.0	41	23 55.1	44.4	6	-0.6	0.0	41	18 26.3	34.7	6	-0.5	0.0
42	30 18.4	53.7	12	-1.4	0.0	42	23 49.1	44.3	12	-1.2	0.0	42	18 21.4	34.6	12	-1.0	0.0
43	30 11.5	53.6	18	-2.1	0.0	43	23 43.1	44.1	18	-1.8	0.0	43	18 16.5	34.4	18	-1.4	0.0
44	30 4.6	53.4	24	-2.8	-0.1	44	23 37.1	44.0	24	-2.4	-0.1	44	18 11.7	34.3	24	-1.9	-0.1
45	29 57.7	53.3	30	-3.5	-0.1	45	23 31.1	43.8	30	-3.0	-0.1	45	18 6.9	34.1	30	-2.4	-0.1
46	29 50.8	53.1	36	-4.1	-0.1	46	23 25.2	43.6	36	-3.6	-0.1	46	18 2.1	33.9	36	-2.9	-0.1
47	29 43.9	53.0	42	-4.8	-0.1	47	23 19.2	43.5	42	-4.2	-0.1	47	17 57.3	33.7	42	-3.4	-0.1
48	29 37.1	52.8	48	-5.5	-0.1	48	23 13.3	43.3	48	-4.8	-0.1	48	17 52.5	33.6	48	-3.8	-0.1
49	29 30.2	52.7	54	-6.2	-0.1	49	23 7.4	43.2	54	-5.4	-0.1	49	17 47.8	33.4	54	-4.3	-0.1
50	29 23.4	52.5				50	23 1.6	43.0				50	17 43.1	33.2			
51	29 16.6	52.3	6	-0.7	0.0	51	22 55.7	42.8	6	-0.6	0.0	51	17 38.4	33.0	6	-0.5	0.0
52	29 9.8	52.2	12	-1.3	0.0	52	22 49.9	42.7	12	-1.2	0.0	52	17 33.7	32.9	12	-0.9	0.0
53	29 3.0	52.0	18	-2.0	0.0	53	22 44.1	42.5	18	-1.7	0.0	53	17 29.0	32.7	18	-1.4	0.0
54	28 56.2	51.9	24	-2.7	-0.1	54	22 38.3	42.4	24	-2.3	-0.1	54	17 24.4	32.6	24	-1.8	-0.1
55	28 49.4	51.7	30	-3.4	-0.1	55	22 32.5	42.2	30	-2.9	-0.1	55	17 19.8	32.4	30	-2.3	-0.1
56	28 42.7	51.5	36	-4.0	-0.1	56	22 26.7	42.0	36	-3.5	-0.1	56	17 15.2	32.2	36	-2.8	-0.1
57	28 36.0	51.4	42	-4.7	-0.1	57	22 20.9	41.9	42	-4.1	-0.1	57	17 10.6	32.0	42	-3.2	-0.1
58	28 29.3	51.2	48	-5.4	-0.1	58	22 15.2	41.7	48	-4.6	-0.1	58	17 6.1	31.9	48	-3.7	-0.1
59	28 22.6	51.1	54	-6.1	-0.1	59	22 9.5	41.6	54	-5.2	-0.1	59	17 1.5	31.7	54	-4.1	-0.1
m Std. wkl.	Höhe	Azimuth	Δt	Δh	ΔA	m Std. wkl.	Höhe	Azimuth	Δt	Δh	ΔA	m Std. wkl.	Höhe	Azimuth	Δt	Δh	ΔA
	6. Stunde						7. Stunde						8. Stunde				
Δh	1920-1925	1925-1930	1930-1935			Δh	1920-1925	1925-1930	1930-1935			Δh	1920-1925	1925-1930	1930-1935		
ΔA	—	—	—			ΔA	—	—	—			ΔA	—	—	—		

 α 1917 = $5^h 53^m 29^s$ Jährliche Änderung + $4.4''$

Std. wkl. m.	9. Stunde					Std. wkl. m.	10. Stunde					Std. wkl. m.	11. Stunde					
	Höhe	Azimet	Δt	Δh	ΔA		Höhe	Azimet	Δt	Δh	ΔA		Höhe	Azimet	Δt	Δh	ΔA	
0	16°57.0	31.5	sek			0	13° 7.3	21.3	sek			0	10°44.7	10.7	sek			
1	16 52.5	31.3	6	-0.4	0.0	1	13 4.2	21.1	6	-0.3	0.0	1	10 43.1	10.5	6	-0.1	0.0	
2	16 48.0	31.2	12	-0.9	0.0	2	13 1.1	21.0	12	-0.6	0.0	2	10 41.6	10.4	12	-0.3	0.0	
3	16 43.5	31.0	18	-1.3	0.0	3	12 58.0	20.8	18	-0.9	-0.1	3	10 40.0	10.2	18	-0.4	-0.1	
4	16 39.1	30.9	24	-1.8	-0.1	4	12 55.0	20.7	24	-1.2	-0.1	4	10 38.5	10.0	24	-0.6	-0.1	
5	16 34.7	30.7	30	-2.2	-0.1	5	12 52.0	20.5	30	-1.5	-0.1	5	10 37.0	9.9	30	-0.7	-0.1	
6	16 30.4	30.5	36	-2.6	-0.1	6	12 49.0	20.3	36	-1.8	-0.1	6	10 35.6	9.7	36	-0.9	-0.1	
7	16 26.1	30.4	42	-3.1	-0.1	7	12 46.0	20.1	42	-2.1	-0.1	7	10 34.1	9.5	42	-1.0	-0.1	
8	16 21.7	30.2	48	-3.5	-0.1	8	12 43.0	20.0	48	-2.4	-0.1	8	10 32.7	9.4	48	-1.2	-0.1	
9	16 17.4	30.1	54	-4.0	-0.1	9	12 40.1	19.8	54	-2.7	-0.2	9	10 31.3	9.2	54	-1.3	-0.2	
10	16 13.1	29.9				10	12 37.2	19.6				10	10 30.0	9.0				
11	16 8.8	29.7	6	-0.4	0.0	11	12 34.3	19.4	6	-0.3	0.0	11	10 28.7	8.8	6	-0.1	0.0	
12	16 4.5	29.6	12	-0.8	0.0	12	12 31.5	19.2	12	-0.6	0.0	12	10 27.4	8.6	12	-0.2	0.0	
13	16 0.3	29.4	18	-1.3	-0.1	13	12 28.7	19.1	18	-0.8	-0.1	13	10 26.1	8.5	18	-0.4	-0.1	
14	15 56.1	29.3	24	-1.7	-0.1	14	12 25.9	18.9	24	-1.1	-0.1	14	10 24.9	8.3	24	-0.5	-0.1	
15	15 51.9	29.1	30	-2.1	-0.1	15	12 23.1	18.7	30	-1.4	-0.1	15	10 23.6	8.1	30	-0.6	-0.1	
16	15 47.7	28.9	36	-2.5	-0.1	16	12 20.4	18.5	36	-1.7	-0.1	16	10 22.4	7.9	36	-0.7	-0.1	
17	15 43.6	28.7	42	-2.9	-0.1	17	12 17.7	18.3	42	-2.0	-0.1	17	10 21.2	7.7	42	-0.8	-0.1	
18	15 39.5	28.6	48	-3.4	-0.1	18	12 15.0	18.2	48	-2.2	-0.1	18	10 20.1	7.6	48	-1.0	-0.1	
19	15 35.4	28.4	54	-3.8	-0.2	19	12 12.3	18.0	54	-2.5	-0.2	19	10 19.0	7.4	54	-1.1	-0.2	
20	15 31.3	28.2				20	12 9.6	17.8				20	10 17.9	7.2				
21	15 27.2	28.0	6	-0.4	0.0	21	12 7.0	17.6	6	-0.2	0.0	21	10 16.9	7.0	6	-0.1	0.0	
22	15 23.2	27.9	12	-0.8	0.0	22	12 4.4	17.5	12	-0.5	0.0	22	10 15.9	6.8	12	-0.2	0.0	
23	15 19.2	27.7	18	-1.2	0.0	23	12 1.8	17.3	18	-0.7	-0.1	23	10 14.9	6.7	18	-0.3	-0.1	
24	15 15.2	27.6	24	-1.6	-0.1	24	11 59.3	17.2	24	-1.0	-0.1	24	10 13.9	6.5	24	-0.4	-0.1	
25	15 11.2	27.4	30	-2.0	-0.1	25	11 56.8	17.0	30	-1.2	-0.1	25	10 12.9	6.3	30	-0.4	-0.1	
26	15 7.3	27.2	36	-2.4	-0.1	26	11 54.3	16.8	36	-1.5	-0.1	26	10 12.0	6.1	36	-0.5	-0.1	
27	15 3.4	27.0	42	-2.8	-0.1	27	11 51.8	16.6	42	-1.7	-0.1	27	10 11.1	5.9	42	-0.6	-0.1	
28	14 59.5	26.9	48	-3.2	-0.1	28	11 49.4	16.5	48	-2.0	-0.1	28	10 10.2	5.8	48	-0.7	-0.1	
29	14 55.6	26.7	54	-3.6	-0.2	29	11 47.0	16.3	54	-2.2	-0.2	29	10 9.4	5.6	54	-0.8	-0.2	
30	14 51.8	26.5				30	11 44.6	16.1				30	10 8.6	5.4				
31	14 48.0	26.3	6	-0.4	0.0	31	11 42.2	15.9	6	-0.2	0.0	31	10 7.8	5.2	6	-0.1	0.0	
32	14 44.2	26.2	12	-0.7	0.0	32	11 39.9	15.7	12	-0.5	0.0	32	10 7.0	5.0	12	-0.1	0.0	
33	14 40.4	26.0	18	-1.1	-0.1	33	11 37.6	15.6	18	-0.7	-0.1	33	10 6.3	4.9	18	-0.2	-0.1	
34	14 36.7	25.9	24	-1.5	-0.1	34	11 35.3	15.4	24	-0.9	-0.1	34	10 5.6	4.7	24	-0.3	-0.1	
35	14 32.9	25.7	30	-1.8	-0.1	35	11 33.0	15.2	30	-1.1	-0.1	35	10 4.9	4.5	30	-0.3	-0.1	
36	14 29.2	25.5	36	-2.2	-0.1	36	11 30.8	15.0	36	-1.4	-0.1	36	10 4.2	4.3	36	-0.4	-0.1	
37	14 25.5	25.3	42	-2.6	-0.1	37	11 28.6	14.8	42	-1.6	-0.1	37	10 3.6	4.1	42	-0.5	-0.1	
38	14 21.9	25.2	48	-3.0	-0.1	38	11 26.4	14.7	48	-1.8	-0.1	38	10 3.0	4.0	48	-0.6	-0.1	
39	14 18.2	25.0	54	-3.3	-0.2	39	11 24.2	14.5	54	-2.1	-0.2	39	10 2.4	3.8	54	-0.6	-0.2	
40	14 14.6	24.8				40	11 22.0	14.3				40	10 1.8	3.6				
41	14 11.0	24.6	6	-0.3	0.0	41	11 19.9	14.1	6	-0.2	0.0	41	10 1.3	3.4	6	0.0	0.0	
42	14 7.5	24.4	12	-0.7	0.0	42	11 17.8	13.9	12	-0.4	0.0	42	10 0.8	3.2	12	-0.1	0.0	
43	14 3.9	24.3	18	-1.0	-0.1	43	11 15.8	13.8	18	-0.6	-0.1	43	10 0.3	3.1	18	-0.1	-0.1	
44	14 0.4	24.1	24	-1.4	-0.1	44	11 13.8	13.6	24	-0.8	-0.1	44	9 59.9	2.9	24	-0.2	-0.1	
45	13 56.9	23.9	30	-1.7	-0.1	45	11 11.8	13.4	30	-1.0	-0.1	45	9 59.5	2.7	30	-0.2	-0.1	
46	13 53.4	23.7	36	-2.1	-0.1	46	11 9.8	13.2	36	-1.2	-0.1	46	9 59.1	2.5	36	-0.2	-0.1	
47	13 49.9	23.5	42	-2.4	-0.1	47	11 7.8	13.0	42	-1.4	-0.1	47	9 58.7	2.3	42	-0.3	-0.1	
48	13 46.5	23.4	48	-2.8	-0.1	48	11 5.9	12.9	48	-1.6	-0.1	48	9 58.3	2.2	48	-0.3	-0.1	
49	13 43.1	23.2	54	-3.1	-0.2	49	11 4.0	12.7	54	-1.8	-0.2	49	9 58.0	2.0	54	-0.4	-0.2	
50	13 39.7	23.0				50	11 2.1	12.5				50	9 57.8	1.8				
51	13 36.3	22.8	6	-0.3	0.0	51	11 0.2	12.3	6	-0.2	0.0	51	9 57.5	1.6	6	0.0	0.0	
52	13 33.0	22.7	12	-0.7	0.0	52	10 58.4	12.1	12	-0.4	0.0	52	9 57.3	1.4	12	-0.0	0.0	
53	13 29.7	22.5	18	-1.0	-0.1	53	10 56.6	12.0	18	-0.5	-0.1	53	9 57.1	1.3	18	-0.1	-0.1	
54	13 26.5	22.4	24	-1.3	-0.1	54	10 54.9	11.8	24	-0.7	-0.1	54	9 56.9	1.1	24	-0.1	-0.1	
55	13 23.2	22.2	30	-1.6	-0.1	55	10 53.1	11.6	30	-0.9	-0.1	55	9 56.7	0.9	30	-0.1	-0.1	
56	13 20.0	22.0	36	-2.0	-0.1	56	10 51.4	11.4	36	-1.1	-0.1	56	9 56.6	0.7	36	-0.1	-0.1	
57	13 16.8	21.8	42	-2.3	-0.1	57	10 49.7	11.2	42	-1.3	-0.1	57	9 56.6	0.5	42	-0.1	-0.1	
58	13 13.6	21.7	48	-2.6	-0.1	58	10 48.0	11.1	48	-1.4	-0.1	58	9 56.5	0.4	48	-0.2	-0.1	
59	13 10.4	21.5	54	-3.0	-0.2	59	10 46.3	10.9	54	-1.6	-0.2	59	9 56.5	0.2	54	-0.2	-0.2	

Geminorum (Castor)
 Ursae majoris (Dubhe)
 Ursae majoris
 Ursae majoris (Alioth)
 Ursae majoris (Mizar)
 Ursae majoris Benetnasch)
 Ursae minoris (Kochab)
 γ Draconis
 α Lyrae (Weğa)
 γ Cygni
 α Cygni (Deneb)
 α Cephei
 Ursae minoris (Nordstern)

Std. wkl. m.	9. Stunde					Std. wkl. m.	10. Stunde					Std. wkl. m.	11. Stunde				
	Höhe	Azimet	Δt	Δh	ΔA		Höhe	Azimet	Δt	Δh	ΔA		Höhe	Azimet	Δt	Δh	ΔA
	1920-1925	1925-1930	1930-1935				1920-1925	1925-1930	1930-1935				1920-1925	1925-1930	1930-1935		
Δh	—	—	—	Δh	—	—	—	—	—	Δh	—	—	—	—	—		
ΔA	—	—	—	ΔA	—	—	—	—	—	ΔA	—	—	—	—	—		

Std. wkl. m.	0. Stunde					Std. wkl. m.	1. Stunde					Std. wkl. m.	2. Stunde				
	Höhe	Azimuth	Δt	Δh	ΔA		Höhe	Azimuth	Δt	Δh	ΔA		Höhe	Azimuth	Δt	Δh	ΔA
0	67° 4.3	180° 0	sek			0	64° 44.8	149° 0	sek			0	58° 51.4	125° 0	sek		
1	67 4.3	179.5	6	0.0	0.0	1	64 40.3	148.5	6	-0.5	0.0	1	58 44.3	124.7	6	-0.7	0.0
2	67 4.2	178.9	12	-0.1	-0.1	2	64 35.8	148.1	12	-0.9	-0.1	2	58 37.2	124.3	12	-1.4	-0.1
3	67 4.0	178.4	18	-0.1	-0.1	3	64 31.2	147.6	18	-1.4	-0.1	3	58 30.1	124.0	18	-2.2	-0.1
4	67 3.7	177.8	24	-0.2	-0.2	4	64 26.6	147.2	24	-1.9	-0.2	4	58 23.0	123.6	24	-2.9	-0.1
5	67 3.3	177.3	30	-0.2	-0.2	5	64 21.9	146.7	30	-2.3	-0.2	5	58 15.8	123.3	30	-3.6	-0.2
6	67 2.9	176.8	36	-0.2	-0.3	6	64 17.2	146.3	36	-2.8	-0.3	6	58 8.6	123.0	36	-4.3	-0.2
7	67 2.3	176.2	42	-0.3	-0.3	7	64 12.4	145.8	42	-3.3	-0.3	7	58 1.4	122.7	42	-5.0	-0.2
8	67 1.7	175.7	48	-0.3	-0.4	8	64 7.5	145.4	48	-3.8	-0.4	8	57 54.1	122.3	48	-5.8	-0.3
9	67 1.0	175.1	54	-0.4	-0.4	9	64 2.6	144.9	54	-4.2	-0.4	9	57 46.8	122.0	54	-6.5	-0.3
10	67 0.2	174.6				10	63 57.7	144.5				10	57 39.5	121.7			
11	66 59.3	174.1	6	-0.1	0.0	11	63 52.7	144.1	6	-0.5	0.0	11	57 32.2	121.4	6	-0.7	0.0
12	66 58.4	173.5	12	-0.2	-0.1	12	63 47.6	143.6	12	-1.0	-0.1	12	57 24.8	121.1	12	-1.5	-0.1
13	66 57.4	173.0	18	-0.4	-0.1	13	63 42.5	143.2	18	-1.5	-0.1	13	57 17.4	120.7	18	-2.2	-0.1
14	66 56.3	172.4	24	-0.5	-0.2	14	63 37.3	142.7	24	-2.1	-0.2	14	57 10.0	120.4	24	-3.0	-0.1
15	66 55.1	171.9	30	-0.6	-0.2	15	63 32.1	142.3	30	-2.6	-0.2	15	57 2.6	120.1	30	-3.7	-0.2
16	66 53.9	171.4	36	-0.7	-0.3	16	63 26.8	141.9	36	-3.1	-0.3	16	56 55.1	119.8	36	-4.4	-0.2
17	66 52.6	170.8	42	-0.8	-0.3	17	63 21.5	141.5	42	-3.6	-0.3	17	56 47.6	119.5	42	-5.2	-0.2
18	66 51.2	170.3	48	-1.0	-0.4	18	63 16.1	141.0	48	-4.2	-0.4	18	56 40.1	119.1	48	-5.9	-0.3
19	66 49.7	169.7	54	-1.1	-0.4	19	63 10.6	140.6	54	-4.7	-0.4	19	56 32.6	118.8	54	-6.7	-0.3
20	66 48.1	169.2				20	63 5.1	140.2				20	56 25.0	118.5			
21	66 46.4	168.7	6	-0.2	0.0	21	62 59.6	139.8	6	-0.6	0.0	21	56 17.4	118.2	6	-0.8	0.0
22	66 44.7	168.1	12	-0.4	-0.1	22	62 54.0	139.4	12	-1.1	-0.1	22	56 9.8	117.9	12	-1.5	-0.1
23	66 42.9	167.6	18	-0.6	-0.1	23	62 48.4	138.9	18	-1.7	-0.1	23	56 2.2	117.6	18	-2.3	-0.1
24	66 41.0	167.0	24	-0.8	-0.2	24	62 42.7	138.5	24	-2.3	-0.2	24	55 54.6	117.3	24	-3.1	-0.1
25	66 39.0	166.5	30	-1.0	-0.2	25	62 37.0	138.1	30	-2.8	-0.2	25	55 47.0	117.0	30	-3.8	-0.1
26	66 37.0	166.0	36	-1.2	-0.3	26	62 31.2	137.7	36	-3.4	-0.2	26	55 39.3	116.7	36	-4.6	-0.2
27	66 34.9	165.5	42	-1.4	-0.3	27	62 25.4	137.3	42	-4.0	-0.3	27	55 31.6	116.4	42	-5.4	-0.2
28	66 32.7	164.9	48	-1.6	-0.4	28	62 19.5	136.9	48	-4.6	-0.3	28	55 23.9	116.1	48	-6.2	-0.2
29	66 30.4	164.4	54	-1.8	-0.4	29	62 13.6	136.5	54	-5.1	-0.4	29	55 16.2	115.8	54	-6.9	-0.3
30	66 28.0	163.9				30	62 7.7	136.1				30	55 8.4	115.5			
31	66 25.6	163.4	6	-0.3	0.0	31	62 1.7	135.7	6	-0.6	0.0	31	55 0.7	115.2	6	-0.8	0.0
32	66 23.1	162.9	12	-0.5	-0.1	32	61 55.7	135.3	12	-1.2	-0.1	32	54 52.9	114.9	12	-1.6	-0.1
33	66 20.5	162.3	18	-0.8	-0.1	33	61 49.6	134.9	18	-1.8	-0.1	33	54 45.1	114.6	18	-2.3	-0.1
34	66 17.9	161.8	24	-1.1	-0.2	34	61 43.5	134.5	24	-2.5	-0.2	34	54 37.2	114.3	24	-3.1	-0.1
35	66 15.2	161.3	30	-1.3	-0.2	35	61 37.3	134.1	30	-3.1	-0.2	35	54 29.3	114.0	30	-3.9	-0.1
36	66 12.4	160.8	36	-1.6	-0.3	36	61 31.1	133.7	36	-3.7	-0.2	36	54 21.4	113.7	36	-4.7	-0.2
37	66 9.5	160.3	42	-1.9	-0.3	37	61 24.9	133.3	42	-4.3	-0.3	37	54 13.6	113.4	42	-5.5	-0.2
38	66 6.6	159.8	48	-2.2	-0.4	38	61 18.6	132.9	48	-5.0	-0.3	38	54 5.7	113.1	48	-6.2	-0.2
39	66 3.6	159.3	54	-2.4	-0.4	39	61 12.3	132.6	54	-5.6	-0.4	39	53 57.8	112.9	54	-7.0	-0.3
40	66 0.5	158.8				40	61 5.9	132.2				40	53 49.9	112.6			
41	65 57.3	158.3	6	-0.3	0.0	41	60 59.5	131.8	6	-0.7	0.0	41	53 42.0	112.3	6	-0.8	0.0
42	65 54.1	157.8	12	-0.7	-0.1	42	60 53.1	131.4	12	-1.3	-0.1	42	53 34.0	112.0	12	-1.6	-0.1
43	65 50.8	157.3	18	-1.0	-0.1	43	60 46.6	131.1	18	-2.0	-0.1	43	53 26.0	111.8	18	-2.4	-0.1
44	65 47.5	156.8	24	-1.4	-0.2	44	60 40.1	130.7	24	-2.6	-0.2	44	53 18.0	111.5	24	-3.2	-0.1
45	65 44.1	156.3	30	-1.7	-0.2	45	60 33.6	130.3	30	-3.3	-0.2	45	53 10.0	111.2	30	-4.0	-0.1
46	65 40.6	155.8	36	-2.1	-0.3	46	60 27.0	129.9	36	-4.0	-0.2	46	53 1.9	110.9	36	-4.8	-0.2
47	65 37.0	155.3	42	-2.4	-0.3	47	60 20.4	129.6	42	-4.6	-0.3	47	52 53.9	110.7	42	-5.6	-0.2
48	65 33.4	154.8	48	-2.8	-0.4	48	60 13.7	129.2	48	-5.3	-0.3	48	52 45.8	110.4	48	-6.4	-0.2
49	65 29.7	154.3	54	-3.1	-0.4	49	60 7.0	128.9	54	-5.9	-0.4	49	52 37.8	110.2	54	-7.2	-0.2
50	65 26.0	153.8				50	60 0.3	128.5				50	52 29.7	109.9			
51	65 22.1	153.3	6	-0.4	0.0	51	59 53.6	128.1	6	-0.7	0.0	51	52 21.6	109.6	6	-0.8	0.0
52	65 18.2	152.8	12	-0.8	-0.1	52	59 46.8	127.8	12	-1.4	-0.1	52	52 13.5	109.4	12	-1.6	-0.1
53	65 14.2	152.4	18	-1.2	-0.1	53	59 40.0	127.4	18	-2.1	-0.1	53	52 5.4	109.1	18	-2.4	-0.1
54	65 10.2	151.9	24	-1.6	-0.2	54	59 33.2	127.1	24	-2.8	-0.2	54	51 57.2	108.9	24	-3.3	-0.1
55	65 6.1	151.4	30	-2.0	-0.2	55	59 26.3	126.7	30	-3.5	-0.2	55	51 49.1	108.6	30	-4.1	-0.1
56	65 2.0	150.9	36	-2.5	-0.3	56	59 19.4	126.4	36	-4.1	-0.2	56	51 40.9	108.3	36	-4.9	-0.2
57	64 57.8	150.4	42	-2.9	-0.3	57	59 12.5	126.0	42	-4.8	-0.3	57	51 32.7	108.1	42	-5.7	-0.2
58	64 53.5	150.0	48	-3.3	-0.4	58	59 5.5	125.7	48	-5.5	-0.3	58	51 24.5	107.8	48	-6.5	-0.2
59	64 49.2	149.5	54	-3.7	-0.4	59	58 58.5	125.3	54	-6.2	-0.4	59	51 16.3	107.6	54	-7.3	-0.2

	1920-1925	1925-1930	1930-1935		1920-1925	1925-1930	1930-1935		1920-1925	1925-1930	1930-1935
Δh	-0.6	-1.2	-1.9	Δh	-0.6	-1.1	-1.7	Δh	-0.5	-1.0	-1.6
ΔA	—	—	—	ΔA	—	—	—	ΔA	—	—	—

55°N

α Geminorum (Castor)

55°N

Std. wkl. m.	3. Stunde					Std. wkl. m.	4. Stunde					Std. wkl. m.	5. Stunde				
	Höhe	Azimuth	Δt	Δh	ΔA		Höhe	Azimuth	Δt	Δh	ΔA		Höhe	Azimuth	Δt	Δh	ΔA
0	51° 8' 1	107° 3	sek			0	42° 41' 1	93° 3	sek			0	34° 6' 5	81° 3	sek		
1	50 59.7	107.0	6	-0.8	0.0	1	42 32.5	93.1	6	-0.9	0.0	1	33 58.0	81.7	6	-0.8	0.0
2	50 51.6	106.8	12	-1.6	0.0	2	42 24.0	92.9	12	-1.7	0.0	2	33 49.5	80.9	12	-1.7	0.0
3	50 43.4	106.5	18	-2.5	-0.1	3	42 15.4	92.6	18	-2.6	-0.1	3	33 41.0	80.7	18	-2.5	-0.1
4	50 35.1	106.3	24	-3.3	-0.1	4	42 6.8	92.4	24	-3.4	-0.1	4	33 32.5	80.5	24	-3.4	-0.1
5	50 26.9	106.0	30	-4.1	-0.1	5	41 58.2	92.2	30	-4.3	-0.1	5	33 24.0	80.3	30	-4.2	-0.1
6	50 18.6	105.7	36	-4.9	-0.1	6	41 49.6	92.0	36	-5.2	-0.1	6	33 15.5	80.1	36	-5.1	-0.1
7	50 10.4	105.5	42	-5.7	-0.2	7	41 41.0	91.8	42	-6.0	-0.1	7	33 7.0	79.9	42	-5.9	-0.2
8	50 2.1	105.2	48	-6.6	-0.2	8	41 32.4	91.6	48	-6.9	-0.2	8	32 58.6	79.8	48	-6.8	-0.2
9	49 53.8	105.0	54	-7.4	-0.2	9	41 23.8	91.4	54	-7.7	-0.2	9	32 50.1	79.6	54	-7.6	-0.2
10	49 45.5	104.7				10	41 15.2	91.2				10	32 41.6	79.4			
11	49 37.2	104.5	6	-0.8	0.0	11	41 6.6	91.0	6	-0.9	0.0	11	32 33.1	79.2	6	-0.8	0.0
12	49 28.8	104.2	12	-1.7	0.0	12	40 58.0	90.8	12	-1.7	0.0	12	32 24.7	79.0	12	-1.7	0.0
13	49 20.5	104.0	18	-2.5	-0.1	13	40 49.4	90.6	18	-2.6	-0.1	13	32 16.2	78.9	18	-2.5	-0.1
14	49 12.1	103.7	24	-3.3	-0.1	14	40 40.8	90.4	24	-3.4	-0.1	14	32 7.8	78.7	24	-3.4	-0.1
15	49 3.8	103.5	30	-4.2	-0.1	15	40 32.2	90.2	30	-4.3	-0.1	15	31 59.4	78.5	30	-4.2	-0.1
16	48 55.4	103.3	36	-5.0	-0.1	16	40 23.5	90.0	36	-5.2	-0.1	16	31 51.0	78.3	36	-5.0	-0.1
17	48 47.0	103.0	42	-5.8	-0.2	17	40 14.9	89.8	42	-6.0	-0.1	17	31 42.5	78.1	42	-5.9	-0.1
18	48 38.6	102.8	48	-6.7	-0.2	18	40 6.3	89.6	48	-6.9	-0.2	18	31 34.1	78.0	48	-6.7	-0.1
19	48 30.2	102.5	54	-7.5	-0.2	19	39 57.7	89.4	54	-7.7	-0.2	19	31 25.7	77.8	54	-7.6	-0.2
20	48 21.8	102.3				20	39 49.1	89.2				20	31 17.3	77.6			
21	48 13.4	102.1	6	-0.8	0.0	21	39 40.5	89.0	6	-0.9	0.0	21	31 8.9	77.4	6	-0.8	0.0
22	48 5.0	101.8	12	-1.7	0.0	22	39 31.9	88.8	12	-1.7	0.0	22	31 0.5	77.2	12	-1.7	0.0
23	47 56.6	101.6	18	-2.5	-0.1	23	39 23.3	88.6	18	-2.6	-0.1	23	30 52.1	77.0	18	-2.5	-0.1
24	47 48.1	101.3	24	-3.4	-0.1	24	39 14.7	88.4	24	-3.4	-0.1	24	30 43.8	76.8	24	-3.3	-0.1
25	47 39.7	101.1	30	-4.2	-0.1	25	39 6.1	88.2	30	-4.3	-0.1	25	30 35.4	76.6	30	-4.2	-0.1
26	47 31.2	100.9	36	-5.0	-0.1	26	38 57.5	88.0	36	-5.2	-0.1	26	30 27.0	76.4	36	-5.0	-0.1
27	47 22.8	100.7	42	-5.9	-0.2	27	38 48.9	87.8	42	-6.0	-0.1	27	30 18.6	76.2	42	-5.8	-0.1
28	47 14.3	100.4	48	-6.7	-0.2	28	38 40.3	87.6	48	-6.9	-0.2	28	30 10.3	76.1	48	-6.7	-0.1
29	47 5.9	100.2	54	-7.6	-0.2	29	38 31.7	87.4	54	-7.7	-0.2	29	30 1.9	75.9	54	-7.5	-0.2
30	46 57.4	100.0				30	38 23.2	87.2				30	29 53.6	75.7			
31	46 49.0	99.8	6	-0.8	0.0	31	38 14.6	87.0	6	-0.9	0.0	31	29 45.3	75.5	6	-0.8	0.0
32	46 40.5	99.5	12	-1.7	0.0	32	38 6.0	86.8	12	-1.7	0.0	32	29 37.0	75.3	12	-1.7	0.0
33	46 32.0	99.3	18	-2.5	-0.1	33	37 57.4	86.6	18	-2.6	-0.1	33	29 28.6	75.2	18	-2.5	-0.1
34	46 23.5	99.0	24	-3.3	-0.1	34	37 48.8	86.4	24	-3.4	-0.1	34	29 20.3	75.0	24	-3.3	-0.1
35	46 15.0	98.8	30	-4.2	-0.1	35	37 40.2	86.2	30	-4.3	-0.1	35	29 12.0	74.8	30	-4.1	-0.1
36	46 6.5	98.6	36	-5.1	-0.1	36	37 31.6	86.0	36	-5.2	-0.1	36	29 3.7	74.6	36	-5.0	-0.1
37	45 58.0	98.4	42	-5.9	-0.2	37	37 23.0	85.8	42	-6.0	-0.1	37	28 55.4	74.4	42	-5.8	-0.1
38	45 49.5	98.1	48	-6.7	-0.2	38	37 14.4	85.6	48	-6.9	-0.2	38	28 47.1	74.3	48	-6.6	-0.1
39	45 41.0	97.9	54	-7.5	-0.2	39	37 5.8	85.4	54	-7.7	-0.2	39	28 38.8	74.1	54	-7.5	-0.2
40	45 32.4	97.7				40	36 57.3	85.2				40	28 30.6	73.9			
41	45 23.9	97.5	6	-0.8	0.0	41	36 48.7	85.0	6	-0.9	0.0	41	28 22.3	73.7	6	-0.8	0.0
42	45 15.3	97.3	12	-1.7	0.0	42	36 40.1	84.8	12	-1.7	0.0	42	28 14.1	73.5	12	-1.6	0.0
43	45 6.8	97.0	18	-2.5	-0.1	43	36 31.5	84.6	18	-2.6	-0.1	43	28 5.8	73.3	18	-2.5	-0.1
44	44 58.2	96.8	24	-3.3	-0.1	44	36 23.0	84.4	24	-3.4	-0.1	44	27 57.6	73.1	24	-3.3	-0.1
45	44 49.7	96.6	30	-4.2	-0.1	45	36 14.4	84.2	30	-4.3	-0.1	45	27 49.3	72.9	30	-4.1	-0.1
46	44 41.1	96.4	36	-5.1	-0.1	46	36 5.9	84.0	36	-5.2	-0.1	46	27 41.1	72.7	36	-4.9	-0.1
47	44 32.6	96.2	42	-5.9	-0.2	47	35 57.3	83.8	42	-6.0	-0.1	47	27 32.9	72.5	42	-5.8	-0.1
48	44 24.0	95.9	48	-6.7	-0.2	48	35 48.8	83.6	48	-6.9	-0.2	48	27 24.7	72.4	48	-6.6	-0.1
49	44 15.5	95.7	54	-7.5	-0.2	49	35 40.2	83.4	54	-7.7	-0.2	49	27 16.5	72.2	54	-7.4	-0.2
50	44 6.9	95.5				50	35 31.7	83.2				50	27 8.3	72.0			
51	43 58.4	95.3	6	-0.9	0.0	51	35 23.1	83.0	6	-0.8	0.0	51	27 0.1	71.8	6	-0.8	0.0
52	43 49.8	95.1	12	-1.7	0.0	52	35 14.6	82.8	12	-1.7	0.0	52	26 52.0	71.6	12	-1.6	0.0
53	43 41.3	94.8	18	-2.5	-0.1	53	35 6.0	82.6	18	-2.5	-0.1	53	26 43.8	71.5	18	-2.4	-0.1
54	43 32.7	94.6	24	-3.4	-0.1	54	34 57.5	82.4	24	-3.4	-0.1	54	26 35.7	71.3	24	-3.3	-0.1
55	43 24.1	94.4	30	-4.3	-0.1	55	34 49.0	82.2	30	-4.2	-0.1	55	26 27.5	71.1	30	-4.1	-0.1
56	43 15.5	94.2	36	-5.2	-0.1	56	34 40.5	82.0	36	-5.1	-0.1	56	26 19.4	70.9	36	-4.9	-0.1
57	43 6.9	94.0	42	-6.0	-0.2	57	34 32.0	81.8	42	-5.9	-0.1	57	26 11.2	70.7	42	-5.7	-0.1
58	42 58.3	93.7	48	-6.9	-0.2	58	34 23.5	81.7	48	-6.8	-0.2	58	26 3.1	70.6	48	-6.5	-0.1
59	42 49.7	93.5	54	-7.7	-0.2	59	34 15.0	81.5	54	-7.6	-0.2	59	25 55.0	70.4	54	-7.3	-0.2
m Std. wkl.	Höhe	Azimuth	Δt	Δh	ΔA	m Std. wkl.	Höhe	Azimuth	Δt	Δh	ΔA	m Std. wkl.	Höhe	Azimuth	Δt	Δh	ΔA
	3. Stunde						4. Stunde						5. Stunde				
Δh	1920-1925	1925-1930	1930-1935			Δh	1920-1925	1925-1930	1930-1935			Δh	1920-1925	1925-1930	1930-1935		
ΔA	—	—	—			ΔA	—	—	—			ΔA	—	—	—		

- α Geminorum (Castor)
- ϵ Ursae majoris (Dubhe)
- Ursae majoris
- Irsae majoris (Alioth)
- ζ Ursae majoris (Mizar)
- Irsae majoris Benetnasch)
- Irsae minoris (Kochab)
- γ Draconis
- α Lyrae (Weßa)
- γ Cygni
- α Cygni (Deneb)
- α Cephei
- Irsae minoris (Nordstern)

55°N

 α Geminorum (Castor)

55°N

Std- wkl. m.	6. Stunde					Std- wkl. m.	7. Stunde					Std- wkl. m.	8. Stunde				
	Höhe	Azimet	Δt	Δh	ΔA		Höhe	Azimet	Δt	Δh	ΔA		Höhe	Azimet	Δt	Δh	ΔA
0	25°46'9	70°2	sek			0	18° 0'5	59°4	sek			0	11° 3'9	48°4	sek		
1	25 38.8	70.0	6	-0.3	0°0	1	17 53.1	59.2	6	-0.7	0°0	1	10 57.5	48.2	6	-0.6	0°0
2	25 30.7	69.8	12	-1.6	0.0	2	17 45.7	59.0	12	-1.5	0.0	2	10 51.1	48.0	12	-1.3	0.0
3	25 22.6	69.7	18	-2.4	-0.1	3	17 38.3	58.9	18	-2.2	-0.1	3	10 44.7	47.9	18	-1.9	-0.1
4	25 14.6	69.5	24	-3.2	-0.1	4	17 31.0	58.7	24	-2.9	-0.1	4	10 38.4	47.7	24	-2.5	-0.1
5	25 6.5	69.3	30	-4.0	-0.1	5	17 23.6	58.5	30	-3.6	-0.1	5	10 32.0	47.5	30	-3.1	-0.1
6	24 58.5	69.1	36	-4.8	-0.1	6	17 16.3	58.3	36	-4.4	-0.1	6	10 25.7	47.3	36	-3.8	-0.1
7	24 50.5	68.9	42	-5.6	-0.1	7	17 9.0	58.1	42	-5.1	-0.1	7	10 19.4	47.1	42	-4.4	-0.1
8	24 42.5	68.8	48	-6.4	-0.2	8	17 1.7	58.0	48	-5.8	-0.2	8	10 13.1	47.0	48	-5.0	-0.1
9	24 34.5	68.6	54	-7.2	-0.2	9	16 54.4	57.8	54	-6.6	-0.2	9	10 6.8	46.8	54	-5.7	-0.2
10	24 26.5	68.4				10	16 47.2	57.6				10	10 0.6	46.6			
11	24 18.5	68.2	6	-0.8	0.0	11	16 39.9	57.4	6	-0.7	0.0	11	9 54.3	46.4	6	-0.6	0.0
12	24 10.5	68.0	12	-1.6	0.0	12	16 32.7	57.2	12	-1.4	0.0	12	9 48.1	46.2	12	-1.2	0.0
13	24 2.5	67.9	18	-2.4	-0.1	13	16 25.5	57.1	18	-2.2	-0.1	13	9 41.9	46.0	18	-1.8	-0.1
14	23 54.5	67.7	24	-3.2	-0.1	14	16 18.3	56.9	24	-2.9	-0.1	14	9 35.7	45.8	24	-2.4	-0.1
15	23 46.5	67.5	30	-4.0	-0.1	15	16 11.1	56.7	30	-3.6	-0.1	15	9 29.5	45.6	30	-3.0	-0.1
16	23 38.6	67.3	36	-4.8	-0.1	16	16 3.9	56.5	36	-4.3	-0.1	16	9 23.4	45.4	36	-3.7	-0.1
17	23 30.6	67.1	42	-5.6	-0.1	17	15 56.7	56.3	42	-5.0	-0.1	17	9 17.3	45.2	42	-4.3	-0.1
18	23 22.7	67.0	48	-6.4	-0.2	18	15 49.6	56.2	48	-5.8	-0.1	18	9 11.2	45.1	48	-4.9	-0.1
19	23 14.8	66.8	54	-7.2	-0.2	19	15 42.4	56.0	54	-6.5	-0.2	19	9 5.1	44.9	54	-5.5	-0.2
20	23 6.9	66.6				20	15 35.3	55.8				20	8 59.1	44.7			
21	22 59.0	66.4	6	-0.8	0.0	21	15 28.2	55.6	6	-0.7	0.0	21	8 53.1	44.5	6	-0.6	0.0
22	22 51.1	66.2	12	-1.6	0.0	22	15 21.1	55.4	12	-1.4	0.0	22	8 47.1	44.3	12	-1.2	0.0
23	22 43.2	66.1	18	-2.4	-0.1	23	15 14.0	55.2	18	-2.1	-0.1	23	8 41.1	44.1	18	-1.8	-0.1
24	22 35.4	65.9	24	-3.1	-0.1	24	15 7.0	55.0	24	-2.8	-0.1	24	8 35.1	43.9	24	-2.4	-0.1
25	22 27.5	65.7	30	-3.9	-0.1	25	14 59.9	54.8	30	-3.5	-0.1	25	8 29.1	43.7	30	-3.0	-0.1
26	22 19.7	65.5	36	-4.7	-0.1	26	14 52.9	54.6	36	-4.2	-0.1	26	8 23.2	43.5	36	-3.5	-0.1
27	22 11.9	65.3	42	-5.5	-0.1	27	14 45.9	54.4	42	-4.9	-0.1	27	8 17.3	43.3	42	-4.1	-0.1
28	22 4.1	65.2	48	-6.3	-0.2	28	14 38.9	54.3	48	-5.6	-0.1	28	8 11.4	43.2	48	-4.7	-0.1
29	21 56.3	65.0	54	-7.1	-0.2	29	14 31.9	54.1	54	-6.3	-0.2	29	8 5.5	43.0	54	-5.3	-0.2
30	21 48.5	64.8				30	14 25.0	53.9				30	7 59.7	42.8			
31	21 40.7	64.6	6	-0.8	0.0	31	14 18.0	53.7	6	-0.7	0.0	31	7 53.8	42.6	6	-0.6	0.0
32	21 33.0	64.4	12	-1.5	0.0	32	14 11.1	53.5	12	-1.4	0.0	32	7 48.0	42.4	12	-1.1	0.0
33	21 25.2	64.3	18	-2.3	-0.1	33	14 4.2	53.4	18	-2.1	-0.1	33	7 42.2	42.2	18	-1.7	-0.1
34	21 17.5	64.1	24	-3.1	-0.1	34	13 57.3	53.2	24	-2.8	-0.1	34	7 36.5	42.0	24	-2.3	-0.1
35	21 9.7	63.9	30	-3.8	-0.1	35	13 50.4	53.0	30	-3.4	-0.1	35	7 30.7	41.8	30	-2.8	-0.1
36	21 2.0	63.7	36	-4.6	-0.1	36	13 43.5	52.8	36	-4.1	-0.1	36	7 25.0	41.6	36	-3.4	-0.1
37	20 54.3	63.5	42	-5.3	-0.1	37	13 36.6	52.6	42	-4.8	-0.1	37	7 19.3	41.4	42	-4.0	-0.1
38	20 46.6	63.4	48	-6.2	-0.2	38	13 29.8	52.5	48	-5.5	-0.1	38	7 13.6	41.3	48	-4.6	-0.1
39	20 38.9	63.2	54	-6.9	-0.2	39	13 23.0	52.3	54	-6.2	-0.2	39	7 7.9	41.1	54	-5.1	-0.2
40	20 31.3	63.0				40	13 16.2	52.1				40	7 2.3	40.9			
41	20 23.6	62.8	6	-0.8	0.0	41	13 9.4	51.9	6	-0.7	0.0	41	6 56.7	40.7	6	-0.5	0.0
42	20 16.0	62.6	12	-1.5	0.0	42	13 2.7	51.7	12	-1.3	0.0	42	6 51.1	40.5	12	-1.1	0.0
43	20 8.3	62.5	18	-2.3	-0.1	43	12 55.9	51.6	18	-2.0	-0.1	43	6 45.5	40.3	18	-1.6	-0.1
44	20 0.7	62.3	24	-3.0	-0.1	44	12 49.2	51.4	24	-2.7	-0.1	44	6 40.0	40.1	24	-2.2	-0.1
45	19 53.1	62.1	30	-3.8	-0.1	45	12 42.5	51.2	30	-3.3	-0.1	45	6 34.5	39.9	30	-2.7	-0.1
46	19 45.5	61.9	36	-4.6	-0.1	46	12 35.8	51.0	36	-4.0	-0.1	46	6 29.0	39.7	36	-3.3	-0.1
47	19 37.9	61.7	42	-5.3	-0.1	47	12 29.1	50.8	42	-4.7	-0.1	47	6 23.5	39.5	42	-3.8	-0.1
48	19 30.3	61.6	48	-6.1	-0.2	48	12 22.4	50.7	48	-5.4	-0.1	48	6 18.0	39.3	48	-4.4	-0.2
49	19 22.7	61.4	54	-6.8	-0.2	49	12 15.8	50.5	54	-6.0	-0.2	49	6 12.5	39.1	54	-4.9	-0.2
50	19 15.2	61.2				50	12 9.2	50.3				50	6 7.1	38.9			
51	19 7.7	61.0	6	-0.7	0.0	51	12 2.6	50.1	6	-0.6	0.0	51	6 1.7	38.7	6	-0.5	0.0
52	19 0.2	60.8	12	-1.5	0.0	52	11 56.0	49.9	12	-1.3	0.0	52	5 56.3	38.5	12	-1.1	0.0
53	18 52.7	60.7	18	-2.2	-0.1	53	11 49.4	49.7	18	-1.9	-0.1	53	5 51.0	38.3	18	-1.6	-0.1
54	18 45.2	60.5	24	-3.0	-0.1	54	11 42.9	49.5	24	-2.6	-0.1	54	5 45.7	38.1	24	-2.1	-0.1
55	18 37.7	60.3	30	-3.7	-0.1	55	11 36.3	49.3	30	-3.2	-0.1	55	5 40.4	37.9	30	-2.6	-0.1
56	18 30.2	60.1	36	-4.5	-0.1	56	11 29.8	49.1	36	-3.9	-0.1	56	5 35.1	37.7	36	-3.2	-0.1
57	18 22.7	59.9	42	-5.2	-0.1	57	11 23.3	48.9	42	-4.5	-0.1	57	5 29.8	37.5	42	-3.7	-0.1
58	18 15.3	59.8	48	-6.0	-0.2	58	11 16.8	48.8	48	-5.2	-0.1	58	5 24.6	37.4	48	-4.2	-0.2
59	18 7.9	59.6	54	-6.7	-0.2	59	11 10.3	48.6	54	-5.8	-0.2	59	5 19.4	37.2	54	-4.8	-0.2
m Std- wkl.	Höhe	Azimet	Δt	Δh	ΔA	m Std- wkl.	Höhe	Azimet	Δt	Δh	ΔA	m Std- wkl.	Höhe	Azimet	Δt	Δh	ΔA
	6. Stunde						7. Stunde						8. Stunde				
Δh	1920-1925	1925-1930	1930-1935			Δh	1920-1925	1925-1930	1930-1935			Δh	1920-1925	1925-1930	1930-1935		
ΔA	—	—	—			ΔA	—	—	—			ΔA	—	—	—		

 α 1917 = 7^h 29^m 20^s Jährliche Änderung + 3^s8

55°N

α Geminorum (Castor)

55°N

Std- wkl. m.	9. Stunde					Std- wkl. m.	10. Stunde				
	Höhe	Azimut	Δt	Δh	ΔA		Höhe	Azimut	Δt	Δh	ΔA
0	5°14'2	37°0	sek			0	0°48'2	25°1	sek		
1	5 9.0	36.8	6	-0.5	0.0	1	0 44.6	24.9	6	-0.3	0.0
2	5 3.9	36.6	12	-1.0	0.0	2	0 41.0	24.7	12	-0.7	0.0
3	4 58.8	36.4	18	-1.5	-0.1	3	0 37.4	24.5	18	-1.0	-0.1
4	4 53.7	36.2	24	-2.0	-0.1	4	0 33.9	24.3	24	-1.4	-0.1
5	4 48.6	36.0	30	-2.6	-0.1	5	0 30.4	24.1	30	-1.7	-0.1
6	4 43.6	35.8	36	-3.1	-0.1	6	0 26.9	23.9	36	-2.1	-0.1
7	4 38.5	35.6	42	-3.6	-0.1	7	0 23.4	23.7	42	-2.4	-0.1
8	4 33.5	35.4	48	-4.1	-0.2	8	0 20.0	23.4	48	-2.8	-0.2
9	4 28.5	35.2	54	-4.6	-0.2	9	0 16.6	23.2	54	-3.1	-0.2
10	4 23.6	35.0				10	0 13.2	23.0			
11	4 18.7	34.8	6	-0.5	0.0	11	0 9.8	22.8			
12	4 13.8	34.6	12	-1.0	0.0	12	0 6.5	22.6			
13	4 8.9	34.4	18	-1.4	-0.1	13	0 3.2	22.4			
14	4 4.1	34.2	24	-1.9	-0.1	14	0 0.0	22.2			
15	3 59.2	34.0	30	-2.4	-0.1						
16	3 54.4	33.8	36	-2.9	-0.1						
17	3 49.6	33.6	42	-3.4	-0.1						
18	3 44.9	33.5	48	-3.8	-0.2						
19	3 40.1	33.3	54	-4.3	-0.2						
20	3 35.4	33.1									
21	3 30.7	32.9	6	-0.4	0.0						
22	3 26.1	32.7	12	-0.9	0.0						
23	3 21.4	32.5	18	-1.3	-0.1						
24	3 16.8	32.3	24	-1.8	-0.1						
25	3 12.2	32.1	30	-2.2	-0.1						
26	3 7.7	31.9	36	-2.7	-0.1						
27	3 3.2	31.7	42	-3.1	-0.1						
28	2 58.7	31.5	48	-3.6	-0.2						
29	2 54.2	31.3	54	-4.0	-0.2						
30	2 49.8	31.1									
31	2 45.3	30.9	6	-0.4	0.0						
32	2 40.9	30.7	12	-0.9	0.0						
33	2 36.5	30.5	18	-1.3	-0.1						
34	2 32.2	30.3	24	-1.7	-0.1						
35	2 27.8	30.1	30	-2.1	-0.1						
36	2 23.5	29.9	36	-2.6	-0.1						
37	2 19.2	29.7	42	-3.0	-0.1						
38	2 15.0	29.5	48	-3.4	-0.2						
39	2 10.8	29.3	54	-3.9	-0.2						
40	2 6.6	29.1									
41	2 2.4	28.9	6	-0.4	0.0						
42	1 58.3	28.7	12	-0.8	0.0						
43	1 54.2	28.5	18	-1.2	-0.1						
44	1 50.1	28.3	24	-1.6	-0.1						
45	1 46.0	28.1	30	-2.0	-0.1						
46	1 42.0	27.9	36	-2.5	-0.1						
47	1 38.0	27.7	42	-2.9	-0.1						
48	1 34.0	27.5	48	-3.3	-0.2						
49	1 30.0	27.3	54	-3.7	-0.2						
50	1 26.1	27.1									
51	1 22.2	26.9	6	-0.4	0.0						
52	1 18.3	26.7	12	-0.8	0.0						
53	1 14.4	26.5	18	-1.1	-0.1						
54	1 10.6	26.3	24	-1.5	-0.1						
55	1 6.8	26.1	30	-1.9	-0.1						
56	1 3.0	25.9	36	-2.3	-0.1						
57	0 59.3	25.7	42	-2.7	-0.1						
58	0 55.6	25.5	48	-3.0	-0.2						
59	0 51.9	25.3	54	-3.4	-0.2						
^m Std- wkl.	Höhe	Azimut	Δt	Δh	ΔA						
	9. Stunde						10. Stunde				

- ↳ Ursae majoris (Dubhe)
- ↳ Ursae majoris
- ↳ Ursae majoris (Alioth)
- ↳ Ursae majoris (Mizar)
- ↳ Ursae majoris Benetnasch)
- ↳ Ursae minoris (Kochab)
- ↳ Draconis
- ↳ Lyrae (Weğa)
- ↳ Cygni
- ↳ Cygni (Deneb)
- ↳ Cephei
- ↳ Ursae minoris (Nordstern)

	1920-1925	1925-1930	1930-1935		1920-1925	1925-1930	1930-1935
Δh	-0'6	-1'2	-1'8	Δh	-0'6	-1'2	-1'8
ΔA	—	—	—	ΔA	—	—	—

α 1917 = 7^h 29^m 20^s Jährliche Änderung +3^s 8

55°N

 α Ursae majoris (Dubhe)

55°N

Std. wkl. m.	1. Stunde					Std. wkl. m.	2. Stunde				
	Höhe	Azimut	Δt	Δh	ΔA		Höhe	Azimut	Δt	Δh	ΔA
0	79° 25.3	41° 1	sek			0	72° 59.7	52° 9	sek		
1	79 19.7	41.5	6	-0.6	0.0	1	72 52.9	53.0	6	-0.7	
2	79 14.0	41.8	12	-1.2	0.1	2	72 46.0	53.0	12	-1.4	
3	79 8.2	42.2	18	-1.7	-0.1	3	72 39.1	53.1	18	-2.1	
4	79 2.4	42.5	24	-2.3	-0.1	4	72 32.2	53.1	24	-2.8	
5	78 56.6	42.9	30	-2.9	-0.2	5	72 25.3	53.2	30	-3.5	
6	78 50.7	43.2	36	-3.5	-0.2	6	72 18.4	53.3	36	-4.1	
7	78 44.8	43.5	42	-4.1	-0.2	7	72 11.5	53.3	42	-4.8	
8	78 38.8	43.9	48	-4.6	-0.3	8	72 4.6	53.4	48	-5.5	
9	78 32.8	44.2	54	-5.2	-0.3	9	71 57.7	53.4	54	-6.2	
10	78 26.8	44.5				10	71 50.8	53.5			
11	78 20.8	44.8	6	-0.6	0.0	11	71 43.9	53.5	6	-0.7	
12	78 14.7	45.1	12	-1.2	0.0	12	71 36.9	53.6	12	-1.4	
13	78 8.6	45.3	18	-1.9	-0.1	13	71 30.0	53.6	18	-2.1	
14	78 2.4	45.6	24	-2.5	-0.1	14	71 23.1	53.7	24	-2.8	
15	77 56.3	45.9	30	-3.1	-0.1	15	71 16.2	53.7	30	-3.5	
16	77 50.1	46.1	36	-3.7	-0.1	16	71 9.2	53.8	36	-4.2	
17	77 43.9	46.4	42	-4.3	-0.2	17	71 2.3	53.8	42	-4.9	
18	77 37.7	46.6	48	-5.0	-0.2	18	70 55.3	53.9	48	-5.6	
19	77 31.4	46.9	54	-5.6	-0.2	19	70 48.4	53.9	54	-6.3	
20	77 25.1	47.1				20	70 41.4	54.0			
21	77 18.8	47.3	6	-0.6	0.0	21	70 34.5	54.0	6	-0.7	
22	77 12.4	47.5	12	-1.3	0.0	22	70 27.5	54.0	12	-1.4	
23	77 6.1	47.8	18	-1.9	-0.1	23	70 20.5	54.1	18	-2.1	
24	76 59.7	48.0	24	-2.6	-0.1	24	70 13.5	54.1	24	-2.8	
25	76 53.3	48.2	30	-3.2	-0.1	25	70 6.6	54.1	30	-3.5	
26	76 46.9	48.4	36	-3.8	-0.1	26	69 59.6	54.2	36	-4.2	
27	76 40.5	48.6	42	-4.5	-0.1	27	69 52.6	54.2	42	-4.9	
28	76 34.0	48.8	48	-5.1	-0.2	28	69 45.6	54.2	48	-5.6	
29	76 27.5	49.0	54	-5.8	-0.2	29	69 38.6	54.3	54	-6.3	
30	76 21.0	49.2				30	69 31.6	54.3			
31	76 14.5	49.4	6	-0.7	0.0	31	69 24.6	54.3	6	-0.7	
32	76 8.0	49.5	12	-1.3	0.0	32	69 17.6	54.3	12	-1.4	
33	76 1.5	49.7	18	-2.0	-0.1	33	69 10.6	54.3	18	-2.1	
34	75 54.9	49.8	24	-2.6	-0.1	34	69 3.6	54.3	24	-2.8	
35	75 48.3	50.0	30	-3.3	-0.1	35	68 56.6	54.3	30	-3.5	
36	75 41.7	50.2	36	-4.0	-0.1	36	68 49.7	54.4	36	-4.2	
37	75 35.1	50.3	42	-4.6	-0.1	37	68 42.7	54.4	42	-4.9	
38	75 28.4	50.5	48	-5.3	-0.2	38	68 35.7	54.4	48	-5.6	
39	75 21.8	50.6	54	-5.9	-0.2	39	68 28.7	54.4	54	-6.3	
40	75 15.1	50.8				40	68 21.7	54.4			
41	75 8.5	50.9	6	-0.7		41	68 14.7	54.4	6	-0.7	
42	75 1.8	51.0	12	-1.3		42	68 7.7	54.4	12	-1.4	
43	74 55.1	51.2	18	-2.0		43	68 0.7	54.4	18	-2.1	
44	74 48.4	51.3	24	-2.7		44	67 53.7	54.4	24	-2.8	
45	74 41.7	51.4	30	-3.3		45	67 46.7	54.4	30	-3.5	
46	74 34.9	51.5	36	-4.0		46	67 39.7	54.4	36	-4.2	
47	74 28.2	51.6	42	-4.7		47	67 32.7	54.4	42	-4.9	
48	74 21.4	51.8	48	-5.4		48	67 25.7	54.4	48	-5.6	
49	74 14.7	51.9	54	-6.0		49	67 18.7	54.4	54	-6.3	
50	74 7.9	52.0				50	67 11.7	54.4			
51	74 1.1	52.1	6	-0.7		51	67 4.7	54.4	6	-0.7	
52	73 54.3	52.2	12	-1.4		52	66 57.7	54.4	12	-1.4	
53	73 47.5	52.3	18	-2.0		53	66 50.7	54.4	18	-2.1	
54	73 40.7	52.4	24	-2.7		54	66 43.7	54.4	24	-2.8	
55	73 33.9	52.5	30	-3.4		55	66 36.7	54.4	30	-3.5	
56	73 27.1	52.6	36	-4.1		56	66 29.8	54.4	36	-4.2	
57	73 20.3	52.7	42	-4.8		57	66 22.8	54.4	42	-4.9	
58	73 13.4	52.7	48	-5.4		58	66 15.8	54.3	48	-5.6	
59	73 6.6	52.8	54	-6.1		59	66 8.8	54.3	54	-6.3	
m Std. wkl.	Höhe	Azimut	Δt	Δh	ΔA	m Std. wkl.	Höhe	Azimut	Δt	Δh	ΔA
	1. Stunde						2. Stunde				

	1920-1925	1925-1930	1930-1935		1920-1925	1925-1930	1930-1935
Δh	+ 0.6	+ 1.2	+ 1.7	Δh	+ 0.1	+ 0.2	+ 0.3
ΔA	+ 0.1	+ 0.2	+ 0.3	ΔA	+ 0.1	+ 0.2	+ 0.2

55°N

α Ursae majoris (Dubhe)

55°N

Std. wkl. m.	3. Stunde					Std. wkl. m.	4. Stunde					Std. wkl. m.	5. Stunde				
	Höhe	Azimet	Δt	Δh	ΔA		Höhe	Azimet	Δt	Δh	ΔA		Höhe	Azimet	Δt	Δh	ΔA
0	66° 1'8	54° 3	sek			0	59° 7'9	51° 99	sek		0	52° 32'7	47° 98	sek			
1	65 54.8	54.3	6	-0.7		1	59 1.1	51.8	6	-0.7	1	52 26.3	47.7	6	-0.6		
2	65 47.9	54.3	12	-1.4		2	58 54.4	51.8	12	-1.3	2	52 19.9	47.6	12	-1.3		
3	65 40.9	54.2	18	-2.1		3	58 47.6	51.7	18	-2.0	3	52 13.5	47.6	18	-1.9		
4	65 33.9	54.2	24	-2.8		4	58 40.9	51.7	24	-2.7	4	52 7.2	47.5	24	-2.5		
5	65 26.9	54.2	30	-3.5		5	58 34.1	51.6	30	-3.3	5	52 0.9	47.4	30	-3.2		
6	65 19.9	54.2	36	-4.2		6	58 27.4	51.5	36	-4.0	6	51 54.6	47.3	36	-3.8		
7	65 12.9	54.2	42	-4.9		7	58 20.6	51.5	42	-4.7	7	51 48.3	47.2	42	-4.4		
8	65 6.0	54.1	48	-5.6		8	58 13.9	51.4	48	-5.4	8	51 42.0	47.2	48	-5.1		
9	64 59.0	54.1	54	-6.3		9	58 7.1	51.4	54	-6.0	9	51 35.7	47.1	54	-5.7		
10	64 52.0	54.1				10	58 0.4	51.3			10	51 29.4	47.0				
11	64 45.0	54.1	6	-0.7		11	57 53.7	51.2	6	-0.7	11	51 23.1	46.9	6	-0.6		
12	64 38.1	54.0	12	-1.4		12	57 47.0	51.2	12	-1.3	12	51 16.8	46.8	12	-1.2		
13	64 31.1	54.0	18	-2.1		13	57 40.3	51.1	18	-2.0	13	51 10.5	46.8	18	-1.9		
14	64 24.2	54.0	24	-2.8		14	57 33.6	51.1	24	-2.7	14	51 4.2	46.7	24	-2.5		
15	64 17.2	54.0	30	-3.5		15	57 26.9	51.0	30	-3.3	15	50 57.9	46.6	30	-3.1		
16	64 10.3	53.9	36	-4.2		16	57 20.3	50.9	36	-4.0	16	50 51.7	46.5	36	-3.7		
17	64 3.3	53.9	42	-4.9		17	57 13.6	50.9	42	-4.7	17	50 45.4	46.4	42	-4.4		
18	63 56.4	53.9	48	-5.6		18	57 6.9	50.8	48	-5.3	18	50 39.2	46.4	48	-5.0		
19	63 49.4	53.8	54	-6.3		19	57 0.2	50.8	54	-6.0	19	50 33.0	46.3	54	-5.6		
20	63 42.5	53.8				20	56 53.6	50.7			20	50 26.8	46.2				
21	63 35.5	53.8	6	-0.7		21	56 46.9	50.6	6	-0.7	21	50 20.6	46.1	6	-0.6		
22	63 28.6	53.7	12	-1.4		22	56 40.3	50.6	12	-1.3	22	50 14.4	46.0	12	-1.2		
23	63 21.7	53.7	18	-2.1		23	56 33.6	50.5	18	-2.0	23	50 8.2	46.0	18	-1.8		
24	63 14.8	53.6	24	-2.8		24	56 27.0	50.5	24	-2.7	24	50 2.1	45.9	24	-2.5		
25	63 7.9	53.6	30	-3.5		25	56 20.3	50.4	30	-3.3	25	49 55.9	45.8	30	-3.1		
26	63 0.9	53.6	36	-4.2		26	56 13.7	50.3	36	-4.0	26	49 49.8	45.7	36	-3.7		
27	62 54.0	53.5	42	-4.9		27	56 7.1	50.2	42	-4.7	27	49 43.6	45.6	42	-4.3		
28	62 47.1	53.5	48	-5.6		28	56 0.5	50.2	48	-5.3	28	49 37.5	45.5	48	-4.9		
29	62 40.2	53.4	54	-6.3		29	55 53.9	50.1	54	-6.0	29	49 31.3	45.4	54	-5.5		
30	62 33.3	53.4				30	55 47.3	50.0			30	49 25.2	45.3				
31	62 26.4	53.4	6	-0.7		31	55 40.7	49.9	6	-0.7	31	49 19.1	45.2	6	-0.6		
32	62 19.5	53.3	12	-1.4		32	55 34.1	49.9	12	-1.3	32	49 13.0	45.1	12	-1.2		
33	62 12.6	53.3	18	-2.1		33	55 27.5	49.8	18	-2.0	33	49 6.9	45.1	18	-1.8		
34	62 5.7	53.2	24	-2.8		34	55 21.0	49.8	24	-2.6	34	49 0.8	45.0	24	-2.4		
35	61 58.8	53.2	30	-3.5		35	55 14.4	49.7	30	-3.3	35	48 54.7	44.9	30	-3.0		
36	61 51.9	53.2	36	-4.1		36	55 7.9	49.6	36	-3.9	36	48 48.7	44.8	36	-3.6		
37	61 45.0	53.1	42	-4.8		37	55 1.3	49.5	42	-4.6	37	48 42.6	44.7	42	-4.2		
38	61 38.1	53.1	48	-5.5		38	54 54.8	49.5	48	-5.2	38	48 36.6	44.6	48	-4.8		
39	61 31.2	53.0	54	-6.2		39	54 48.2	49.4	54	-5.9	39	48 30.5	44.5	54	-5.4		
40	61 24.4	53.0				40	54 41.7	49.3			40	48 24.5	44.4				
41	61 17.5	52.9	6	-0.7		41	54 35.2	49.2	6	-0.6	41	48 18.5	44.3	6	-0.6		
42	61 10.7	52.9	12	-1.4		42	54 28.7	49.2	12	-1.3	42	48 12.5	44.2	12	-1.2		
43	61 3.8	52.8	18	-2.1		43	54 22.2	49.1	18	-1.9	43	48 6.5	44.2	18	-1.8		
44	60 57.0	52.8	24	-2.8		44	54 15.7	49.1	24	-2.6	44	48 0.5	44.1	24	-2.4		
45	60 50.1	52.7	30	-3.5		45	54 9.2	49.0	30	-3.2	45	47 54.5	44.0	30	-3.0		
46	60 43.3	52.7	36	-4.1		46	54 2.7	48.9	36	-3.9	46	47 48.6	43.9	36	-3.6		
47	60 36.4	52.6	42	-4.8		47	53 56.2	48.8	42	-4.5	47	47 42.6	43.8	42	-4.2		
48	60 29.6	52.6	48	-5.5		48	53 49.7	48.8	48	-5.2	48	47 36.7	43.8	48	-4.8		
49	60 22.7	52.5	54	-6.2		49	53 43.2	48.7	54	-5.8	49	47 30.7	43.7	54	-5.4		
50	60 15.9	52.5				50	53 36.8	48.6			50	47 24.8	43.6				
51	60 9.1	52.4	6	-0.7		51	53 30.3	48.5	6	-0.6	51	47 18.9	43.5	6	-0.6		
52	60 2.3	52.4	12	-1.4		52	53 23.9	48.4	12	-1.3	52	47 13.0	43.4	12	-1.2		
53	59 55.5	52.3	18	-2.0		53	53 17.4	48.4	18	-1.9	53	47 7.1	43.3	18	-1.8		
54	59 48.7	52.2	24	-2.7		54	53 11.0	48.3	24	-2.6	54	47 1.2	43.2	24	-2.4		
55	59 41.9	52.2	30	-3.4		55	53 4.6	48.2	30	-3.2	55	46 55.3	43.1	30	-3.0		
56	59 35.1	52.1	36	-4.1		56	52 58.2	48.1	36	-3.8	56	46 49.4	43.0	36	-3.5		
57	59 28.3	52.1	42	-4.8		57	52 51.8	48.0	42	-4.5	57	46 43.5	42.9	42	-4.1		
58	59 21.5	52.0	48	-5.4		58	52 45.4	48.0	48	-5.1	58	46 37.7	42.8	48	-4.7		
59	59 14.7	52.0	54	-6.1		59	52 39.0	47.9	54	-5.8	59	46 31.9	42.7	54	-5.3		

α Ursae majoris (Dubhe)

Ursae majoris

Irsae majoris (Alioth)

Ursae majoris (Mizar)

Irsae majoris Benetnasch)

Ursae minoris (Kochab)

γ Draconis

α Lyrae (Weğa)

γ Cygni

α Cygni (Deneb)

α Cephei

Ursae minoris (Nordstern)

3. Stunde			4. Stunde			5. Stunde		
Δh	ΔA		Δh	ΔA		Δh	ΔA	
1920-1925	1925-1930	1930-1935	1920-1925	1925-1930	1930-1935	1920-1925	1925-1930	1930-1935
-0.2	-0.5	-0.7	-0.5	-1.1	-1.6	-0.8	-1.6	-2.3
+0.1	+0.1	+0.2	—	+0.1	+0.1	—	+0.1	+0.1

55°N

a Ursae majoris (Dubhe)

55°N

Std. wkl. m.	6. Stunde					Std. wkl. m.	7. Stunde					Std. wkl. m.	8. Stunde				
	Höhe	Azimit	Δt	Δh	ΔA		Höhe	Azimit	Δt	Δh	ΔA		Höhe	Azimit	Δt	Δh	ΔA
0	46° 26.1	42° 6	sek			0	40° 56.7	36° 6	sek			0	36° 12.9	30° 0	sek		
1	46 20.2	42.5	6	-0.6		1	40 51.6	36.5	6	-0.5		1	36 8.6	29.9	6	-0.4	
2	46 14.4	42.4	12	-1.2		2	40 46.5	36.4	12	-1.0		2	36 4.3	29.8	12	-0.8	
3	46 8.6	42.3	18	-1.7		3	40 41.4	36.3	18	-1.5		3	36 0.0	29.7	18	-1.3	
4	46 2.8	42.2	24	-2.3		4	40 36.3	36.2	24	-2.0		4	35 55.8	29.6	24	-1.7	
5	45 57.0	42.1	30	-2.9		5	40 31.2	36.1	30	-2.5		5	35 51.5	29.5	30	-2.1	
6	45 51.3	42.0	36	-3.5		6	40 26.2	36.0	36	-3.0		6	35 47.3	29.4	36	-2.5	
7	45 45.5	41.9	42	-4.1		7	40 21.1	35.9	42	-3.5		7	35 43.1	29.3	42	-2.9	
8	45 39.8	41.8	48	-4.6		8	40 16.1	35.7	48	-4.0		8	35 38.9	29.1	48	-3.4	
9	45 34.0	41.7	54	-5.2		9	40 11.1	35.6	54	-4.5		9	35 34.7	29.0	54	-3.8	
10	45 28.3	41.6				10	40 6.1	35.5				10	35 30.6	28.9			
11	45 22.6	41.5	6	-0.6		11	40 1.1	35.4	6	-0.5		11	35 26.4	28.8	6	-0.4	
12	45 16.9	41.4	12	-1.1		12	39 56.1	35.3	12	-1.0		12	35 22.3	28.7	12	-0.8	
13	45 11.2	41.3	18	-1.7		13	39 51.1	35.2	18	-1.5		13	35 18.2	28.5	18	-1.2	
14	45 5.5	41.2	24	-2.3		14	39 46.2	35.1	24	-2.0		14	35 14.1	28.4	24	-1.6	
15	44 59.8	41.2	30	-2.8		15	39 41.2	35.0	30	-2.5		15	35 10.0	28.3	30	-2.0	
16	44 54.2	41.1	36	-3.4		16	39 36.3	34.9	36	-3.0		16	35 5.9	28.2	36	-2.5	
17	44 48.5	41.0	42	-4.0		17	39 31.4	34.8	42	-3.5		17	35 1.8	28.1	42	-2.9	
18	44 42.9	40.9	48	-4.6		18	39 26.5	34.7	48	-4.0		18	34 57.8	27.9	48	-3.3	
19	44 37.3	40.8	54	-5.1		19	39 21.6	34.6	54	-4.5		19	34 53.7	27.8	54	-3.7	
20	44 31.7	40.7				20	39 16.7	34.5				20	34 49.7	27.7			
21	44 26.1	40.6	6	-0.6		21	39 11.8	34.4	6	-0.5		21	34 45.7	27.6	6	-0.4	
22	44 20.5	40.5	12	-1.1		22	39 7.0	34.3	12	-1.0		22	34 41.8	27.5	12	-0.8	
23	44 14.9	40.4	18	-1.7		23	39 2.1	34.2	18	-1.4		23	34 37.8	27.4	18	-1.2	
24	44 9.4	40.3	24	-2.2		24	38 57.3	34.1	24	-1.9		24	34 33.9	27.3	24	-1.6	
25	44 3.8	40.2	30	-2.8		25	38 52.5	34.0	30	-2.4		25	34 29.9	27.2	30	-2.0	
26	43 58.3	40.1	36	-3.4		26	38 47.7	33.9	36	-2.9		26	34 26.0	27.1	36	-2.3	
27	43 52.7	40.0	42	-3.9		27	38 42.9	33.8	42	-3.4		27	34 22.1	27.0	42	-2.7	
28	43 47.2	39.9	48	-4.5		28	38 38.1	33.6	48	-3.8		28	34 18.2	26.8	48	-3.1	
29	43 41.7	39.8	54	-5.0		29	38 33.3	33.5	54	-4.3		29	34 14.3	26.7	54	-3.5	
30	43 36.2	39.7				30	38 28.6	33.4				30	34 10.5	26.6			
31	43 30.7	39.6	6	-0.5		31	38 23.9	33.3	6	-0.5		31	34 6.6	26.5	6	-0.4	
32	43 25.2	39.5	12	-1.1		32	38 19.2	33.2	12	-0.9		32	34 2.8	26.4	12	-0.8	
33	43 19.7	39.4	18	-1.6		33	38 14.5	33.1	18	-1.4		33	33 59.0	26.2	18	-1.1	
34	43 14.3	39.3	24	-2.2		34	38 9.8	33.0	24	-1.9		34	33 55.2	26.1	24	-1.5	
35	43 8.8	39.2	30	-2.7		35	38 5.1	32.9	30	-2.3		35	33 51.4	26.0	30	-1.9	
36	43 3.4	39.1	36	-3.3		36	38 0.5	32.8	36	-2.8		36	33 47.7	25.9	36	-2.3	
37	42 58.0	39.0	42	-3.8		37	37 55.8	32.7	42	-3.3		37	33 43.9	25.8	42	-2.7	
38	42 52.6	38.9	48	-4.4		38	37 51.2	32.6	48	-3.7		38	33 40.2	25.7	48	-3.0	
39	42 47.2	38.8	54	-4.9		39	37 46.6	32.4	54	-4.2		39	33 36.5	25.5	54	-3.4	
40	42 41.8	38.7				40	37 42.0	32.3				40	33 32.8	25.4			
41	42 36.4	38.6	6	-0.5		41	37 37.4	32.2	6	-0.4		41	33 29.1	25.3	6	-0.4	
42	42 31.1	38.5	12	-1.1		42	37 32.8	32.1	12	-0.9		42	33 25.5	25.2	12	-0.7	
43	42 25.7	38.4	18	-1.6		43	37 28.2	32.0	18	-1.3		43	33 21.8	25.0	18	-1.1	
44	42 20.4	38.3	24	-2.1		44	37 23.7	31.9	24	-1.8		44	33 18.2	24.9	24	-1.4	
45	42 15.1	38.2	30	-2.6		45	37 19.1	31.8	30	-2.2		45	33 14.6	24.8	30	-1.8	
46	42 9.8	38.1	36	-3.2		46	37 14.6	31.7	36	-2.7		46	33 11.0	24.7	36	-2.2	
47	42 4.5	38.0	42	-3.7		47	37 10.1	31.6	42	-3.1		47	33 7.4	24.6	42	-2.5	
48	41 59.2	37.9	48	-4.2		48	37 5.6	31.4	48	-3.6		48	33 3.8	24.4	48	-2.9	
49	41 53.9	37.8	54	-4.8		49	37 1.1	31.3	54	-4.0		49	33 0.2	24.3	54	-3.2	
50	41 48.7	37.7				50	36 56.7	31.2				50	32 56.7	24.2			
51	41 43.4	37.6	6	-0.5		51	36 52.2	31.1	6	-0.4		51	32 53.2	24.1	6	-0.3	
52	41 38.2	37.5	12	-1.0		52	36 47.8	31.0	12	-0.9		52	32 49.7	24.0	12	-0.7	
53	41 33.0	37.4	18	-1.6		53	36 43.4	30.8	18	-1.3		53	32 46.2	23.8	18	-1.0	
54	41 27.8	37.3	24	-2.1		54	36 39.0	30.7	24	-1.8		54	32 42.8	23.7	24	-1.4	
55	41 22.6	37.2	30	-2.6		55	36 34.6	30.6	30	-2.2		55	32 39.3	23.6	30	-1.7	
56	41 17.4	37.1	36	-3.1		56	36 30.2	30.5	36	-2.6		56	32 35.9	23.5	36	-2.0	
57	41 12.2	37.0	42	-3.6		57	36 25.8	30.4	42	-3.1		57	32 32.5	23.4	42	-2.4	
58	41 7.0	36.9	48	-4.2		58	36 21.5	30.2	48	-3.5		58	32 29.1	23.2	48	-2.7	
59	41 1.8	36.8	54	-4.7		59	36 17.2	30.1	54	-4.0		59	32 25.7	23.1	54	-3.1	

6. Stunde			7. Stunde			8. Stunde		
Δh	ΔA		Δh	ΔA		Δh	ΔA	
1.0	—	—	1.2	—	—	1.3	—	—
2.0	—	—	2.3	—	—	2.7	—	—
2.9	—	—	3.5	—	—	4.0	—	—
—	—	0.1	—	—	0.1	—	—	—

a 1917 = 10^b 58^m 39^s Jährliche Änderung + 3^s.7

55°N

α Ursae majoris (Dubhe)

55°N

Std-wkl. m.	9. Stunde					Std-wkl. m.	10. Stunde					Std-wkl. m.	11. Stunde				
	Höhe	Azimet	Δt	Δh	ΔA		Höhe	Azimet	Δt	Δh	ΔA		Höhe	Azimet	Δt	Δh	ΔA
0	32°22.3	22°0	sek			0	29°31.8	15°5	sek			0	27°47.1	7°8	sek		
1	32 18.9	22.9	6	-0.3		1	29 29.5	15.4	6	-0.2		1	27 45.9	7.7	6	-0.1	
2	32 15.6	22.8	12	-0.7		2	29 27.3	15.3	12	-0.4		2	27 44.8	7.6	12	-0.2	
3	32 12.3	22.6	18	-1.0		3	29 25.0	15.1	18	-0.7		3	27 43.7	7.4	18	-0.3	
4	32 9.0	22.5	24	-1.3		4	29 22.8	15.0	24	-0.9		4	27 42.6	7.3	24	-0.4	
5	32 5.7	22.4	30	-1.6		5	29 20.6	14.9	30	-1.1		5	27 41.5	7.2	30	-0.5	
6	32 2.5	22.3	36	-2.0		6	29 18.4	14.8	36	-1.3		6	27 40.5	7.1	36	-0.7	
7	31 59.2	22.2	42	-2.3		7	29 16.2	14.7	42	-1.5		7	27 39.4	6.9	42	-0.8	
8	31 56.0	22.0	48	-2.6		8	29 14.0	14.5	48	-1.8		8	27 38.4	6.8	48	-0.9	
9	31 52.8	21.9	54	-3.0		9	29 11.8	14.4	54	-2.0		9	27 37.4	6.6	54	-1.0	
10	31 49.6	21.8				10	29 9.7	14.3				10	27 36.4	6.5			
11	31 46.4	21.7	6	-0.3		11	29 7.6	14.2	6	-0.2		11	27 35.4	6.4	6	-0.1	
12	31 43.2	21.6	12	-0.6		12	29 5.5	14.1	12	-0.4		12	27 34.4	6.3	12	-0.2	
13	31 40.0	21.4	18	-0.9		13	29 3.4	13.9	18	-0.6		13	27 33.5	6.1	18	-0.3	
14	31 36.9	21.3	24	-1.2		14	29 1.4	13.8	24	-0.8		14	27 32.6	6.0	24	-0.4	
15	31 33.8	21.2	30	-1.5		15	28 59.3	13.7	30	-1.0		15	27 31.7	5.9	30	-0.5	
16	31 30.7	21.1	36	-1.9		16	28 57.3	13.6	36	-1.2		16	27 30.8	5.8	36	-0.5	
17	31 27.6	20.9	42	-2.2		17	28 55.3	13.4	42	-1.4		17	27 29.9	5.6	42	-0.6	
18	31 24.6	20.8	48	-2.5		18	28 53.3	13.3	48	-1.6		18	27 29.1	5.5	48	-0.7	
19	31 21.5	20.6	54	-2.8		19	28 51.3	13.1	54	-1.8		19	27 28.3	5.3	54	-0.8	
20	31 18.5	20.5				20	28 49.4	13.0				20	27 27.5	5.2			
21	31 15.5	20.4	6	-0.3		21	28 47.5	12.9	6	-0.2		21	27 26.7	5.1	6	-0.1	
22	31 12.5	20.3	12	-0.6		22	28 45.6	12.8	12	-0.4		22	27 26.0	5.0	12	-0.1	
23	31 9.5	20.1	18	-0.9		23	28 43.7	12.6	18	-0.5		23	27 25.2	4.8	18	-0.2	
24	31 6.5	20.0	24	-1.2		24	28 41.8	12.5	24	-0.7		24	27 24.5	4.7	24	-0.3	
25	31 3.6	19.9	30	-1.5		25	28 39.9	12.4	30	-0.9		25	27 23.8	4.6	30	-0.3	
26	31 0.7	19.8	36	-1.7		26	28 38.1	12.3	36	-1.1		26	27 23.2	4.5	36	-0.4	
27	30 57.8	19.7	42	-2.0		27	28 36.3	12.1	42	-1.3		27	27 22.5	4.3	42	-0.5	
28	30 54.9	19.5	48	-2.3		28	28 34.5	12.0	48	-1.4		28	27 21.9	4.2	48	-0.6	
29	30 52.0	19.4	54	-2.6		29	28 32.7	11.8	54	-1.6		29	27 21.3	4.0	54	-0.6	
30	30 49.2	19.3				30	28 31.0	11.7				30	27 20.7	3.9			
31	30 46.3	19.2	6	-0.3		31	28 29.2	11.6	6	-0.2		31	27 20.1	3.8	6	-0.0	
32	30 43.5	19.1	12	-0.6		32	28 27.5	11.5	12	-0.3		32	27 19.5	3.7	12	-0.1	
33	30 40.7	18.9	18	-0.8		33	28 25.8	11.3	18	-0.5		33	27 19.0	3.5	18	-0.1	
34	30 37.9	18.8	24	-1.1		34	28 24.1	11.2	24	-0.7		34	27 18.5	3.4	24	-0.2	
35	30 35.1	18.7	30	-1.4		35	28 22.4	11.1	30	-0.8		35	27 18.0	3.3	30	-0.2	
36	30 32.4	18.6	36	-1.7		36	28 20.8	11.0	36	-1.0		36	27 17.5	3.2	36	-0.3	
37	30 29.7	18.5	42	-2.0		37	28 19.2	10.8	42	-1.2		37	27 17.0	3.0	42	-0.3	
38	30 27.0	18.3	48	-2.2		38	28 17.6	10.7	48	-1.4		38	27 16.6	2.9	48	-0.4	
39	30 24.3	18.2	54	-2.5		39	28 16.0	10.5	54	-1.5		39	27 16.1	2.7	54	-0.4	
40	30 21.6	18.1				40	28 14.4	10.4				40	27 15.7	2.6			
41	30 18.9	18.0	6	-0.3		41	28 12.9	10.3	6	-0.1		41	27 15.3	2.5	6	-0.0	
42	30 16.3	17.9	12	-0.5		42	28 11.4	10.2	12	-0.3		42	27 15.0	2.4	12	-0.1	
43	30 13.7	17.7	18	-0.8		43	28 9.9	10.1	18	-0.4		43	27 14.6	2.2	18	-0.1	
44	30 11.1	17.6	24	-1.0		44	28 8.4	9.9	24	-0.6		44	27 14.3	2.1	24	-0.1	
45	30 8.5	17.5	30	-1.3		45	28 6.9	9.8	30	-0.7		45	27 14.0	2.0	30	-0.1	
46	30 5.9	17.4	36	-1.6		46	28 5.5	9.7	36	-0.9		46	27 13.7	1.9	36	-0.2	
47	30 3.3	17.2	42	-1.8		47	28 4.0	9.5	42	-1.0		47	27 13.4	1.8	42	-0.2	
48	30 0.8	17.1	48	-2.1		48	28 2.6	9.4	48	-1.2		48	27 13.2	1.6	48	-0.2	
49	29 58.3	16.9	54	-2.3		49	28 1.2	9.2	54	-1.3		49	27 13.0	1.4	54	-0.3	
50	29 55.8	16.8				50	27 59.8	9.1				50	27 12.8	1.3			
51	29 53.3	16.7	6	-0.2		51	27 58.4	9.0	6	-0.1		51	27 12.6	1.2	6	-0.0	
52	29 50.9	16.6	12	-0.5		52	27 57.1	8.9	12	-0.3		52	27 12.4	1.1	12	-0.0	
53	29 48.4	16.4	18	-0.7		53	27 55.8	8.7	18	-0.4		53	27 12.3	0.9	18	-0.0	
54	29 46.0	16.3	24	-1.0		54	27 54.5	8.6	24	-0.5		54	27 12.2	0.8	24	-0.0	
55	29 43.6	16.2	30	-1.2		55	27 53.2	8.5	30	-0.6		55	27 12.1	0.7	30	-0.1	
56	29 41.2	16.1	36	-1.4		56	27 52.0	8.4	36	-0.8		56	27 12.0	0.6	36	-0.1	
57	29 38.8	15.9	42	-1.7		57	27 50.7	8.2	42	-0.9		57	27 11.9	0.4	42	-0.1	
58	29 36.5	15.8	48	-1.9		58	27 49.5	8.1	48	-1.0		58	27 11.9	0.3	48	-0.1	
59	29 34.1	15.6	54	-2.2		59	27 48.3	7.9	54	-1.2		59	27 11.8	0.1	54	-0.1	

- Ursae majoris
- Ursae majoris (Alioth)
- Ursae majoris (Mizar)
- Ursae majoris Benetnasch)
- Ursae minoris (Kochab)
- γ Draconis
- α Lyrae (Weğa)
- γ Cygni
- α Cygni (Deneb)
- α Cephei
- Ursae minoris (Nordstern)

Std-wkl. m.	9. Stunde			Std-wkl. m.	10. Stunde			Std-wkl. m.	11. Stunde		
	Δh	ΔA			Δh	ΔA			Δh	ΔA	
	-0.5	-2.9	-4.4		-1.5	-3.1	-4.6		-1.6	-3.2	-4.8

α 1917 = 10^h 58^m 39^s Jährliche Änderung +3.7

55°N

γ Ursae majoris

55°N

Std- wkl. m.	1. Stunde					Std- wkl. m.	2. Stunde				
	Höhe	Azimet	Δt	Δh	ΔA		Höhe	Azimet	Δt	Δh	ΔA
0	81° 16.9	89° 4	sek			0	72° 43.5	80° 4	sek		
1	81 8.3	89.2	6	-0.9	0.0	1	72 35.0	80.3	6	-0.8	
2	80 59.7	89.0	12	-1.7	0.0	2	72 26.5	80.1	12	-1.7	
3	80 51.1	88.9	18	-2.6	-0.1	3	72 18.0	80.0	18	-2.5	
4	80 42.5	88.7	24	-3.4	-0.1	4	72 9.6	79.9	24	-3.4	
5	80 33.9	88.5	30	-4.3	-0.1	5	72 1.1	79.7	30	-4.2	
6	80 25.3	88.3	36	-5.2	-0.1	6	71 52.6	79.6	36	-5.1	
7	80 16.7	88.1	42	-6.0	-0.1	7	71 44.1	79.5	42	-5.9	
8	80 8.1	88.0	48	-6.9	-0.1	8	71 35.7	79.4	48	-6.8	
9	79 59.5	87.8	54	-7.7	-0.2	9	71 27.2	79.2	54	-7.7	
10	79 50.9	87.6				10	71 18.8	79.1			
11	79 42.3	87.4	6	-0.9	0.0	11	71 10.3	79.0	6	-0.8	
12	79 33.7	87.3	12	-1.7	0.0	12	71 1.9	78.9	12	-1.7	
13	79 25.1	87.1	18	-2.6	0.0	13	70 53.4	78.7	18	-2.5	
14	79 16.5	87.0	24	-3.4	-0.1	14	70 45.0	78.6	24	-3.4	
15	79 7.9	86.8	30	-4.3	-0.1	15	70 36.6	78.5	30	-4.2	
16	78 59.3	86.6	36	-5.2	-0.1	16	70 28.2	78.4	36	-5.1	
17	78 50.7	86.5	42	-6.0	-0.1	17	70 19.7	78.3	42	-5.9	
18	78 42.1	86.3	48	-6.9	-0.1	18	70 11.3	78.1	48	-6.8	
19	78 33.5	86.2	54	-7.7	-0.1	19	70 2.9	78.0	54	-7.6	
20	78 25.0	86.0				20	69 54.5	77.9			
21	78 16.4	85.8	6	-0.9	0.0	21	69 46.1	77.8	6	-0.8	
22	78 7.8	85.7	12	-1.7	0.0	22	69 37.7	77.7	12	-1.7	
23	77 59.2	85.5	18	-2.6	0.0	23	69 29.3	77.5	18	-2.5	
24	77 50.7	85.4	24	-3.4	-0.1	24	69 20.9	77.4	24	-3.4	
25	77 42.1	85.2	30	-4.3	-0.1	25	69 12.5	77.3	30	-4.2	
26	77 33.5	85.1	36	-5.2	-0.1	26	69 4.1	77.2	36	-5.0	
27	77 24.9	84.9	42	-6.0	-0.1	27	68 55.7	77.1	42	-5.9	
28	77 16.4	84.8	48	-6.9	-0.1	28	68 47.3	76.9	48	-6.7	
29	77 7.8	84.6	54	-7.7	-0.1	29	68 38.9	76.8	54	-7.6	
30	76 59.3	84.5				30	68 30.5	76.7			
31	76 50.7	84.4	6	-0.9	0.0	31	68 22.1	76.6	6	-0.8	
32	76 42.1	84.2	12	-1.7	0.0	32	68 13.8	76.5	12	-1.7	
33	76 33.5	84.1	18	-2.6	0.0	33	68 5.4	76.3	18	-2.5	
34	76 25.0	83.9	24	-3.4	-0.1	34	67 57.1	76.2	24	-3.4	
35	76 16.4	83.8	30	-4.3	-0.1	35	67 48.7	76.1	30	-4.2	
36	76 7.9	83.7	36	-5.1	-0.1	36	67 40.4	76.0	36	-5.0	
37	75 59.3	83.5	42	-6.0	-0.1	37	67 32.0	75.9	42	-5.9	
38	75 50.8	83.4	48	-6.8	-0.1	38	67 23.7	75.7	48	-6.7	
39	75 42.2	83.2	54	-7.7	-0.1	39	67 15.4	75.6	54	-7.6	
40	75 33.7	83.1				40	67 7.1	75.5			
41	75 25.1	83.0	6	-0.9	0.0	41	66 58.7	75.4	6	-0.8	
42	75 16.6	82.8	12	-1.7	0.0	42	66 50.4	75.3	12	-1.7	
43	75 8.1	82.7	18	-2.6	0.0	43	66 42.1	75.1	18	-2.5	
44	74 59.6	82.5	24	-3.4	-0.1	44	66 33.8	75.0	24	-3.3	
45	74 51.0	82.4	30	-4.3	-0.1	45	66 25.5	74.9	30	-4.2	
46	74 42.5	82.3	36	-5.1	-0.1	46	66 17.2	74.8	36	-5.0	
47	74 34.0	82.1	42	-6.0	-0.1	47	66 8.9	74.7	42	-5.8	
48	74 25.5	82.0	48	-6.8	-0.1	48	66 0.6	74.5	48	-6.7	
49	74 16.9	81.8	54	-7.7	-0.1	49	65 52.3	74.4	54	-7.5	
50	74 8.4	81.7				50	65 44.0	74.3			
51	73 59.9	81.6	6	-0.8	0.0	51	65 35.7	74.2	6	-0.8	
52	73 51.4	81.4	12	-1.7	0.0	52	65 27.4	74.1	12	-1.7	
53	73 42.9	81.3	18	-2.5	0.0	53	65 19.1	73.9	18	-2.5	
54	73 34.4	81.2	24	-3.4	-0.1	54	65 10.9	73.8	24	-3.3	
55	73 25.9	81.1	30	-4.2	-0.1	55	65 2.6	73.7	30	-4.2	
56	73 17.4	80.9	36	-5.1	-0.1	56	64 54.4	73.6	36	-5.0	
57	73 8.9	80.8	42	-5.9	-0.1	57	64 46.1	73.5	42	-5.8	
58	73 0.4	80.7	48	-6.8	-0.1	58	64 37.9	73.3	48	-6.6	
59	72 51.9	80.5	54	-7.6	-0.1	59	64 29.6	73.2	54	-7.4	
m Std- wkl.	Höhe	Azimet	Δt	Δh	ΔA	m Std- wkl.	Höhe	Azimet	Δt	Δh	ΔA
	1. Stunde						2. Stunde				

	1920-1925	1925-1930	1930-1935		1920-1925	1925-1930	1930-1935
Δh	- 0.4	- 0.8	- 1.1	Δh	- 0.5	- 1.0	- 1.5
ΔA	+ 0.2	+ 0.3	+ 0.5	ΔA	+ 0.1	+ 0.2	+ 0.3

α 1917 = 11^h 49^m 30^s Jährliche Änderung + 3^s 2

55°N

γ Ursae majoris

55°N

Std-wkl. m.	3. Stunde					Std-wkl. m.	4. Stunde					Std-wkl. m.	5. Stunde				
	Höhe	Azimet	Δt	Δh	ΔA		Höhe	Azimet	Δt	Δh	ΔA		Höhe	Azimet	Δt	Δh	ΔA
0	64°21.4	73°1	sek			0	56°17.9	66°1	sek			0	48°40.3	58°9	sek		
1	64 13.1	73.0	6	-0.8		1	56 10.0	66.0	6	-0.8	0°0	1	48 32.9	58.8	6	-0.7	0°0
2	64 4.9	72.9	12	-1.7		2	56 2.2	65.9	12	-1.6	0.0	2	48 25.6	58.7	12	-1.5	0.0
3	63 56.7	72.7	18	-2.5		3	55 54.3	65.7	18	-2.4	0.0	3	48 18.2	58.5	18	-2.2	0.0
4	63 48.5	72.6	24	-3.3		4	55 46.5	65.6	24	-3.1	0.0	4	48 10.9	58.4	24	-2.9	0.0
5	63 40.3	72.5	30	-4.2		5	55 38.6	65.5	30	-3.9	-0.1	5	48 3.5	58.3	30	-3.7	-0.1
6	63 32.1	72.4	36	-5.0		6	55 30.8	65.4	36	-4.7	-0.1	6	47 56.2	58.2	36	-4.4	-0.1
7	63 23.9	72.3	42	-5.8		7	55 23.0	65.3	42	-5.5	-0.1	7	47 48.9	58.1	42	-5.1	-0.1
8	63 15.7	72.1	48	-6.6		8	55 15.2	65.1	48	-6.3	-0.1	8	47 41.6	57.9	48	-5.9	-0.1
9	63 7.5	72.0	54	-7.5		9	55 7.4	65.0	54	-7.1	-0.1	9	47 34.3	57.8	54	-6.6	-0.1
10	62 59.3	71.9				10	54 59.6	64.9				10	47 27.0	57.7			
11	62 51.1	71.8	6	-0.8		11	54 51.8	64.8	6	-0.8	0.0	11	47 19.7	57.6	6	-0.7	0.0
12	62 43.0	71.7	12	-1.6		12	54 44.1	64.7	12	-1.6	0.0	12	47 12.5	57.5	12	-1.4	0.0
13	62 34.8	71.6	18	-2.5		13	54 36.3	64.5	18	-2.3	0.0	13	47 5.2	57.3	18	-2.2	0.0
14	62 26.7	71.5	24	-3.3		14	54 28.5	64.4	24	-3.1	0.0	14	46 58.0	57.2	24	-2.9	0.0
15	62 18.5	71.4	30	-4.1		15	54 20.7	64.3	30	-3.9	-0.1	15	46 50.8	57.1	30	-3.6	-0.1
16	62 10.4	71.2	36	-4.9		16	54 13.0	64.2	36	-4.7	-0.1	16	46 43.6	57.0	36	-4.3	-0.1
17	62 2.2	71.1	42	-5.7		17	54 5.2	64.1	42	-5.4	-0.1	17	46 36.4	56.9	42	-5.1	-0.1
18	61 54.1	71.0	48	-6.6		18	53 57.5	63.9	48	-6.2	-0.1	18	46 29.2	56.7	48	-5.8	-0.1
19	61 45.9	70.9	54	-7.4		19	53 49.8	63.8	54	-7.0	-0.1	19	46 22.0	56.6	54	-6.5	-0.1
20	61 37.8	70.8				20	53 42.1	63.7				20	46 14.8	56.5			
21	61 29.7	70.7	6	-0.8		21	53 34.4	63.6	6	-0.8	0.0	21	46 7.6	56.4	6	-0.7	0.0
22	61 21.6	70.6	12	-1.6		22	53 26.7	63.5	12	-1.5	0.0	22	46 0.5	56.3	12	-1.4	0.0
23	61 13.5	70.4	18	-2.4		23	53 19.0	63.3	18	-2.3	0.0	23	45 53.3	56.1	18	-2.1	0.0
24	61 5.4	70.3	24	-3.2		24	53 11.3	63.2	24	-3.1	0.0	24	45 46.2	56.0	24	-2.9	0.0
25	60 57.3	70.2	30	-4.0		25	53 3.6	63.1	30	-3.8	-0.1	25	45 39.0	55.9	30	-3.6	-0.1
26	60 49.2	70.1	36	-4.9		26	52 56.0	63.0	36	-4.6	-0.1	26	45 31.9	55.8	36	-4.3	-0.1
27	60 41.1	70.0	42	-5.7		27	52 48.3	62.9	42	-5.4	-0.1	27	45 24.8	55.7	42	-5.0	-0.1
28	60 33.0	69.8	48	-6.5		28	52 40.7	62.7	48	-6.1	-0.1	28	45 17.7	55.5	48	-5.7	-0.1
29	60 24.9	69.7	54	-7.3		29	52 33.0	62.6	54	-6.9	-0.1	29	45 10.6	55.4	54	-6.4	-0.1
30	60 16.9	69.6				30	52 25.4	62.5				30	45 3.5	55.3			
31	60 8.8	69.5	6	-0.8		31	52 17.7	62.4	6	-0.8	0.0	31	44 56.4	55.2	6	-0.7	0.0
32	60 0.8	69.4	12	-1.6		32	52 10.1	62.3	12	-1.5	0.0	32	44 49.4	55.1	12	-1.4	0.0
33	59 52.7	69.2	18	-2.4		33	52 2.5	62.1	18	-2.3	0.0	33	44 42.3	54.9	18	-2.1	0.0
34	59 44.7	69.1	24	-3.2		34	51 54.9	62.0	24	-3.0	0.0	34	44 35.3	54.8	24	-2.8	0.0
35	59 36.6	69.0	30	-4.0		35	51 47.3	61.9	30	-3.8	-0.1	35	44 28.3	54.7	30	-3.5	-0.1
36	59 28.6	68.9	36	-4.8		36	51 39.7	61.8	36	-4.6	-0.1	36	44 21.3	54.6	36	-4.2	-0.1
37	59 20.6	68.8	42	-5.6		37	51 32.1	61.7	42	-5.3	-0.1	37	44 14.3	54.4	42	-4.9	-0.1
38	59 12.6	68.6	48	-6.4		38	51 24.6	61.5	48	-6.1	-0.1	38	44 7.4	54.3	48	-5.6	-0.1
39	59 4.6	68.5	54	-7.2		39	51 17.0	61.4	54	-6.8	-0.1	39	44 0.4	54.1	54	-6.3	-0.1
40	58 56.6	68.4				40	51 9.5	61.3				40	43 53.4	54.0			
41	58 48.6	68.3	6	-0.8		41	51 1.9	61.2	6	-0.7	0.0	41	43 46.4	53.9	6	-0.7	0.0
42	58 40.6	68.2	12	-1.6		42	50 54.4	61.1	12	-1.5	0.0	42	43 39.5	53.8	12	-1.4	0.0
43	58 32.6	68.0	18	-2.4		43	50 46.8	60.9	18	-2.2	0.0	43	43 32.5	53.6	18	-2.1	0.0
44	58 24.6	67.9	24	-3.2		44	50 39.3	60.8	24	-3.0	0.0	44	43 25.6	53.5	24	-2.8	0.0
45	58 16.6	67.8	30	-4.0		45	50 31.8	60.7	30	-3.7	-0.1	45	43 18.7	53.4	30	-3.5	-0.1
46	58 8.7	67.7	36	-4.8		46	50 24.3	60.6	36	-4.5	-0.1	46	43 11.8	53.3	36	-4.1	-0.1
47	58 0.7	67.6	42	-5.6		47	50 16.8	60.5	42	-5.2	-0.1	47	43 4.9	53.2	42	-4.8	-0.1
48	57 52.8	67.4	48	-6.4		48	50 9.4	60.3	48	-6.0	-0.1	48	42 58.0	53.0	48	-5.5	-0.1
49	57 44.8	67.3	54	-7.2		49	50 1.9	60.2	54	-6.7	-0.1	49	42 51.1	52.9	54	-6.2	-0.1
50	57 36.9	67.2				50	49 54.4	60.1				50	42 44.3	52.8			
51	57 29.0	67.1	6	-0.8		51	49 46.9	60.0	6	-0.7	0.0	51	42 37.4	52.7	6	-0.7	0.0
52	57 21.1	67.0	12	-1.6		52	49 39.5	59.9	12	-1.5	0.0	52	42 30.6	52.6	12	-1.4	0.0
53	57 13.1	66.8	18	-2.4		53	49 32.0	59.7	18	-2.2	0.0	53	42 23.8	52.4	18	-2.1	0.0
54	57 5.2	66.7	24	-3.2		54	49 24.6	59.6	24	-3.0	0.0	54	42 17.0	52.3	24	-2.7	0.0
55	56 57.3	66.6	30	-4.0		55	49 17.2	59.5	30	-3.7	-0.1	55	42 10.2	52.2	30	-3.4	-0.1
56	56 49.4	66.5	36	-4.7		56	49 9.8	59.4	36	-4.5	-0.1	56	42 3.4	52.1	36	-4.1	-0.1
57	56 41.5	66.4	42	-5.5		57	49 2.4	59.3	42	-5.2	-0.1	57	41 56.6	52.0	42	-4.8	-0.1
58	56 33.6	66.3	48	-6.3		58	48 55.0	59.1	48	-6.0	-0.1	58	41 49.8	51.8	48	-5.5	-0.1
59	56 25.7	66.2	54	-7.1		59	48 47.6	59.0	54	-6.7	-0.1	59	41 43.0	51.7	54	-6.2	-0.1
$m_{Std-wkl.}$	Höhe	Azimet	Δt	Δh	ΔA	$m_{Std-wkl.}$	Höhe	Azimet	Δt	Δh	ΔA	$m_{Std-wkl.}$	Höhe	Azimet	Δt	Δh	ΔA
	3. Stunde						4. Stunde						5. Stunde				
Δh	-0°7	-1°3	-2°0			Δh	-0°8	-1°6	-2°5			Δh	-1°0	-2°0	-3°0		
ΔA	+0°1	+0°1	+0°2			ΔA	+0°1	+0°1	+0°2			ΔA	—	+0°1	+0°1		

γ Ursae majoris

δ Ursae majoris (Alioth)

ϵ Ursae majoris (Mizar)

ζ Ursae majoris (Benetnasch)

η Ursae minoris (Kochab)

γ Draconis

α Lyrae (Weğa)

γ Cygni

α Cygni (Deneb)

α Cephei

δ Ursae minoris (Nordstern)

55°N

γ Ursae majoris

55°N

Std. wkl. m.	6. Stunde					Std. wkl. m.	7. Stunde					Std. wkl. m.	8. Stunde				
	Höhe	Azimut	Δt	Δh	ΔA		Höhe	Azimut	Δt	Δh	ΔA		Höhe	Azimut	Δt	Δh	ΔA
0	41°36.3	51°6	sek			0	35°14.6	43°8	sek			0	29°44.3	35°7	sek		
1	41 29.6	51.5	6	-0.7	0.0	1	35 8.6	43.7	6	-0.6	0.0	1	29 39.3	35.6	6	-0.5	0.0
2	41 22.9	51.4	12	-1.3	0.0	2	35 2.7	43.6	12	-1.2	0.0	2	29 34.3	35.5	12	-1.0	0.0
3	41 16.2	51.2	18	-2.0	0.0	3	34 56.8	43.4	18	-1.8	0.0	3	29 29.3	35.3	18	-1.5	0.0
4	41 9.5	51.1	24	-2.7	-0.1	4	34 50.9	43.3	24	-2.4	-0.1	4	29 24.4	35.2	24	-2.0	-0.1
5	41 2.8	51.0	30	-3.3	-0.1	5	34 45.0	43.2	30	-3.0	-0.1	5	29 19.4	35.1	30	-2.5	-0.1
6	40 56.1	50.9	36	-4.0	-0.1	6	34 39.1	43.1	36	-3.5	-0.1	6	29 14.5	35.0	36	-3.0	-0.1
7	40 49.4	50.7	42	-4.7	-0.1	7	34 33.2	42.9	42	-4.1	-0.1	7	29 9.6	34.8	42	-3.5	-0.1
8	40 42.8	50.6	48	-5.3	-0.1	8	34 27.4	42.8	48	-4.7	-0.1	8	29 4.7	34.7	48	-4.0	-0.1
9	40 36.1	50.4	54	-6.0	-0.1	9	34 21.6	42.6	54	-5.3	-0.1	9	28 59.8	34.5	54	-4.5	-0.1
10	40 29.5	50.3				10	34 15.8	42.5				10	28 54.9	34.4			
11	40 22.9	50.2	6	-0.7	0.0	11	34 10.0	42.4	6	-0.6	0.0	11	28 50.0	34.3	6	-0.5	0.0
12	40 16.3	50.1	12	-1.3	0.0	12	34 4.2	42.3	12	-1.1	0.0	12	28 45.2	34.1	12	-1.0	0.0
13	40 9.7	49.9	18	-2.0	0.0	13	33 58.4	42.1	18	-1.7	0.0	13	28 40.4	34.0	18	-1.4	0.0
14	40 3.1	49.8	24	-2.6	-0.1	14	33 52.6	42.0	24	-2.3	-0.1	14	28 35.6	33.8	24	-1.9	-0.1
15	39 56.5	49.7	30	-3.3	-0.1	15	33 46.8	41.9	30	-2.8	-0.1	15	28 30.8	33.7	30	-2.4	-0.1
16	39 50.0	49.6	36	-3.9	-0.1	16	33 41.1	41.8	36	-3.4	-0.1	16	28 26.1	33.6	36	-2.9	-0.1
17	39 43.4	49.4	42	-4.6	-0.1	17	33 35.4	41.6	42	-4.0	-0.1	17	28 21.3	33.4	42	-3.4	-0.1
18	39 36.9	49.3	48	-5.2	-0.1	18	33 29.7	41.5	48	-4.6	-0.1	18	28 16.6	33.3	48	-3.8	-0.1
19	39 30.4	49.1	54	-5.9	-0.1	19	33 24.0	41.3	54	-5.1	-0.1	19	28 11.9	33.1	54	-4.3	-0.1
20	39 23.9	49.0				20	33 18.4	41.2				20	28 7.2	33.0			
21	39 17.4	48.9	6	-0.6	0.0	21	33 12.7	41.1	6	-0.6	0.0	21	28 2.5	32.9	6	-0.5	0.0
22	39 11.0	48.8	12	-1.3	0.0	22	33 7.1	40.9	12	-1.1	0.0	22	27 57.9	32.7	12	-0.9	0.0
23	39 4.5	48.6	18	-1.9	0.0	23	33 1.4	40.8	18	-1.7	0.0	23	27 53.2	32.6	18	-1.4	0.0
24	38 58.1	48.5	24	-2.6	-0.1	24	32 55.8	40.6	24	-2.2	-0.1	24	27 48.6	32.4	24	-1.8	-0.1
25	38 51.6	48.4	30	-3.2	-0.1	25	32 50.2	40.5	30	-2.8	-0.1	25	27 44.0	32.3	30	-2.3	-0.1
26	38 45.2	48.3	36	-3.9	-0.1	26	32 44.6	40.4	36	-3.4	-0.1	26	27 39.5	32.1	36	-2.8	-0.1
27	38 38.8	48.1	42	-4.5	-0.1	27	32 39.0	40.2	42	-3.9	-0.1	27	27 34.9	32.0	42	-3.2	-0.1
28	38 32.4	48.0	48	-5.1	-0.1	28	32 33.5	40.1	48	-4.5	-0.1	28	27 30.4	31.8	48	-3.7	-0.1
29	38 26.0	47.8	54	-5.8	-0.1	29	32 28.0	39.9	54	-5.0	-0.1	29	27 25.9	31.7	54	-4.1	-0.1
30	38 19.6	47.7				30	32 22.5	39.8				30	27 21.4	31.5			
31	38 13.2	47.6	6	-0.6	0.0	31	32 17.0	39.7	6	-0.5	0.0	31	27 16.9	31.4	6	-0.4	0.0
32	38 6.9	47.5	12	-1.3	0.0	32	32 11.5	39.6	12	-1.1	0.0	32	27 12.4	31.2	12	-0.9	0.0
33	38 0.6	47.3	18	-1.9	0.0	33	32 6.0	39.4	18	-1.6	0.0	33	27 7.9	31.1	18	-1.3	0.0
34	37 54.3	47.2	24	-2.5	-0.1	34	32 0.6	39.3	24	-2.2	-0.1	34	27 3.5	30.9	24	-1.8	-0.1
35	37 48.0	47.1	30	-3.1	-0.1	35	31 55.1	39.2	30	-2.7	-0.1	35	26 59.1	30.8	30	-2.2	-0.1
36	37 41.7	47.0	36	-3.8	-0.1	36	31 49.7	39.1	36	-3.3	-0.1	36	26 54.7	30.7	36	-2.6	-0.1
37	37 35.4	46.8	42	-4.4	-0.1	37	31 44.3	38.9	42	-3.8	-0.1	37	26 50.3	30.5	42	-3.1	-0.1
38	37 29.1	46.7	48	-5.0	-0.1	38	31 38.9	38.8	48	-4.4	-0.1	38	26 45.9	30.4	48	-3.5	-0.1
39	37 22.8	46.5	54	-5.7	-0.1	39	31 33.5	38.6	54	-4.9	-0.1	39	26 41.5	30.2	54	-4.0	-0.1
40	37 16.6	46.4				40	31 28.1	38.5				40	26 37.2	30.1			
41	37 10.4	46.3	6	-0.6	0.0	41	31 22.8	38.4	6	-0.5	0.0	41	26 32.9	30.0	6	-0.4	0.0
42	37 4.2	46.2	12	-1.2	0.0	42	31 17.5	38.2	12	-1.0	0.0	42	26 28.6	29.9	12	-0.8	0.0
43	36 58.0	46.0	18	-1.8	0.0	43	31 12.2	38.1	18	-1.6	0.0	43	26 24.3	29.7	18	-1.3	0.0
44	36 51.8	45.9	24	-2.4	-0.1	44	31 6.9	37.9	24	-2.1	-0.1	44	26 20.1	29.5	24	-1.7	-0.1
45	36 45.6	45.8	30	-3.0	-0.1	45	31 1.6	37.8	30	-2.6	-0.1	45	26 15.9	29.4	30	-2.1	-0.1
46	36 39.5	45.7	36	-3.7	-0.1	46	30 56.3	37.7	36	-3.1	-0.1	46	26 11.7	29.3	36	-2.5	-0.1
47	36 33.3	45.5	42	-4.3	-0.1	47	30 51.0	37.5	42	-3.7	-0.1	47	26 7.5	29.1	42	-2.9	-0.1
48	36 27.2	45.4	48	-4.9	-0.1	48	30 45.8	37.4	48	-4.2	-0.1	48	26 3.3	29.0	48	-3.4	-0.1
49	36 21.1	45.2	54	-5.5	-0.1	49	30 40.6	37.2	54	-4.7	-0.1	49	25 59.1	28.8	54	-3.8	-0.1
50	36 15.0	45.1				50	30 35.4	37.1				50	25 55.0	28.7			
51	36 8.9	45.0	6	-0.6	0.0	51	30 30.2	37.0	6	-0.5	0.0	51	25 50.9	28.6	6	-0.4	0.0
52	36 2.8	44.9	12	-1.2	0.0	52	30 25.1	36.8	12	-1.0	0.0	52	25 46.8	28.4	12	-0.8	0.0
53	35 56.7	44.7	18	-1.8	0.0	53	30 19.9	36.7	18	-1.5	0.0	53	25 42.7	28.3	18	-1.2	0.0
54	35 50.7	44.6	24	-2.4	-0.1	54	30 14.8	36.5	24	-2.1	-0.1	54	25 38.7	28.1	24	-1.6	-0.1
55	35 44.6	44.5	30	-3.0	-0.1	55	30 9.7	36.4	30	-2.6	-0.1	55	25 34.6	28.0	30	-2.0	-0.1
56	35 38.6	44.4	36	-3.6	-0.1	56	30 4.6	36.3	36	-3.1	-0.1	56	25 30.6	27.8	36	-2.4	-0.1
57	35 32.6	44.2	42	-4.2	-0.1	57	29 59.5	36.1	42	-3.6	-0.1	57	25 26.6	27.7	42	-2.8	-0.1
58	35 26.6	44.1	48	-4.8	-0.1	58	29 54.4	36.0	48	-4.1	-0.1	58	25 22.6	27.5	48	-3.2	-0.1
59	35 20.6	43.9	54	-5.4	-0.1	59	29 49.3	35.8	54	-4.6	-0.1	59	25 18.6	27.4	54	-3.6	-0.1

m Std. wkl.	6. Stunde					m Std. wkl.	7. Stunde					m Std. wkl.	8. Stunde				
	Höhe	Azimut	Δt	Δh	ΔA		Höhe	Azimut	Δt	Δh	ΔA		Höhe	Azimut	Δt	Δh	ΔA
	1920-1925	1925-1930	1930-1935				1920-1925	1925-1930	1930-1935				1920-1925	1925-1930	1930-1935		
Δh	-1.1	-2.3	-3.4	Δh	-1.3	-2.6	-3.8	Δh	-1.4	-2.8	-4.2	ΔA					
ΔA			+0.1	ΔA				ΔA									

α 1917 = 11^h 49^m 30^s Jährliche Änderung + 3^s 2

55°N

 γ Ursae majoris

55°N

Std. wkl. m.	9. Stunde					Std. wkl. m.	10. Stunde					Std. wkl. m.	11. Stunde				
	Höhe	Azimet	Δt	Δh	ΔA		Höhe	Azimet	Δt	Δh	ΔA		Höhe	Azimet	Δt	Δh	ΔA
0	25° 14.7	27° 2	sek			0	21° 54.4	18° 4	sek			0	19° 50.9	9° 3	sek		
1	25 10.8	27.1	6	-0.4	0.0	1	21 51.7	18.3	6	-0.3	0.0	1	19 49.5	9.2	6	-0.1	0.0
2	25 6.9	26.9	12	-0.8	0.0	2	21 49.0	18.1	12	-0.5	0.0	2	19 48.2	9.0	12	-0.3	0.0
3	25 3.0	26.8	18	-1.1	0.0	3	21 46.3	18.0	18	-0.8	0.0	3	19 46.9	8.9	18	-0.4	0.0
4	24 59.1	26.6	24	-1.5	-0.1	4	21 43.7	17.8	24	-1.0	-0.1	4	19 45.6	8.7	24	-0.5	-0.1
5	24 55.2	26.5	30	-1.9	-0.1	5	21 41.1	17.7	30	-1.3	-0.1	5	19 44.3	8.6	30	-0.6	-0.1
6	24 51.4	26.4	36	-2.3	-0.1	6	21 38.5	17.5	36	-1.6	-0.1	6	19 43.1	8.4	36	-0.8	-0.1
7	24 47.6	26.2	42	-2.7	-0.1	7	21 35.9	17.4	42	-1.8	-0.1	7	19 41.8	8.3	42	-0.9	-0.1
8	24 43.8	26.1	48	-3.0	-0.1	8	21 33.4	17.2	48	-2.1	-0.1	8	19 40.6	8.1	48	-1.0	-0.1
9	24 40.0	25.9	54	-3.4	-0.1	9	21 30.9	17.1	54	-2.3	-0.1	9	19 39.4	8.0	54	-1.2	-0.1
10	24 36.3	25.8				10	21 28.4	16.9				10	19 38.2	7.8			
11	24 32.5	25.7	6	-0.4	0.0	11	21 25.9	16.7	6	-0.2	0.0	11	19 37.0	7.6	6	-0.1	0.0
12	24 28.8	25.5	12	-0.7	0.0	12	21 23.4	16.6	12	-0.5	0.0	12	19 35.9	7.5	12	-0.2	0.0
13	24 25.1	25.4	18	-1.1	0.0	13	21 20.9	16.4	18	-0.7	0.0	13	19 34.8	7.3	18	-0.3	0.0
14	24 21.4	25.2	24	-1.4	-0.1	14	21 18.5	16.3	24	-1.0	-0.1	14	19 33.8	7.2	24	-0.4	-0.1
15	24 17.7	25.1	30	-1.8	-0.1	15	21 16.1	16.1	30	-1.2	-0.1	15	19 32.7	7.0	30	-0.5	-0.1
16	24 14.1	24.9	36	-2.2	-0.1	16	21 13.7	16.0	36	-1.4	-0.1	16	19 31.7	6.8	36	-0.7	-0.1
17	24 10.5	24.8	42	-2.5	-0.1	17	21 11.3	15.8	42	-1.7	-0.1	17	19 30.7	6.7	42	-0.8	-0.1
18	24 6.9	24.6	48	-2.9	-0.1	18	21 9.0	15.7	48	-1.9	-0.1	18	19 29.7	6.5	48	-0.9	-0.1
19	24 3.3	24.5	54	-3.2	-0.1	19	21 6.7	15.5	54	-2.2	-0.1	19	19 28.7	6.4	54	-1.0	-0.1
20	23 59.8	24.3				20	21 4.4	15.4				20	19 27.8	6.2			
21	23 56.3	24.2	6	-0.3	0.0	21	21 2.1	15.3	6	-0.2	0.0	21	19 26.9	6.0	6	-0.1	0.0
22	23 52.8	24.0	12	-0.7	0.0	22	20 59.9	15.1	12	-0.4	0.0	22	19 26.0	5.9	12	-0.2	0.0
23	23 49.3	23.9	18	-1.0	0.0	23	20 57.7	15.0	18	-0.7	0.0	23	19 25.1	5.7	18	-0.2	0.0
24	23 45.8	23.7	24	-1.4	-0.1	24	20 55.5	14.8	24	-0.9	-0.1	24	19 24.3	5.6	24	-0.3	-0.1
25	23 42.3	23.6	30	-1.7	-0.1	25	20 53.3	14.7	30	-1.1	-0.1	25	19 23.5	5.4	30	-0.4	-0.1
26	23 38.9	23.5	36	-2.0	-0.1	26	20 51.2	14.5	36	-1.3	-0.1	26	19 22.7	5.2	36	-0.5	-0.1
27	23 35.5	23.3	42	-2.4	-0.1	27	20 49.0	14.4	42	-1.5	-0.1	27	19 21.9	5.1	42	-0.6	-0.1
28	23 32.1	23.2	48	-2.7	-0.1	28	20 46.9	14.2	48	-1.8	-0.1	28	19 21.1	4.9	48	-0.6	-0.1
29	23 28.7	23.0	54	-3.1	-0.1	29	20 44.8	14.1	54	-2.0	-0.1	29	19 20.4	4.8	54	-0.7	-0.1
30	23 25.4	22.9				30	20 42.7	13.9				30	19 19.7	4.6			
31	23 22.0	22.8	6	-0.3	0.0	31	20 40.6	13.7	6	-0.2	0.0	31	19 19.0	4.5	6	-0.0	0.0
32	23 18.7	22.6	12	-0.6	0.0	32	20 38.6	13.6	12	-0.4	0.0	32	19 18.3	4.3	12	-0.1	0.0
33	23 15.4	22.5	18	-1.0	0.0	33	20 36.6	13.4	18	-0.6	0.0	33	19 17.7	4.2	18	-0.2	0.0
34	23 12.2	22.3	24	-1.3	-0.1	34	20 34.6	13.3	24	-0.8	-0.1	34	19 17.1	4.0	24	-0.2	-0.1
35	23 8.9	22.2	30	-1.6	-0.1	35	20 32.6	13.1	30	-1.0	-0.1	35	19 16.5	3.9	30	-0.3	-0.1
36	23 5.7	22.0	36	-1.9	-0.1	36	20 30.7	12.9	36	-1.1	-0.1	36	19 15.9	3.7	36	-0.4	-0.1
37	23 2.5	21.9	42	-2.2	-0.1	37	20 28.8	12.8	42	-1.3	-0.1	37	19 15.3	3.6	42	-0.4	-0.1
38	22 59.3	21.7	48	-2.6	-0.1	38	20 26.9	12.6	48	-1.5	-0.1	38	19 14.8	3.4	48	-0.5	-0.1
39	22 56.1	21.6	54	-2.9	-0.1	39	20 25.0	12.5	54	-1.7	-0.1	39	19 14.3	3.3	54	-0.5	-0.1
40	22 53.0	21.4				40	20 23.2	12.3				40	19 13.8	3.1			
41	22 49.9	21.3	6	-0.3	0.0	41	20 21.4	12.2	6	-0.2	0.0	41	19 13.4	2.9	6	-0.0	0.0
42	22 46.8	21.1	12	-0.6	0.0	42	20 19.6	12.0	12	-0.3	0.0	42	19 13.0	2.8	12	-0.1	0.0
43	22 43.7	21.0	18	-0.9	0.0	43	20 17.8	11.9	18	-0.5	0.0	43	19 12.6	2.6	18	-0.1	0.0
44	22 40.6	20.8	24	-1.2	-0.1	44	20 16.0	11.7	24	-0.7	-0.1	44	19 12.2	2.5	24	-0.1	-0.1
45	22 37.5	20.7	30	-1.5	-0.1	45	20 14.3	11.6	30	-0.8	-0.1	45	19 11.8	2.3	30	-0.1	-0.1
46	22 34.5	20.5	36	-1.8	-0.1	46	20 12.6	11.4	36	-1.0	-0.1	46	19 11.5	2.1	36	-0.2	-0.1
47	22 31.5	20.4	42	-2.1	-0.1	47	20 10.9	11.3	42	-1.2	-0.1	47	19 11.2	2.0	42	-0.2	-0.1
48	22 28.5	20.2	48	-2.4	-0.1	48	20 9.2	11.1	48	-1.4	-0.1	48	19 10.9	1.8	48	-0.2	-0.1
49	22 25.5	20.1	54	-2.7	-0.1	49	20 7.6	11.0	54	-1.5	-0.1	49	19 10.6	1.7	54	-0.3	-0.1
50	22 22.6	19.9				50	20 6.0	10.8				50	19 10.4	1.5			
51	22 19.7	19.8	6	-0.3	0.0	51	20 4.4	10.7	6	-0.1	0.0	51	19 10.1	1.4	6	-0.0	0.0
52	22 16.8	19.6	12	-0.6	0.0	52	20 2.8	10.5	12	-0.3	0.0	52	19 9.9	1.2	12	-0.0	0.0
53	22 13.9	19.5	18	-0.8	0.0	53	20 1.2	10.4	18	-0.4	0.0	53	19 9.7	1.1	18	-0.1	0.0
54	22 11.1	19.3	24	-1.1	-0.1	54	19 59.7	10.2	24	-0.6	-0.1	54	19 9.6	0.9	24	-0.1	-0.1
55	22 8.2	19.2	30	-1.4	-0.1	55	19 58.2	10.1	30	-0.7	-0.1	55	19 9.5	0.8	30	-0.1	-0.1
56	22 5.4	19.0	36	-1.7	-0.1	56	19 56.7	9.9	36	-0.9	-0.1	56	19 9.4	0.6	36	-0.1	-0.1
57	22 2.6	18.9	42	-2.0	-0.1	57	19 55.2	9.8	42	-1.0	-0.1	57	19 9.4	0.5	42	-0.1	-0.1
58	21 59.9	18.7	48	-2.2	-0.1	58	19 53.8	9.6	48	-1.2	-0.1	58	19 9.3	0.3	48	-0.2	-0.1
59	21 57.1	18.6	54	-2.5	-0.1	59	19 52.3	9.5	54	-1.3	-0.1	59	19 9.3	0.2	54	-0.2	-0.1
m Std. wkl.	Höhe	Azimet	Δt	Δh	ΔA	m Std. wkl.	Höhe	Azimet	Δt	Δh	ΔA	m Std. wkl.	Höhe	Azimet	Δt	Δh	ΔA
9. Stunde					10. Stunde					11. Stunde							
	1920-1925	1925-1930	1930-1935				1920-1925	1925-1930	1930-1935				1920-1925	1925-1930	1930-1935		
Δh	-1.5	-3.0	-4.6				-1.6	-3.2	-4.8				-1.6	-3.3	-4.9		
ΔA																	

 γ Ursae majoris
(Alioth) ϵ Ursae majoris
(Mizar) δ Ursae majoris
Benetnasch) ζ Ursae minoris
(Kochab) γ Draconis α Lyrae
(Wega) γ Cygni α Cygni
(Deneb) α Cephei δ Ursae minoris
(Nordstern)

55°N

ε Ursae majoris (Alioth)

55°N

Std. wkl. m.	1. Stunde					Std. wkl. m.	2. Stunde				
	Höhe	Azimet	Δt	Δh	ΔA		Höhe	Azimet	Δt	Δh	ΔA
0	81° 27.0	74.4	sek			0	73° 10.4	72.9	sek		
1	81 18.7	74.4	6	-0.8		1	73 2.1	72.8	6	-0.8	
2	81 10.4	74.4	12	-1.7		2	72 53.9	72.8	12	-1.6	
3	81 2.1	74.5	18	-2.5		3	72 45.7	72.7	18	-2.5	
4	80 53.8	74.5	24	-3.3		4	72 37.5	72.6	24	-3.3	
5	80 45.5	74.5	30	-4.1		5	72 29.3	72.6	30	-4.1	
6	80 37.2	74.5	36	-5.0		6	72 21.1	72.5	36	-4.9	
7	80 28.9	74.6	42	-5.8		7	72 12.9	72.4	42	-5.8	
8	80 20.6	74.6	48	-6.6		8	72 4.7	72.3	48	-6.6	
9	80 12.3	74.6	54	-7.5		9	71 56.5	72.3	54	-7.4	
10	80 4.0	74.6				10	71 48.3	72.2			
11	79 55.7	74.7	6	-0.8		11	71 40.1	72.1	6	-0.8	
12	79 47.4	74.7	12	-1.7		12	71 31.9	72.0	12	-1.6	
13	79 39.1	74.7	18	-2.5		13	71 23.7	72.0	18	-2.5	
14	79 30.8	74.7	24	-3.3		14	71 15.5	71.9	24	-3.3	
15	79 22.5	74.7	30	-4.1		15	71 7.3	71.8	30	-4.1	
16	79 14.2	74.7	36	-5.0		16	70 59.2	71.7	36	-4.9	
17	79 5.9	74.7	42	-5.8		17	70 51.0	71.6	42	-5.7	
18	78 57.6	74.7	48	-6.6		18	70 42.9	71.6	48	-6.6	
19	78 49.3	74.6	54	-7.5		19	70 34.7	71.5	54	-7.4	
20	78 41.0	74.6				20	70 26.6	71.4			
21	78 32.7	74.6	6	-0.8		21	70 18.4	71.3	6	-0.8	
22	78 24.4	74.6	12	-1.7		22	70 10.3	71.2	12	-1.6	
23	78 16.1	74.5	18	-2.5		23	70 2.1	71.2	18	-2.4	
24	78 7.9	74.5	24	-3.3		24	69 54.0	71.1	24	-3.2	
25	77 59.6	74.5	30	-4.1		25	69 45.8	71.0	30	-4.0	
26	77 51.3	74.5	36	-5.0		26	69 37.7	70.9	36	-4.9	
27	77 43.0	74.4	42	-5.8		27	69 29.5	70.8	42	-5.7	
28	77 34.7	74.4	48	-6.6		28	69 21.4	70.8	48	-6.5	
29	77 26.4	74.4	54	-7.5		29	69 13.3	70.7	54	-7.3	
30	77 18.1	74.4				30	69 5.2	70.6			
31	77 9.8	74.3	6	-0.8		31	68 57.1	70.5	6	-0.8	
32	77 1.5	74.3	12	-1.7		32	68 49.0	70.4	12	-1.6	
33	76 53.2	74.3	18	-2.5		33	68 40.9	70.4	18	-2.4	
34	76 44.9	74.2	24	-3.3		34	68 32.8	70.3	24	-3.2	
35	76 36.6	74.2	30	-4.1		35	68 24.7	70.2	30	-4.0	
36	76 28.4	74.1	36	-5.0		36	68 16.6	70.1	36	-4.9	
37	76 20.1	74.1	42	-5.8		37	68 8.5	70.0	42	-5.7	
38	76 11.8	74.0	48	-6.6		38	68 0.4	70.0	48	-6.5	
39	76 3.5	74.0	54	-7.5		39	67 52.3	69.9	54	-7.3	
40	75 55.3	73.9				40	67 44.2	69.8			
41	75 47.0	73.9	6	-0.8		41	67 36.1	69.7	6	-0.8	
42	75 38.8	73.8	12	-1.7		42	67 28.0	69.6	12	-1.6	
43	75 30.5	73.8	18	-2.5		43	67 19.9	69.6	18	-2.4	
44	75 22.3	73.7	24	-3.3		44	67 11.9	69.5	24	-3.2	
45	75 14.0	73.7	30	-4.1		45	67 3.8	69.4	30	-4.0	
46	75 5.7	73.7	36	-5.0		46	66 55.8	69.3	36	-4.9	
47	74 57.4	73.6	42	-5.8		47	66 47.7	69.2	42	-5.7	
48	74 49.2	73.6	48	-6.6		48	66 39.7	69.2	48	-6.5	
49	74 40.9	73.6	54	-7.5		49	66 31.6	69.1	54	-7.3	
50	74 32.7	73.5				50	66 23.6	69.0			
51	74 24.4	73.5	6	-0.8		51	66 15.6	68.9	6	-0.8	
52	74 16.2	73.4	12	-1.7		52	66 7.6	68.8	12	-1.6	
53	74 7.9	73.4	18	-2.5		53	65 59.6	68.8	18	-2.4	
54	73 59.7	73.3	24	-3.3		54	65 51.6	68.7	24	-3.2	
55	73 51.5	73.2	30	-4.1		55	65 43.6	68.6	30	-4.0	
56	73 43.3	73.1	36	-5.0		56	65 35.6	68.5	36	-4.8	
57	73 35.0	73.1	42	-5.8		57	65 27.6	68.4	42	-5.6	
58	73 26.8	73.0	48	-6.6		58	65 19.6	68.3	48	-6.4	
59	73 18.6	73.0	54	-7.5		59	65 11.6	68.2	54	-7.2	
m Std. wkl.	Höhe	Azimet	Δt	Δh	ΔA	m Std. wkl.	Höhe	Azimet	Δt	Δh	ΔA
	1. Stunde						2. Stunde				
	1920-1925	1925-1930	1930-1935				1920-1925	1925-1930	1930-1935		
Δh	-0.1	-0.1	-0.2			Δh	-0.3	-0.7	-1.0		
ΔA	+0.1	+0.3	+0.4			ΔA	+0.1	+0.2	+0.2		

55°N

ϵ Ursae majoris (Alioth)

55°N

Std. wkl. m.	3. Stunde					Std. wkl. m.	4. Stunde					Std. wkl. m.	5. Stunde				
	Höhe	Azimet	Δt	Δh	ΔA		Höhe	Azimet	Δt	Δh	ΔA		Höhe	Azimet	Δt	Δh	ΔA
0	65° 3.6	68.1	sek			0	57° 14.9	62.3	sek		0	49° 51.7	56.0	sek			
1	64 55.6	68.0	6	-0.8		1	57 7.3	62.2	6	-0.8	1	49 44.5	55.9	6	-0.7		
2	64 47.6	67.9	12	-1.6		2	56 59.7	62.1	12	-1.5	2	49 37.4	55.8	12	-1.4		
3	64 39.6	67.9	18	-2.4		3	56 52.1	62.0	18	-2.3	3	49 30.3	55.7	18	-2.1		
4	64 31.7	67.8	24	-3.2		4	56 44.5	61.9	24	-3.0	4	49 23.2	55.6	24	-2.8		
5	64 23.7	67.7	30	-4.0		5	56 36.9	61.8	30	-3.8	5	49 16.1	55.5	30	-3.5		
6	64 15.8	67.6	36	-4.8		6	56 29.3	61.7	36	-4.6	6	49 9.0	55.4	36	-4.3		
7	64 7.8	67.5	42	-5.6		7	56 21.7	61.6	42	-5.3	7	49 1.9	55.3	42	-5.0		
8	63 59.9	67.4	48	-6.4		8	56 14.2	61.5	48	-6.1	8	48 54.9	55.1	48	-5.7		
9	63 51.9	67.3	54	-7.2		9	56 6.6	61.4	54	-6.8	9	48 47.8	55.0	54	-6.4		
10	63 44.0	67.2				10	55 59.1	61.3			10	48 40.8	54.9				
11	63 36.1	67.1	6	-0.8		11	55 51.5	61.2	6	-0.7	11	48 33.8	54.8	6	-0.7		
12	63 28.2	67.0	12	-1.6		12	55 44.0	61.1	12	-1.5	12	48 26.8	54.7	12	-1.4		
13	63 20.3	66.9	18	-2.4		13	55 36.4	61.0	18	-2.2	13	48 19.8	54.6	18	-2.1		
14	63 12.4	66.8	24	-3.2		14	55 28.9	60.9	24	-3.0	14	48 12.8	54.5	24	-2.8		
15	63 4.5	66.7	30	-4.0		15	55 21.4	60.8	30	-3.7	15	48 5.8	54.4	30	-3.5		
16	62 56.6	66.6	36	-4.7		16	55 13.9	60.7	36	-4.5	16	47 58.8	54.3	36	-4.2		
17	62 48.7	66.5	42	-5.5		17	55 6.4	60.6	42	-5.2	17	47 51.8	54.2	42	-4.9		
18	62 40.8	66.4	48	-6.3		18	54 58.9	60.5	48	-6.0	18	47 44.8	54.0	48	-5.6		
19	62 32.9	66.3	54	-7.1		19	54 51.4	60.4	54	-6.7	19	47 37.8	53.9	54	-6.3		
20	62 25.0	66.2				20	54 44.0	60.3			20	47 30.9	53.8				
21	62 17.1	66.1	6	-0.8		21	54 36.5	60.2	6	-0.7	21	47 23.9	53.7	6	-0.7		
22	62 9.2	66.0	12	-1.6		22	54 29.1	60.1	12	-1.5	22	47 17.0	53.6	12	-1.4		
23	62 1.3	66.0	18	-2.3		23	54 21.6	60.0	18	-2.2	23	47 10.1	53.4	18	-2.1		
24	61 53.5	65.9	24	-3.1		24	54 14.2	59.9	24	-3.0	24	47 3.2	53.3	24	-2.8		
25	61 45.6	65.8	30	-3.9		25	54 6.7	59.8	30	-3.7	25	46 56.3	53.2	30	-3.5		
26	61 37.8	65.7	36	-4.7		26	53 59.3	59.7	36	-4.5	26	46 49.4	53.1	36	-4.1		
27	61 30.0	65.6	42	-5.5		27	53 51.8	59.6	42	-5.2	27	46 42.5	53.0	42	-4.8		
28	61 22.2	65.5	48	-6.2		28	53 44.4	59.4	48	-6.0	28	46 35.7	52.8	48	-5.5		
29	61 14.3	65.4	54	-7.0		29	53 37.0	59.3	54	-6.7	29	46 28.8	52.7	54	-6.2		
30	61 6.5	65.3				30	53 29.6	59.2			30	46 22.0	52.6				
31	60 58.7	65.2	6	-0.8		31	53 22.2	59.1	6	-0.7	31	46 15.2	52.5	6	-0.7		
32	60 50.9	65.1	12	-1.6		32	53 14.9	59.0	12	-1.5	32	46 8.4	52.4	12	-1.4		
33	60 43.1	65.0	18	-2.3		33	53 7.5	58.9	18	-2.2	33	46 1.6	52.3	18	-2.0		
34	60 35.3	64.9	24	-3.1		34	53 0.1	58.8	24	-2.9	34	45 54.8	52.2	24	-2.7		
35	60 27.5	64.8	30	-3.9		35	52 52.7	58.7	30	-3.7	35	45 48.0	52.1	30	-3.4		
36	60 19.8	64.7	36	-4.7		36	52 45.4	58.6	36	-4.4	36	45 41.2	52.0	36	-4.1		
37	60 12.0	64.6	42	-5.5		37	52 38.0	58.5	42	-5.1	37	45 34.4	51.9	42	-4.8		
38	60 4.2	64.5	48	-6.2		38	52 30.7	58.4	48	-5.9	38	45 27.7	51.7	48	-5.4		
39	59 56.4	64.4	54	-7.0		39	52 23.4	58.3	54	-6.6	39	45 20.9	51.6	54	-6.1		
40	59 48.7	64.3				40	52 16.1	58.2			40	45 14.2	51.5				
41	59 40.9	64.2	6	-0.8		41	52 8.8	58.1	6	-0.7	41	45 7.4	51.4	6	-0.7		
42	59 33.2	64.1	12	-1.5		42	52 1.5	58.0	12	-1.4	42	45 0.7	51.3	12	-1.3		
43	59 25.4	64.0	18	-2.3		43	51 54.2	57.9	18	-2.2	43	44 54.0	51.2	18	-2.0		
44	59 17.7	63.9	24	-3.1		44	51 47.0	57.8	24	-2.9	44	44 47.3	51.1	24	-2.7		
45	59 10.0	63.8	30	-3.9		45	51 39.7	57.7	30	-3.6	45	44 40.6	51.0	30	-3.3		
46	59 2.3	63.7	36	-4.6		46	51 32.4	57.6	36	-4.3	46	44 33.9	50.9	36	-4.0		
47	58 54.6	63.6	42	-5.4		47	51 25.1	57.5	42	-5.1	47	44 27.2	50.8	42	-4.7		
48	58 46.9	63.5	48	-6.2		48	51 17.9	57.3	48	-5.8	48	44 20.6	50.6	48	-5.4		
49	58 39.2	63.4	54	-7.0		49	51 10.6	57.2	54	-6.5	49	44 13.9	50.5	54	-6.0		
50	58 31.5	63.3				50	51 3.4	57.1			50	44 7.3	50.4				
51	58 23.8	63.2	6	-0.8		51	50 56.2	57.0	6	-0.7	51	44 0.7	50.3	6	-0.7		
52	58 16.1	63.1	12	-1.5		52	50 49.0	56.9	12	-1.4	52	43 54.1	50.2	12	-1.3		
53	58 8.4	63.0	18	-2.3		53	50 41.8	56.8	18	-2.1	53	43 47.5	50.0	18	-2.0		
54	58 0.7	62.9	24	-3.1		54	50 34.6	56.7	24	-2.9	54	43 40.9	49.9	24	-2.6		
55	57 53.0	62.8	30	-3.8		55	50 27.4	56.6	30	-3.6	55	43 34.3	49.8	30	-3.3		
56	57 45.4	62.7	36	-4.6		56	50 20.3	56.5	36	-4.3	56	43 27.8	49.7	36	-3.9		
57	57 37.7	62.6	42	-5.4		57	50 13.1	56.4	42	-5.0	57	43 21.2	49.6	42	-4.6		
58	57 30.1	62.5	48	-6.1		58	50 6.0	56.2	48	-5.8	58	43 14.7	49.4	48	-5.2		
59	57 22.5	62.4	54	-6.9		59	49 58.8	56.1	54	-6.5	59	43 8.2	49.3	54	-5.9		

- ϵ Ursae majoris (Alioth)
- ζ Ursae majoris (Mizar)
- Irsae majoris Benetnasch)
- Ursae minoris (Kochab)
- γ Draconis
- α Lyrae (Weğa)
- γ Cygni
- α Cygni (Deneb)
- α Cephei
- Ursae minoris (Nordstern)

	1920-1925	1925-1930	1930-1935		1920-1925	1925-1930	1930-1935		1920-1925	1925-1930	1930-1935
Δh	-0.6	-1.1	-1.7	Δh	-0.7	-1.5	-2.2	Δh	-0.9	-1.9	-2.8
ΔA	+0.0	+0.1	+0.2	ΔA	—	+0.1	+0.1	ΔA	—	+0.1	+0.1

55°N

ε Ursae majoris (Alioth)

55°N

Std-wkl. m.	6. Stunde					Std-wkl. m.	7. Stunde					Std-wkl. m.	8. Stunde				
	Höhe	Azimet	Δt	Δh	ΔA		Höhe	Azimet	Δt	Δh	ΔA		Höhe	Azimet	Δt	Δh	ΔA
0	43° 1'7	49°1	sek			0	36° 53'1	41°9	sek			0	31° 34'8	34°2	sek		
1	42 55.2	49.0	6	-0.6	0°0	1	36 47.4	41.8	6	-0.6	0°0	1	31 30.0	34.1	6	-0.5	0°0
2	42 48.7	48.9	12	-1.3	0.0	2	36 41.7	41.7	12	-1.1	0.0	2	31 25.2	33.9	12	-0.9	0.0
3	42 42.2	48.7	18	-1.9	0.0	3	36 36.0	41.5	18	-1.7	0.0	3	31 20.4	33.8	18	-1.4	0.0
4	42 35.7	48.6	24	-2.6	0.0	4	36 30.3	41.4	24	-2.3	0.0	4	31 15.6	33.6	24	-1.9	-0.1
5	42 29.2	48.5	30	-3.2	-0.1	5	36 24.6	41.3	30	-2.8	-0.1	5	31 10.8	33.5	30	-2.4	-0.1
6	42 22.8	48.4	36	-3.9	-0.1	6	36 18.9	41.2	36	-3.4	-0.1	6	31 6.1	33.4	36	-2.8	-0.1
7	42 16.4	48.3	42	-4.5	-0.1	7	36 13.2	41.0	42	-4.0	-0.1	7	31 1.3	33.2	42	-3.3	-0.1
8	42 10.0	48.1	48	-5.2	-0.1	8	36 7.6	40.9	48	-4.5	-0.1	8	30 56.6	33.1	48	-3.8	-0.1
9	42 3.6	48.0	54	-5.8	-0.1	9	36 2.0	40.7	54	-5.1	-0.1	9	30 51.9	32.9	54	-4.3	-0.1
10	41 57.2	47.9				10	35 56.4	40.6				10	30 47.2	32.8			
11	41 50.8	47.8	6	-0.6	0.0	11	35 50.8	40.5	6	-0.5	0.0	11	30 42.5	32.7	6	-0.5	0.0
12	41 44.4	47.7	12	-1.3	0.0	12	35 45.2	40.4	12	-1.1	0.0	12	30 37.9	32.6	12	-0.9	0.0
13	41 38.0	47.5	18	-1.9	0.0	13	35 39.6	40.2	18	-1.6	0.0	13	30 33.3	32.4	18	-1.4	0.0
14	41 31.7	47.4	24	-2.5	0.0	14	35 34.1	40.1	24	-2.2	0.0	14	30 28.7	32.3	24	-1.8	-0.1
15	41 25.3	47.3	30	-3.2	-0.1	15	35 28.5	40.0	30	-2.7	-0.1	15	30 24.1	32.2	30	-2.3	-0.1
16	41 19.0	47.2	36	-3.8	-0.1	16	35 23.0	39.9	36	-3.3	-0.1	16	30 19.5	32.1	36	-2.8	-0.1
17	41 12.7	47.1	42	-4.4	-0.1	17	35 17.5	39.7	42	-3.8	-0.1	17	30 14.9	31.9	42	-3.2	-0.1
18	41 6.4	46.9	48	-5.1	-0.1	18	35 12.0	39.6	48	-4.4	-0.1	18	30 10.4	31.8	48	-3.7	-0.1
19	41 0.1	46.8	54	-5.7	-0.1	19	35 6.5	39.4	54	-4.9	-0.1	19	30 5.8	31.6	54	-4.1	-0.1
20	40 53.8	46.7				20	35 1.0	39.3				20	30 1.3	31.5			
21	40 47.5	46.6	6	-0.6	0.0	21	34 55.5	39.2	6	-0.5	0.0	21	29 56.8	31.4	6	-0.4	0.0
22	40 41.3	46.5	12	-1.2	0.0	22	34 50.1	39.1	12	-1.1	0.0	22	29 52.3	31.3	12	-0.9	0.0
23	40 35.0	46.3	18	-1.9	0.0	23	34 44.7	38.9	18	-1.6	0.0	23	29 47.8	31.1	18	-1.3	0.0
24	40 28.8	46.2	24	-2.5	0.0	24	34 39.3	38.8	24	-2.2	0.0	24	29 43.4	31.0	24	-1.8	-0.1
25	40 22.6	46.1	30	-3.1	-0.1	25	34 33.9	38.7	30	-2.7	-0.1	25	29 39.0	30.9	30	-2.2	-0.1
26	40 16.4	46.0	36	-3.7	-0.1	26	34 28.5	38.6	36	-3.2	-0.1	26	29 34.6	30.8	36	-2.6	-0.1
27	40 10.2	45.9	42	-4.3	-0.1	27	34 23.1	38.5	42	-3.8	-0.1	27	29 30.2	30.6	42	-3.1	-0.1
28	40 4.0	45.7	48	-5.0	-0.1	28	34 17.8	38.3	48	-4.3	-0.1	28	29 25.9	30.5	48	-3.5	-0.1
29	39 57.8	45.6	54	-5.6	-0.1	29	34 12.4	38.2	54	-4.9	-0.1	29	29 21.5	30.3	54	-4.0	-0.1
30	39 51.7	45.5				30	34 7.1	38.1				30	29 17.2	30.2			
31	39 45.5	45.4	6	-0.6	0.0	31	34 1.8	38.0	6	-0.5	0.0	31	29 12.8	30.1	6	-0.4	0.0
32	39 39.4	45.3	12	-1.2	0.0	32	33 56.5	37.9	12	-1.0	0.0	32	29 8.5	29.9	12	-0.9	0.0
33	39 33.3	45.1	18	-1.8	0.0	33	33 51.2	37.7	18	-1.6	0.0	33	29 4.2	29.8	18	-1.3	0.0
34	39 27.2	45.0	24	-2.4	0.0	34	33 46.0	37.6	24	-2.1	0.0	34	29 0.0	29.6	24	-1.7	-0.1
35	39 21.1	44.9	30	-3.0	-0.1	35	33 40.7	37.5	30	-2.6	-0.1	35	28 55.7	29.5	30	-2.1	-0.1
36	39 15.0	44.8	36	-3.7	-0.1	36	33 35.5	37.4	36	-3.1	-0.1	36	28 51.5	29.4	36	-2.6	-0.1
37	39 8.9	44.7	42	-4.3	-0.1	37	33 30.3	37.2	42	-3.6	-0.1	37	28 47.3	29.2	42	-3.0	-0.1
38	39 2.9	44.5	48	-4.9	-0.1	38	33 25.1	37.0	48	-4.2	-0.1	38	28 43.1	29.1	48	-3.4	-0.1
39	38 56.8	44.4	54	-5.5	-0.1	39	33 19.9	36.9	54	-4.7	-0.1	39	28 38.9	28.9	54	-3.9	-0.1
40	38 50.8	44.3				40	33 14.8	36.8				40	28 34.7	28.8			
41	38 44.8	44.2	6	-0.6	0.0	41	33 9.6	36.7	6	-0.5	0.0	41	28 30.6	28.7	6	-0.4	0.0
42	38 38.8	44.1	12	-1.2	0.0	42	33 4.5	36.6	12	-1.0	0.0	42	28 26.5	28.6	12	-0.8	0.0
43	38 32.8	43.9	18	-1.8	0.0	43	32 59.4	36.4	18	-1.5	0.0	43	28 22.4	28.4	18	-1.2	0.0
44	38 26.9	43.8	24	-2.4	0.0	44	32 54.3	36.3	24	-2.0	0.0	44	28 18.3	28.3	24	-1.6	-0.1
45	38 20.9	43.7	30	-3.0	-0.1	45	32 49.2	36.2	30	-2.5	-0.1	45	28 14.2	28.2	30	-2.0	-0.1
46	38 15.0	43.6	36	-3.5	-0.1	46	32 44.1	36.1	36	-3.1	-0.1	46	28 10.2	28.1	36	-2.4	-0.1
47	38 9.0	43.5	42	-4.1	-0.1	47	32 39.1	35.9	42	-3.6	-0.1	47	28 6.1	27.9	42	-2.8	-0.1
48	38 3.1	43.3	48	-4.7	-0.1	48	32 34.0	35.8	48	-4.1	-0.1	48	28 2.1	27.8	48	-3.2	-0.1
49	37 57.2	43.2	54	-5.3	-0.1	49	32 29.0	35.6	54	-4.6	-0.1	49	27 58.1	27.6	54	-3.6	-0.1
50	37 51.3	43.1				50	32 24.0	35.5				50	27 54.1	27.5			
51	37 45.4	43.0	6	-0.6	0.0	51	32 19.0	35.4	6	-0.5	0.0	51	27 50.1	27.4	6	-0.4	0.0
52	37 39.6	42.9	12	-1.2	0.0	52	32 14.0	35.3	12	-1.0	0.0	52	27 46.2	27.2	12	-0.8	0.0
53	37 33.7	42.7	18	-1.8	0.0	53	32 9.0	35.1	18	-1.5	0.0	53	27 42.3	27.1	18	-1.2	0.0
54	37 27.9	42.6	24	-2.3	0.0	54	32 4.1	35.0	24	-2.0	0.0	54	27 38.4	26.9	24	-1.6	-0.1
55	37 22.0	42.5	30	-2.9	-0.1	55	31 59.2	34.9	30	-2.5	-0.1	55	27 34.5	26.8	30	-2.0	-0.1
56	37 16.2	42.4	36	-3.5	-0.1	56	31 54.3	34.8	36	-2.9	-0.1	56	27 30.6	26.7	36	-2.3	-0.1
57	37 10.4	42.3	42	-4.1	-0.1	57	31 49.4	34.6	42	-3.4	-0.1	57	27 26.7	26.5	42	-2.7	-0.1
58	37 4.6	42.1	48	-4.7	-0.1	58	31 44.5	34.5	48	-3.9	-0.1	58	27 22.9	26.4	48	-3.1	-0.1
59	36 58.8	42.0	54	-5.3	-0.1	59	31 39.6	34.3	54	-4.4	-0.1	59	27 19.1	26.2	54	-3.5	-0.1

m Std-wkl.	6. Stunde			m Std-wkl.	7. Stunde			m Std-wkl.	8. Stunde		
	Höhe	Azimet	Δt		Höhe	Azimet	Δt		Höhe	Azimet	Δt
Δh	-1' 1	-2' 2	-3' 3	Δh	-1' 3	-2' 5	-3' 8	Δh	-1' 4	-2' 8	-4' 2
ΔA	—	+ 0° 1	+ 0° 1	ΔA	—	—	+ 0° 1	ΔA	—	—	+ 0° 1

α 1917 = 12^h 50^m 25^s Jährliche Änderung + 2^s 6

55°N

ε Ursae majoris (Alioth)

55°N

Std. wkl. m.	9. Stunde					Std. wkl. m.	10. Stunde					Std. wkl. m.	11. Stunde				
	Höhe	Azimet	Δt	Δh	ΔA		Höhe	Azimet	Δt	Δh	ΔA		Höhe	Azimet	Δt	Δh	ΔA
0	27° 15.3	26° 1	sek			0	24° 3' 0	17° 6	sek			0	22° 4.5	8° 8	sek		
1	27 11.5	26.0	6	-0.4	0° 0	1	24 0.4	17.5	6	-0.2	0° 0	1	22 3.2	8.7	6	-0.1	0° 0
2	27 7.7	25.8	12	-0.7	0.0	2	23 57.8	17.3	12	-0.5	0.0	2	22 1.9	8.5	12	-0.2	0.0
3	27 3.9	25.7	18	-1.1	0.0	3	23 55.2	17.2	18	-0.7	0.0	3	22 0.6	8.4	18	-0.4	0.0
4	27 0.3	25.5	24	-1.5	-0.1	4	23 52.7	17.0	24	-1.0	-0.1	4	21 59.4	8.2	24	-0.5	-0.1
5	26 56.6	25.4	30	-1.8	-0.1	5	23 50.2	16.9	30	-1.2	-0.1	5	21 58.2	8.1	30	-0.6	-0.1
6	26 53.0	25.3	36	-2.2	-0.1	6	23 47.7	16.8	36	-1.5	-0.1	6	21 57.0	8.0	36	-0.7	-0.1
7	26 49.3	25.1	42	-2.6	-0.1	7	23 45.2	16.6	42	-1.7	-0.1	7	21 55.8	7.8	42	-0.8	-0.1
8	26 45.7	25.0	48	-3.0	-0.1	8	23 42.8	16.5	48	-2.0	-0.1	8	21 54.6	7.7	48	-1.0	-0.1
9	26 42.1	24.8	54	-3.3	-0.1	9	23 40.4	16.3	54	-2.2	-0.1	9	21 53.4	7.5	54	-1.1	-0.1
10	26 38.5	24.7				10	23 38.0	16.2				10	21 52.3	7.4			
11	26 34.9	24.6	6	-0.3	0.0	11	23 35.6	16.1	6	-0.2	0.0	11	21 51.2	7.3	6	-0.1	0.0
12	26 31.3	24.4	12	-0.7	0.0	12	23 33.2	15.9	12	-0.5	0.0	12	21 50.1	7.1	12	-0.2	0.0
13	26 27.7	24.3	18	-1.0	0.0	13	23 30.8	15.8	18	-0.7	0.0	13	21 49.1	7.0	18	-0.3	0.0
14	26 24.2	24.1	24	-1.4	-0.1	14	23 28.5	15.6	24	-0.9	-0.1	14	21 48.1	6.8	24	-0.4	-0.1
15	26 20.7	24.0	30	-1.7	-0.1	15	23 26.2	15.5	30	-1.1	-0.1	15	21 47.1	6.7	30	-0.5	-0.1
16	26 17.2	23.9	36	-2.1	-0.1	16	23 23.9	15.3	36	-1.4	-0.1	16	21 46.1	6.5	36	-0.6	-0.1
17	26 13.7	23.7	42	-2.4	-0.1	17	23 21.6	15.2	42	-1.6	-0.1	17	21 45.1	6.4	42	-0.7	-0.1
18	26 10.3	23.6	48	-2.8	-0.1	18	23 19.4	15.0	48	-1.8	-0.1	18	21 44.2	6.2	48	-0.8	-0.1
19	26 6.8	23.4	54	-3.1	-0.1	19	23 17.2	14.9	54	-2.1	-0.1	19	21 43.2	6.1	54	-0.9	-0.1
20	26 3.4	23.3				20	23 15.0	14.7				20	21 42.3	5.9			
21	26 0.0	23.2	6	-0.3	0.0	21	23 12.8	14.6	6	-0.2	0.0	21	21 41.4	5.8	6	-0.1	0.0
22	25 56.6	23.0	12	-0.7	0.0	22	23 10.7	14.4	12	-0.4	0.0	22	21 40.6	5.6	12	-0.2	0.0
23	25 53.2	22.9	18	-1.0	0.0	23	23 8.5	14.3	18	-0.6	0.0	23	21 39.7	5.5	18	-0.2	0.0
24	25 49.9	22.7	24	-1.3	-0.1	24	23 6.4	14.1	24	-0.8	-0.1	24	21 38.9	5.3	24	-0.3	-0.1
25	25 46.6	22.6	30	-1.6	-0.1	25	23 4.3	14.0	30	-1.0	-0.1	25	21 38.1	5.2	30	-0.4	-0.1
26	25 43.3	22.5	36	-2.0	-0.1	26	23 2.3	13.8	36	-1.3	-0.1	26	21 37.4	5.0	36	-0.5	-0.1
27	25 40.0	22.3	42	-2.3	-0.1	27	23 0.2	13.7	42	-1.5	-0.1	27	21 36.6	4.9	42	-0.6	-0.1
28	25 36.8	22.2	48	-2.6	-0.1	28	22 58.2	13.5	48	-1.7	-0.1	28	21 35.9	4.7	48	-0.6	-0.1
29	25 33.5	22.0	54	-3.0	-0.1	29	22 56.2	13.4	54	-1.9	-0.1	29	21 35.2	4.6	54	-0.7	-0.1
30	25 30.3	21.9				30	22 54.2	13.2				30	21 34.5	4.4			
31	25 27.1	21.8	6	-0.3	0.0	31	22 52.3	13.1	6	-0.2	0.0	31	21 33.8	4.3	6	0.0	0.0
32	25 23.9	21.6	12	-0.6	0.0	32	22 50.4	12.9	12	-0.4	0.0	32	21 33.2	4.1	12	-0.1	0.0
33	25 20.7	21.5	18	-0.9	0.0	33	22 48.4	12.8	18	-0.6	0.0	33	21 32.6	4.0	18	-0.1	0.0
34	25 17.6	21.3	24	-1.2	-0.1	34	22 46.5	12.6	24	-0.7	-0.1	34	21 32.0	3.8	24	-0.2	-0.1
35	25 14.5	21.2	30	-1.5	-0.1	35	22 44.6	12.5	30	-0.9	-0.1	35	21 31.4	3.7	30	-0.2	-0.1
36	25 11.4	21.1	36	-1.9	-0.1	36	22 42.7	12.4	36	-1.1	-0.1	36	21 30.9	3.6	36	-0.3	-0.1
37	25 8.3	20.9	42	-2.2	-0.1	37	22 40.9	12.2	42	-1.3	-0.1	37	21 30.4	3.4	42	-0.3	-0.1
38	25 5.3	20.8	48	-2.5	-0.1	38	22 39.1	12.1	48	-1.5	-0.1	38	21 29.9	3.3	48	-0.4	-0.1
39	25 2.2	20.6	54	-2.8	-0.1	39	22 37.3	11.9	54	-1.7	-0.1	39	21 29.4	3.1	54	-0.4	-0.1
40	24 59.2	20.5				40	22 35.5	11.8				40	21 29.0	3.0			
41	24 56.2	20.4	6	-0.3	0.0	41	22 33.7	11.7	6	-0.2	0.0	41	21 28.5	2.9	6	0.0	0.0
42	24 53.2	20.2	12	-0.6	0.0	42	22 32.0	11.5	12	-0.3	0.0	42	21 28.1	2.7	12	-0.1	0.0
43	24 50.2	20.1	18	-0.9	0.0	43	22 30.3	11.4	18	-0.5	0.0	43	21 27.7	2.6	18	-0.1	0.0
44	24 47.3	19.9	24	-1.2	-0.1	44	22 28.6	11.2	24	-0.6	-0.1	44	21 27.3	2.4	24	-0.1	-0.1
45	24 44.4	19.8	30	-1.4	-0.1	45	22 26.9	11.1	30	-0.8	-0.1	45	21 27.0	2.3	30	-0.1	-0.1
46	24 41.5	19.7	36	-1.7	-0.1	46	22 25.3	10.9	36	-1.0	-0.1	46	21 26.7	2.1	36	-0.2	-0.1
47	24 38.6	19.5	42	-2.0	-0.1	47	22 23.6	10.8	42	-1.1	-0.1	47	21 26.4	2.0	42	-0.2	-0.1
48	24 35.7	19.4	48	-2.3	-0.1	48	22 22.0	10.6	48	-1.3	-0.1	48	21 26.1	1.9	48	-0.2	-0.1
49	24 32.9	19.2	54	-2.6	-0.1	49	22 20.4	10.5	54	-1.4	-0.1	49	21 25.8	1.7	54	-0.3	-0.1
50	24 30.1	19.1				50	22 18.9	10.3				50	21 25.6	1.5			
51	24 27.3	19.0	6	-0.3	0.0	51	22 17.4	10.2	6	-0.1	0.0	51	21 25.4	1.4	6	0.0	0.0
52	24 24.5	18.8	12	-0.5	0.0	52	22 15.9	10.0	12	-0.3	0.0	52	21 25.2	1.2	12	0.0	0.0
53	24 21.7	18.7	18	-0.8	0.0	53	22 14.4	9.9	18	-0.4	0.0	53	21 25.0	1.0	18	0.0	0.0
54	24 19.0	18.5	24	-1.1	-0.1	54	22 12.9	9.7	24	-0.6	-0.1	54	21 24.9	0.9	24	0.0	-0.1
55	24 16.3	18.4	30	-1.3	-0.1	55	22 11.4	9.6	30	-0.7	-0.1	55	21 24.8	0.8	30	-0.1	-0.1
56	24 13.6	18.2	36	-1.6	-0.1	56	22 10.0	9.4	36	-0.8	-0.1	56	21 24.7	0.6	36	-0.1	-0.1
57	24 10.9	18.1	42	-1.9	-0.1	57	22 8.6	9.3	42	-1.0	-0.1	57	21 24.6	0.5	42	-0.1	-0.1
58	24 8.3	17.9	48	-2.2	-0.1	58	22 7.2	9.1	48	-1.1	-0.1	58	21 24.5	0.3	48	-0.1	-0.1
59	24 5.6	17.8	54	-2.4	-0.1	59	22 5.8	9.0	54	-1.3	-0.1	59	21 24.5	0.2	54	-0.1	-0.1

- ε Ursae majoris (Mizar)
- Irsae majoris Benetnasch)
- Irsae minoris (Kochab)
- γ Draconis
- α Lyrae (Wega)
- γ Cygni
- α Cygni (Deneb)
- α Cephei
- Irsae minoris (Nordstern)

m Std. wkl.	9. Stunde					m Std. wkl.	10. Stunde					m Std. wkl.	11. Stunde				
	Höhe	Azimet	Δt	Δh	ΔA		Höhe	Azimet	Δt	Δh	ΔA		Höhe	Azimet	Δt	Δh	ΔA
	1920-1925	1925-1930	1930-1935				1920-1925	1925-1930	1930-1935				1920-1925	1925-1930	1930-1935		
Δh	-1.5	-3.0	-4.5	Δh	-1.6	-3.1	-4.7	Δh	-1.6	-3.2	-4.9						
ΔA	—	—	—	ΔA	—	—	—	ΔA	—	—	—						

55°N

ξ¹ Ursae majoris (Mizar)

55°N

Std. wkl. m.	1. Stunde					Std. wkl. m.	2. Stunde				
	Höhe	Azimet	Δt	Δh	ΔA		Höhe	Azimet	Δt	Δh	ΔA
0	81°26.6	81°5	sek			0	72°59.9	76°4	sek		
1	81 18.1	81.4	6	-0.8		1	72 51.5	76.3	6	-0.8	
2	81 9.6	81.4	12	-1.7		2	72 43.1	76.2	12	-1.7	
3	81 1.1	81.3	18	-2.5		3	72 34.7	76.2	18	-2.5	
4	80 52.6	81.3	24	-3.4		4	72 26.4	76.1	24	-3.4	
5	80 44.1	81.2	30	-4.2		5	72 18.0	76.0	30	-4.2	
6	80 35.6	81.1	36	-5.1		6	72 9.7	75.9	36	-5.0	
7	80 27.1	81.0	42	-5.9		7	72 1.4	75.8	42	-5.9	
8	80 18.6	81.0	48	-6.8		8	71 53.1	75.7	48	-6.7	
9	80 10.1	80.9	54	-7.6		9	71 44.7	75.6	54	-7.6	
10	80 1.6	80.8				10	71 36.4	75.5			
11	79 53.1	80.7	6	-0.8		11	71 28.1	75.4	6	-0.8	
12	79 44.6	80.7	12	-1.7		12	71 19.8	75.3	12	-1.7	
13	79 36.1	80.6	18	-2.5		13	71 11.4	75.2	18	-2.5	
14	79 27.6	80.6	24	-3.4		14	71 3.1	75.1	24	-3.3	
15	79 19.1	80.5	30	-4.2		15	70 54.8	75.0	30	-4.1	
16	79 10.7	80.4	36	-5.1		16	70 46.5	74.9	36	-5.0	
17	79 2.2	80.3	42	-5.9		17	70 38.2	74.8	42	-5.8	
18	78 53.7	80.3	48	-6.8		18	70 29.9	74.7	48	-6.6	
19	78 45.2	80.2	54	-7.6		19	70 21.6	74.6	54	-7.5	
20	78 36.8	80.1				20	70 13.3	74.5			
21	78 28.3	80.0	6	-0.8		21	70 5.0	74.4	6	-0.8	
22	78 19.8	79.9	12	-1.7		22	69 56.7	74.3	12	-1.6	
23	78 11.3	79.9	18	-2.5		23	69 48.4	74.2	18	-2.5	
24	78 2.9	79.8	24	-3.4		24	69 40.2	74.1	24	-3.3	
25	77 54.4	79.7	30	-4.2		25	69 31.9	74.0	30	-4.1	
26	77 46.0	79.6	36	-5.1		26	69 23.6	73.9	36	-4.9	
27	77 37.5	79.5	42	-5.9		27	69 15.3	73.8	42	-5.8	
28	77 29.1	79.4	48	-6.8		28	69 7.1	73.7	48	-6.6	
29	77 20.6	79.3	54	-7.6		29	68 58.8	73.6	54	-7.4	
30	77 12.2	79.2				30	68 50.6	73.5			
31	77 3.7	79.1	6	-0.8		31	68 42.3	73.4	6	-0.8	
32	76 55.3	79.0	12	-1.7		32	68 34.1	73.3	12	-1.6	
33	76 46.8	79.0	18	-2.5		33	68 25.8	73.2	18	-2.5	
34	76 38.4	78.9	24	-3.4		34	68 17.6	73.1	24	-3.3	
35	76 30.0	78.8	30	-4.2		35	68 9.4	73.0	30	-4.1	
36	76 21.6	78.7	36	-5.1		36	68 1.2	72.9	36	-4.9	
37	76 13.1	78.6	42	-5.9		37	67 52.9	72.8	42	-5.8	
38	76 4.7	78.5	48	-6.8		38	67 44.7	72.7	48	-6.6	
39	75 56.2	78.4	54	-7.6		39	67 36.5	72.6	54	-7.4	
40	75 47.8	78.3				40	67 28.3	72.5			
41	75 39.3	78.2	6	-0.8		41	67 20.1	72.4	6	-0.8	
42	75 30.9	78.1	12	-1.7		42	67 11.9	72.3	12	-1.6	
43	75 22.5	78.1	18	-2.5		43	67 3.7	72.2	18	-2.5	
44	75 14.1	78.0	24	-3.4		44	66 55.5	72.1	24	-3.3	
45	75 5.7	77.9	30	-4.2		45	66 47.3	72.0	30	-4.1	
46	74 57.3	77.8	36	-5.1		46	66 39.1	71.9	36	-4.9	
47	74 48.9	77.7	42	-5.9		47	66 30.9	71.8	42	-5.7	
48	74 40.5	77.6	48	-6.8		48	66 22.8	71.7	48	-6.6	
49	74 32.1	77.5	54	-7.6		49	66 14.6	71.6	54	-7.4	
50	74 23.7	77.4				50	66 6.5	71.5			
51	74 15.3	77.3	6	-0.8		51	65 58.3	71.4	6	-0.8	
52	74 6.9	77.2	12	-1.7		52	65 50.2	71.3	12	-1.6	
53	73 58.5	77.1	18	-2.5		53	65 42.0	71.2	18	-2.4	
54	73 50.1	77.0	24	-3.4		54	65 33.9	71.1	24	-3.3	
55	73 41.7	76.9	30	-4.2		55	65 25.7	71.0	30	-4.1	
56	73 33.4	76.8	36	-5.0		56	65 17.6	70.9	36	-4.9	
57	73 25.0	76.7	42	-5.9		57	65 9.5	70.8	42	-5.7	
58	73 16.6	76.6	48	-6.7		58	65 1.4	70.7	48	-6.5	
59	73 8.2	76.5	54	-7.6		59	64 53.3	70.6	54	-7.3	
m Std. wkl.	Höhe	Azimet	Δt	Δh	ΔA	m Std. wkl.	Höhe	Azimet	Δt	Δh	ΔA
	1. Stunde						2. Stunde				

	1920-1925	1925-1930	1930-1935		1920-1925	1925-1930	1930-1935
Δh	- 0.2	- 0.4	- 0.6	Δh	- 0.4	- 0.8	- 1.1
ΔA	+ 0.1	+ 0.3	+ 0.4	ΔA	+ 0.1	+ 0.1	+ 0.2

55°N

 ζ^1 Ursae majoris (Mizar)

55°N

Std-wkl. m.	3. Stunde					Std-wkl. m.	4. Stunde					Std-wkl. m.	5. Stunde				
	Höhe	Azimuth	Δt	Δh	ΔA		Höhe	Azimuth	Δt	Δh	ΔA		Höhe	Azimuth	Δt	Δh	ΔA
0	64°45'2	70°5	sek			0	56°49'1	64°1	sek		0	49°18'9	57°4	sek			
1	64 37.1	70.4	6	-0.8		1	56 41.3	64.0	6	-0.8	1	49 11.6	57.3	6	-0.7		
2	64 29.0	70.3	12	-1.6		2	56 33.6	63.9	12	-1.5	2	49 4.4	57.2	12	-1.4		
3	64 20.9	70.2	18	-2.4		3	56 25.9	63.8	18	-2.3	3	48 57.2	57.0	18	-2.2		
4	64 12.8	70.1	24	-3.2		4	56 18.2	63.7	24	-3.1	4	48 50.0	56.9	24	-2.9		
5	64 4.7	70.0	30	-4.1		5	56 10.5	63.6	30	-3.9	5	48 42.8	56.8	30	-3.6		
6	63 56.6	69.9	36	-4.9		6	56 2.8	63.5	36	-4.6	6	48 35.6	56.7	36	-4.4		
7	63 48.5	69.8	42	-5.7		7	55 55.1	63.4	42	-5.4	7	48 28.4	56.6	42	-5.1		
8	63 40.5	69.6	48	-6.5		8	55 47.5	63.2	48	-6.1	8	48 21.2	56.4	48	-5.8		
9	63 32.4	69.5	54	-7.3		9	55 39.8	63.1	54	-6.9	9	48 14.0	56.3	54	-6.6		
10	63 24.3	69.4				10	55 32.1	63.0			10	48 6.9	56.2				
11	63 16.2	69.3	6	-0.8		11	55 24.4	62.9	6	-0.8	11	47 59.7	56.1	6	-0.7		
12	63 8.2	69.2	12	-1.6		12	55 16.8	62.8	12	-1.5	12	47 52.6	56.0	12	-1.4		
13	63 0.1	69.1	18	-2.4		13	55 9.1	62.7	18	-2.3	13	47 45.5	55.9	18	-2.1		
14	62 52.1	69.0	24	-3.2		14	55 1.5	62.6	24	-3.1	14	47 38.4	55.8	24	-2.8		
15	62 44.1	68.9	30	-4.0		15	54 53.8	62.5	30	-3.8	15	47 31.3	55.7	30	-3.5		
16	62 36.1	68.8	36	-4.8		16	54 46.2	62.4	36	-4.6	16	47 24.2	55.6	36	-4.3		
17	62 28.1	68.7	42	-5.6		17	54 38.6	62.3	42	-5.4	17	47 17.1	55.5	42	-5.0		
18	62 20.1	68.6	48	-6.4		18	54 31.0	62.1	48	-6.1	18	47 10.0	55.3	48	-5.7		
19	62 12.1	68.5	54	-7.2		19	54 23.4	62.0	54	-6.9	19	47 2.9	55.2	54	-6.4		
20	62 4.1	68.4				20	54 15.8	61.9			20	46 55.8	55.1				
21	61 56.1	68.3	6	-0.8		21	54 8.2	61.8	6	-0.8	21	46 48.7	55.0	6	-0.7		
22	61 48.1	68.2	12	-1.6		22	54 0.6	61.7	12	-1.5	22	46 41.7	54.9	12	-1.4		
23	61 40.1	68.1	18	-2.4		23	53 53.0	61.6	18	-2.3	23	46 34.7	54.7	18	-2.1		
24	61 32.1	68.0	24	-3.2		24	53 45.5	61.5	24	-3.0	24	46 27.7	54.6	24	-2.8		
25	61 24.1	67.9	30	-4.0		25	53 37.9	61.4	30	-3.8	25	46 20.7	54.5	30	-3.5		
26	61 16.2	67.8	36	-4.8		26	53 30.4	61.3	36	-4.5	26	46 13.7	54.4	36	-4.2		
27	61 8.2	67.7	42	-5.6		27	53 22.9	61.2	42	-5.3	27	46 6.7	54.3	42	-4.9		
28	61 0.3	67.5	48	-6.4		28	53 15.4	61.0	48	-6.0	28	45 59.7	54.1	48	-5.6		
29	60 52.3	67.4	54	-7.2		29	53 7.8	60.9	54	-6.8	29	45 52.7	54.0	54	-6.3		
30	60 44.4	67.3				30	53 0.3	60.8			30	45 45.8	53.9				
31	60 36.4	67.2	6	-0.8		31	52 52.8	60.7	6	-0.7	31	45 38.8	53.8	6	-0.7		
32	60 28.5	67.1	12	-1.6		32	52 45.3	60.6	12	-1.5	32	45 31.9	53.7	12	-1.4		
33	60 20.6	67.0	18	-2.4		33	52 37.8	60.5	18	-2.2	33	45 25.0	53.5	18	-2.1		
34	60 12.7	66.9	24	-3.2		34	52 30.3	60.4	24	-3.0	34	45 18.1	53.4	24	-2.8		
35	60 4.8	66.8	30	-4.0		35	52 22.8	60.3	30	-3.7	35	45 11.2	53.3	30	-3.5		
36	59 56.9	66.7	36	-4.8		36	52 15.4	60.2	36	-4.5	36	45 4.3	53.2	36	-4.1		
37	59 49.0	66.6	42	-5.6		37	52 7.9	60.1	42	-5.2	37	44 57.4	53.1	42	-4.8		
38	59 41.1	66.5	48	-6.4		38	52 0.5	59.9	48	-6.0	38	44 50.5	52.9	48	-5.5		
39	59 33.2	66.4	54	-7.2		39	51 53.0	59.8	54	-6.7	39	44 43.6	52.8	54	-6.2		
40	59 25.3	66.3				40	51 45.6	59.7			40	44 36.8	52.7				
41	59 17.4	66.2	6	-0.8		41	51 38.2	59.6	6	-0.7	41	44 29.9	52.6	6	-0.7		
42	59 9.6	66.1	12	-1.6		42	51 30.8	59.5	12	-1.5	42	44 23.1	52.5	12	-1.4		
43	59 1.7	66.0	18	-2.4		43	51 23.4	59.3	18	-2.2	43	44 16.3	52.3	18	-2.0		
44	58 53.9	65.9	24	-3.1		44	51 16.0	59.2	24	-3.0	44	44 9.5	52.2	24	-2.7		
45	58 46.0	65.8	30	-3.9		45	51 8.6	59.1	30	-3.7	45	44 2.7	52.1	30	-3.4		
46	58 38.2	65.7	36	-4.7		46	51 1.2	59.0	36	-4.4	46	43 55.9	52.0	36	-4.1		
47	58 30.3	65.6	42	-5.5		47	50 53.8	58.9	42	-5.2	47	43 49.1	51.9	42	-4.8		
48	58 22.5	65.4	48	-6.3		48	50 46.5	58.7	48	-5.9	48	43 42.4	51.7	48	-5.4		
49	58 14.7	65.3	54	-7.1		49	50 39.1	58.6	54	-6.7	49	43 35.6	51.6	54	-6.1		
50	58 6.9	65.2				50	50 31.8	58.5			50	43 28.9	51.5				
51	57 59.1	65.1	6	-0.8		51	50 24.5	58.4	6	-0.7	51	43 22.2	51.4	6	-0.7		
52	57 51.3	65.0	12	-1.6		52	50 17.2	58.3	12	-1.5	52	43 15.5	51.3	12	-1.3		
53	57 43.5	64.9	18	-2.4		53	50 9.8	58.2	18	-2.2	53	43 8.8	51.1	18	-2.0		
54	57 35.7	64.8	24	-3.1		54	50 2.5	58.1	24	-2.9	54	43 2.1	51.0	24	-2.7		
55	57 27.9	64.7	30	-3.9		55	49 55.2	58.0	30	-3.6	55	42 55.4	50.9	30	-3.3		
56	57 20.1	64.6	36	-4.7		56	49 47.9	57.9	36	-4.4	56	42 48.8	50.8	36	-4.0		
57	57 12.3	64.5	42	-5.5		57	49 40.6	57.8	42	-5.1	57	42 42.1	50.7	42	-4.7		
58	57 4.6	64.3	48	-6.3		58	49 33.4	57.6	48	-5.8	58	42 35.5	50.5	48	-5.4		
59	56 56.8	64.2	54	-7.1		59	49 26.1	57.5	54	-6.6	59	42 28.8	50.4	54	-6.0		
Std-wkl. m.	Höhe	Azimuth	Δt	Δh	ΔA	Std-wkl. m.	Höhe	Azimuth	Δt	Δh	ΔA	Std-wkl. m.	Höhe	Azimuth	Δt	Δh	ΔA
3. Stunde						4. Stunde						5. Stunde					
Δh	-0.5	-1.1	-1.6			Δh	-0.7	-1.4	-2.2			Δh	-0.9	-1.8	-2.7		
ΔA	-	+0°1	+0°1			ΔA	-	-	+0°1			ΔA	-	-	+0°1		

 ζ^1 Ursae majoris (Mizar) γ Ursae majoris Benetnasch) δ Ursae minoris (Kochab) ϵ Draconis α Lyrae (Weğa) γ Cygni α Cygni (Deneb) α Cephei δ Ursae minoris (Nordstern)

Std. wkl. m.	6. Stunde					Std. wkl. m.	7. Stunde					Std. wkl. m.	8. Stunde				
	Höhe	Azimet	Δt	Δh	ΔA		Höhe	Azimet	Δt	Δh	ΔA		Höhe	Azimet	Δt	Δh	ΔA
0	42°22'2	50°3	sek			0	36°7'4	42°8	sek			0	30°43'3	34°9	sek		
1	42 15.6	50.2	6	-0.7	0.0	1	36 1.5	42.7	6	-0.6	0.0	1	30 38.4	34.8	6	-0.5	0.0
2	42 9.0	50.1	12	-1.3	0.0	2	35 55.7	42.6	12	-1.2	0.0	2	30 33.5	34.7	12	-1.0	0.0
3	42 2.4	49.9	18	-2.0	0.0	3	35 49.9	42.4	18	-1.7	0.0	3	30 28.6	34.6	18	-1.4	0.0
4	41 55.8	49.8	24	-2.6	0.0	4	35 44.1	42.3	24	-2.3	-0.1	4	30 23.8	34.4	24	-1.9	-0.1
5	41 49.2	49.7	30	-3.3	-0.1	5	35 38.3	42.2	30	-2.9	-0.1	5	30 18.9	34.3	30	-2.4	-0.1
6	41 42.7	49.6	36	-3.9	-0.1	6	35 32.5	42.1	36	-3.5	-0.1	6	30 14.1	34.2	36	-2.9	-0.1
7	41 36.1	49.5	42	-4.6	-0.1	7	35 26.7	41.9	42	-4.1	-0.1	7	30 9.2	34.0	42	-3.4	-0.1
8	41 29.6	49.3	48	-5.2	-0.1	8	35 21.0	41.8	48	-4.6	-0.1	8	30 4.4	33.9	48	-3.8	-0.1
9	41 23.1	49.2	54	-5.9	-0.1	9	35 15.3	41.6	54	-5.2	-0.1	9	29 59.6	33.7	54	-4.3	-0.1
10	41 16.6	49.1				10	35 9.6	41.5				10	29 54.9	33.6			
11	41 10.1	49.0	6	-0.6	0.0	11	35 3.9	41.4	6	-0.6	0.0	11	29 50.1	33.5	6	-0.5	0.0
12	41 3.6	48.9	12	-1.3	0.0	12	34 58.2	41.3	12	-1.1	0.0	12	29 45.4	33.3	12	-0.9	0.0
13	40 57.1	48.7	18	-1.9	0.0	13	34 52.5	41.1	18	-1.7	0.0	13	29 40.7	33.2	18	-1.4	0.0
14	40 50.6	48.6	24	-2.6	0.0	14	34 46.9	41.0	24	-2.3	-0.1	14	29 36.0	33.0	24	-1.9	-0.1
15	40 44.1	48.5	30	-3.2	-0.1	15	34 41.3	40.9	30	-2.8	-0.1	15	29 31.3	32.9	30	-2.3	-0.1
16	40 37.7	48.4	36	-3.9	-0.1	16	34 35.7	40.8	36	-3.4	-0.1	16	29 26.6	32.8	36	-2.8	-0.1
17	40 31.3	48.3	42	-4.5	-0.1	17	34 30.1	40.6	42	-4.0	-0.1	17	29 22.0	32.6	42	-3.3	-0.1
18	40 24.9	48.1	48	-5.2	-0.1	18	34 24.5	40.5	48	-4.5	-0.1	18	29 17.4	32.5	48	-3.8	-0.1
19	40 18.5	48.0	54	-5.8	-0.1	19	34 18.9	40.3	54	-5.1	-0.1	19	29 12.8	32.3	54	-4.2	-0.1
20	40 12.1	47.9				20	34 13.3	40.2				20	29 8.2	32.2			
21	40 5.7	47.8	6	-0.6	0.0	21	34 7.7	40.1	6	-0.5	0.0	21	29 3.6	32.1	6	-0.4	0.0
22	39 59.4	47.7	12	-1.3	0.0	22	34 2.2	40.0	12	-1.1	0.0	22	28 59.0	31.9	12	-0.9	0.0
23	39 53.0	47.5	18	-1.9	0.0	23	33 56.7	39.8	18	-1.6	0.0	23	28 54.4	31.8	18	-1.3	0.0
24	39 46.7	47.4	24	-2.5	0.0	24	33 51.2	39.7	24	-2.2	-0.1	24	28 49.9	31.6	24	-1.8	-0.1
25	39 40.4	47.3	30	-3.1	-0.1	25	33 45.7	39.6	30	-2.7	-0.1	25	28 45.4	31.5	30	-2.2	-0.1
26	39 34.1	47.2	36	-3.8	-0.1	26	33 40.2	39.5	36	-3.3	-0.1	26	28 40.9	31.4	36	-2.7	-0.1
27	39 27.8	47.0	42	-4.4	-0.1	27	33 34.7	39.3	42	-3.8	-0.1	27	28 36.4	31.2	42	-3.1	-0.1
28	39 21.5	46.9	48	-5.0	-0.1	28	33 29.3	39.2	48	-4.4	-0.1	28	28 32.0	31.1	48	-3.6	-0.1
29	39 15.2	46.7	54	-5.7	-0.1	29	33 23.8	39.0	54	-4.9	-0.1	29	28 27.6	30.9	54	-4.0	-0.1
30	39 9.0	46.6				30	33 18.4	38.9				30	28 23.2	30.8			
31	39 2.7	46.5	6	-0.6	0.0	31	33 13.0	38.8	6	-0.5	0.0	31	28 18.8	30.7	6	-0.4	0.0
32	38 56.5	46.4	12	-1.2	0.0	32	33 7.6	38.7	12	-1.1	0.0	32	28 14.4	30.5	12	-0.9	0.0
33	38 50.3	46.2	18	-1.9	0.0	33	33 2.2	38.5	18	-1.6	0.0	33	28 10.0	30.4	18	-1.3	0.0
34	38 44.1	46.1	24	-2.5	0.0	34	32 56.9	38.4	24	-2.1	-0.1	34	28 5.7	30.2	24	-1.7	-0.1
35	38 37.9	46.0	30	-3.1	-0.1	35	32 51.6	38.3	30	-2.6	-0.1	35	28 1.3	30.1	30	-2.1	-0.1
36	38 31.7	45.9	36	-3.7	-0.1	36	32 46.3	38.2	36	-3.2	-0.1	36	27 57.0	30.0	36	-2.6	-0.1
37	38 25.5	45.8	42	-4.3	-0.1	37	32 41.0	38.0	42	-3.7	-0.1	37	27 52.7	29.8	42	-3.0	-0.1
38	38 19.4	45.6	48	-5.0	-0.1	38	32 35.7	37.9	48	-4.2	-0.1	38	27 48.4	29.7	48	-3.4	-0.1
39	38 13.2	45.5	54	-5.6	-0.1	39	32 30.4	37.7	54	-4.8	-0.1	39	27 44.1	29.5	54	-3.9	-0.1
40	38 7.1	45.4				40	32 25.2	37.6				40	27 39.9	29.4			
41	38 1.0	45.3	6	-0.6	0.0	41	32 19.9	37.5	6	-0.5	0.0	41	27 35.7	29.3	6	-0.4	0.0
42	37 54.9	45.2	12	-1.2	0.0	42	32 14.7	37.4	12	-1.0	0.0	42	27 31.5	29.2	12	-0.8	0.0
43	37 48.8	45.0	18	-1.8	0.0	43	32 9.4	37.2	18	-1.6	0.0	43	27 27.3	29.1	18	-1.2	0.0
44	37 42.7	44.9	24	-2.4	0.0	44	32 4.2	37.1	24	-2.1	-0.1	44	27 23.2	28.9	24	-1.6	-0.1
45	37 36.6	44.8	30	-3.0	-0.1	45	31 59.0	37.0	30	-2.6	-0.1	45	27 19.0	28.8	30	-2.0	-0.1
46	37 30.6	44.7	36	-3.6	-0.1	46	31 53.9	36.9	36	-3.1	-0.1	46	27 14.9	28.7	36	-2.5	-0.1
47	37 24.5	44.5	42	-4.2	-0.1	47	31 48.7	36.7	42	-3.6	-0.1	47	27 10.8	28.5	42	-2.9	-0.1
48	37 18.5	44.4	48	-4.8	-0.1	48	31 43.6	36.6	48	-4.2	-0.1	48	27 6.7	28.4	48	-3.3	-0.1
49	37 12.5	44.2	54	-5.4	-0.1	49	31 38.5	36.4	54	-4.7	-0.1	49	27 2.6	28.2	54	-3.7	-0.1
50	37 6.5	44.1				50	31 33.4	36.3				50	26 58.6	28.1			
51	37 0.5	44.0	6	-0.6	0.0	51	31 28.3	36.2	6	-0.5	0.0	51	26 54.5	28.0	6	-0.4	0.0
52	36 54.6	43.9	12	-1.2	0.0	52	31 23.3	36.0	12	-1.0	0.0	52	26 50.5	27.8	12	-0.8	0.0
53	36 48.6	43.7	18	-1.8	0.0	53	31 18.2	35.9	18	-1.5	0.0	53	26 46.5	27.7	18	-1.2	0.0
54	36 42.7	43.6	24	-2.4	0.0	54	31 13.2	35.7	24	-2.0	-0.1	54	26 42.5	27.5	24	-1.6	-0.1
55	36 36.8	43.5	30	-3.0	-0.1	55	31 8.1	35.6	30	-2.5	-0.1	55	26 38.5	27.4	30	-2.0	-0.1
56	36 30.9	43.4	36	-3.5	-0.1	56	31 3.1	35.5	36	-3.0	-0.1	56	26 34.6	27.3	36	-2.4	-0.1
57	36 25.0	43.2	42	-4.1	-0.1	57	30 58.1	35.3	42	-3.5	-0.1	57	26 30.7	27.1	42	-2.8	-0.1
58	36 19.1	43.1	48	-4.7	-0.1	58	30 53.2	35.2	48	-4.0	-0.1	58	26 26.8	26.9	48	-3.2	-0.1
59	36 13.2	42.9	54	-5.3	-0.1	59	30 48.2	35.0	54	-4.5	-0.1	59	26 22.9	26.7	54	-3.6	-0.1
m Std. wkl.	Höhe	Azimet	Δt	Δh	ΔA	m Std. wkl.	Höhe	Azimet	Δt	Δh	ΔA	m Std. wkl.	Höhe	Azimet	Δt	Δh	ΔA
	6. Stunde						7. Stunde						8. Stunde				

	1920-1925	1925-1930	1930-1935		1920-1925	1925-1930	1930-1935		1920-1925	1925-1930	1930-1935
Δh	-1'1	-2'1	-3'2	Δh	-1'2	-2'4	-3'6	Δh	-1'3	-2'6	-4'0
ΔA	—	—	—	ΔA	—	—	—	ΔA	—	—	—

55°N

ξ Ursae majoris (Mizar)

55°N

Main table with columns for '9. Stunde', '10. Stunde', and '11. Stunde'. Each hour column contains sub-columns for 'Std.wkl. m.', 'Höhe', 'Azimut', 'Δt', 'Δh', and 'ΔA'. Rows are numbered 0 to 59.

Summary table with columns for '1920-1925', '1925-1930', and '1930-1935' for 'Δh' and 'ΔA' values.

- Ursae majoris Benetnasch)
Irsae minoris (Kochab)
γ Draconis
α Lyrae (Weğa)
γ Cygni
α Cygni (Deneb)
α Cephei
Ursae minoris (Nordstern)

Std. wkl. m.	1. Stunde					Std. wkl. m.	2. Stunde				
	Höhe	Azimut	Δt	Δh	ΔA		Höhe	Azimut	Δt	Δh	ΔA
0	79°27.7	113.8	sek			0	71° 6.1	93.7	sek		
1	79 19.9	113.3	6	-0.8	0.0	1	70 57.5	93.5	6	-0.9	0.0
2	79 12.1	112.8	12	-1.6	-0.1	2	70 48.9	93.3	12	-1.7	0.0
3	79 4.2	112.3	18	-2.4	-0.1	3	70 40.3	93.0	18	-2.6	-0.1
4	78 56.3	111.8	24	-3.2	-0.2	4	70 31.7	92.8	24	-3.4	-0.1
5	78 48.3	111.4	30	-4.0	-0.2	5	70 23.2	92.6	30	-4.3	-0.1
6	78 40.2	110.9	36	-4.8	-0.3	6	70 14.6	92.4	36	-5.2	-0.1
7	78 32.1	110.5	42	-5.6	-0.3	7	70 6.0	92.2	42	-6.0	-0.1
8	78 24.0	110.0	48	-6.4	-0.4	8	69 57.4	91.9	48	-6.9	-0.2
9	78 15.8	109.5	54	-7.2	-0.4	9	69 48.8	91.7	54	-7.7	-0.2
10	78 7.7	109.1				10	69 40.2	91.5			
11	77 59.6	108.7	6	-0.8	0.0	11	69 31.6	91.3	6	-0.9	0.0
12	77 51.4	108.3	12	-1.6	-0.1	12	69 23.0	91.1	12	-1.7	0.0
13	77 43.3	107.9	18	-2.5	-0.1	13	69 14.4	90.8	18	-2.6	-0.1
14	77 35.1	107.5	24	-3.3	-0.2	14	69 5.8	90.6	24	-3.4	-0.1
15	77 26.8	107.1	30	-4.1	-0.2	15	68 57.2	90.4	30	-4.3	-0.1
16	77 18.6	106.7	36	-4.9	-0.2	16	68 48.6	90.2	36	-5.2	-0.1
17	77 10.3	106.3	42	-5.7	-0.3	17	68 40.0	90.0	42	-6.0	-0.1
18	77 2.0	105.9	48	-6.6	-0.3	18	68 31.4	89.8	48	-6.9	-0.2
19	76 53.7	105.5	54	-7.4	-0.4	19	68 22.8	89.6	54	-7.7	-0.2
20	76 45.4	105.2				20	68 14.2	89.4			
21	76 37.1	104.8	6	-0.8	0.0	21	68 5.6	89.2	6	-0.9	0.0
22	76 28.8	104.4	12	-1.7	0.1	22	67 57.0	89.0	12	-1.7	0.0
23	76 20.5	104.0	18	-2.5	-0.1	23	67 48.4	88.8	18	-2.6	-0.1
24	76 12.1	103.7	24	-3.4	-0.1	24	67 39.7	88.6	24	-3.4	-0.1
25	76 3.8	103.3	30	-4.2	-0.2	25	67 31.1	88.4	30	-4.3	-0.1
26	75 55.4	103.0	36	-5.0	-0.2	26	67 22.5	88.2	36	-5.2	-0.1
27	75 47.1	102.7	42	-5.9	-0.2	27	67 13.9	88.0	42	-6.0	-0.1
28	75 38.7	102.4	48	-6.7	-0.3	28	67 5.3	87.8	48	-6.9	-0.2
29	75 30.3	102.0	54	-7.6	-0.3	29	66 56.7	87.6	54	-7.7	-0.2
30	75 21.7	101.7				30	66 48.0	87.4			
31	75 13.3	101.4	6	-0.8	0.0	31	66 39.4	87.2	6	-0.9	0.0
32	75 4.9	101.1	12	-1.7	-0.1	32	66 30.8	87.0	12	-1.7	0.0
33	74 56.5	100.8	18	-2.5	-0.1	33	66 22.2	86.9	18	-2.6	-0.1
34	74 48.0	100.5	24	-3.4	-0.1	34	66 13.6	86.7	24	-3.4	-0.1
35	74 39.6	100.2	30	-4.2	-0.1	35	66 5.0	86.5	30	-4.3	-0.1
36	74 31.1	99.9	36	-5.0	-0.2	36	65 56.5	86.3	36	-5.2	-0.1
37	74 22.7	99.6	42	-5.9	-0.2	37	65 47.9	86.1	42	-6.0	-0.1
38	74 14.2	99.3	48	-6.7	-0.2	38	65 39.3	86.0	48	-6.9	-0.2
39	74 5.7	99.0	54	-7.6	-0.2	39	65 30.7	85.8	54	-7.7	-0.2
40	73 57.2	98.8				40	65 22.1	85.6			
41	73 48.6	98.5	6	-0.8	0.0	41	65 13.5	85.4	6	-0.9	0.0
42	73 40.1	98.2	12	-1.7	0.0	42	65 4.9	85.2	12	-1.7	0.0
43	73 31.6	97.9	18	-2.5	-0.1	43	64 56.3	85.1	18	-2.6	-0.1
44	73 23.1	97.7	24	-3.4	-0.1	44	64 47.8	84.9	24	-3.4	-0.1
45	73 14.6	97.4	30	-4.2	-0.1	45	64 39.2	84.7	30	-4.3	-0.1
46	73 6.1	97.1	36	-5.1	-0.1	46	64 30.6	84.5	36	-5.2	-0.1
47	72 57.6	96.8	42	-5.9	-0.2	47	64 22.0	84.3	42	-6.0	-0.1
48	72 49.0	96.6	48	-6.8	-0.2	48	64 13.5	84.2	48	-6.9	-0.2
49	72 40.5	96.3	54	-7.6	-0.2	49	64 4.9	84.0	54	-7.7	-0.2
50	72 32.0	96.1				50	63 56.4	83.8			
51	72 23.5	95.8	6	-0.9	0.0	51	63 47.8	83.6	6	-0.8	0.0
52	72 14.9	95.6	12	-1.7	0.0	52	63 39.3	83.4	12	-1.7	0.0
53	72 6.3	95.3	18	-2.6	-0.1	53	63 30.7	83.3	18	-2.5	-0.1
54	71 57.7	95.1	24	-3.4	-0.1	54	63 22.2	83.1	24	-3.4	-0.1
55	71 49.1	94.8	30	-4.3	-0.1	55	63 13.6	82.9	30	-4.2	-0.1
56	71 40.5	94.6	36	-5.2	-0.1	56	63 5.1	82.7	36	-5.1	-0.1
57	71 32.0	94.3	42	-6.0	-0.2	57	62 56.5	82.6	42	-5.9	-0.1
58	71 23.4	94.1	48	-6.9	-0.2	58	62 48.0	82.4	48	-6.7	-0.2
59	71 14.8	93.9	54	-7.7	-0.2	59	62 39.6	82.3	54	-7.5	-0.2
m Std. wkl.	Höhe	Azimut	Δt	Δh	ΔA	m Std. wkl.	Höhe	Azimut	Δt	Δh	ΔA
	1. Stunde						2. Stunde				

	1920-1925	1925-1930	1930-1935		1920-1925	1925-1930	1930-1935
Δh	-0.8	-1.6	-2.4	Δh	-0.7	-1.4	-2.2
ΔA	+0.1	+0.1	+0.2	ΔA	+0.1	+0.1	+0.1

55°N

η Ursae majoris (Benetnasch)

55°N

Std-wkl. m.	3.Stunde					Std-wkl. m.	4.Stunde					Std-wkl. m.	5.Stunde				
	Höhe	Azimut	Δt	Δh	ΔA		Höhe	Azimut	Δt	Δh	ΔA		Höhe	Azimut	Δt	Δh	ΔA
0	62° 31' 2	82° 1	sek			0	54° 8' 0	72° 8	sek			0	46° 7' 9	64° 3	sek		
1	62 22.6	81.9	6	-0.8	0°0	1	53 59.7	72.7	6	-0.8	0°0	1	46 0.1	64.2	6	-0.8	0°0
2	62 14.1	81.8	12	-1.7	0.0	2	53 51.5	72.5	12	-1.6	0.0	2	45 52.4	64.0	12	-1.6	0.0
3	62 5.6	81.6	18	-2.5	-0.1	3	53 43.3	72.4	18	-2.5	-0.1	3	45 44.7	63.9	18	-2.3	0.0
4	61 57.1	81.5	24	-3.4	-0.1	4	53 35.1	72.2	24	-3.3	-0.1	4	45 37.0	63.7	24	-3.1	-0.1
5	61 48.6	81.3	30	-4.2	-0.1	5	53 26.9	72.1	30	-4.1	-0.1	5	45 29.2	63.6	30	-3.9	-0.1
6	61 40.1	81.1	36	-5.1	-0.1	6	53 18.7	72.0	36	-4.9	-0.1	6	45 21.5	63.5	36	-4.7	-0.1
7	61 31.6	81.0	42	-5.9	-0.1	7	53 10.5	71.8	42	-5.7	-0.1	7	45 13.9	63.3	42	-5.4	-0.1
8	61 23.1	80.8	48	-6.8	-0.2	8	53 2.3	71.7	48	-6.6	-0.2	8	45 6.2	63.2	48	-6.2	-0.1
9	61 14.6	80.7	54	-7.6	-0.2	9	52 54.2	71.5	54	-7.4	-0.2	9	44 58.5	63.0	54	-7.0	-0.1
10	61 6.1	80.5				10	52 46.1	71.4				10	44 50.8	62.9			
11	60 57.7	80.3	6	-0.8	0.0	11	52 37.9	71.2	6	-0.8	0.0	11	44 43.1	62.8	6	-0.8	0.0
12	60 49.2	80.2	12	-1.7	0.0	12	52 29.8	71.1	12	-1.6	0.0	12	44 35.5	62.6	12	-1.5	0.0
13	60 40.7	80.0	18	-2.5	-0.1	13	52 21.6	70.9	18	-2.4	0.0	13	44 27.8	62.5	18	-2.3	0.0
14	60 32.2	79.9	24	-3.4	-0.1	14	52 13.5	70.8	24	-3.3	-0.1	14	44 20.2	62.3	24	-3.0	-0.1
15	60 23.7	79.7	30	-4.2	-0.1	15	52 5.3	70.6	30	-4.1	-0.1	15	44 12.7	62.2	30	-3.8	-0.1
16	60 15.3	79.5	36	-5.1	-0.1	16	51 57.2	70.5	36	-4.9	-0.1	16	44 5.1	62.1	36	-4.6	-0.1
17	60 6.8	79.4	42	-5.9	-0.1	17	51 49.1	70.3	42	-5.7	-0.1	17	43 57.5	61.9	42	-5.3	-0.1
18	59 58.4	79.2	48	-6.8	-0.2	18	51 41.0	70.2	48	-6.5	-0.1	18	43 49.9	61.8	48	-6.1	-0.1
19	59 49.9	79.1	54	-7.6	-0.2	19	51 33.0	70.0	54	-7.3	-0.1	19	43 42.3	61.6	54	-6.8	-0.1
20	59 41.5	78.9				20	51 24.9	69.9				20	43 34.7	61.5			
21	59 33.0	78.7	6	-0.8	0.0	21	51 16.8	69.8	6	-0.8	0.0	21	43 27.2	61.4	6	-0.8	0.0
22	59 24.6	78.6	12	-1.7	0.0	22	51 8.7	69.6	12	-1.6	0.0	22	43 19.7	61.2	12	-1.5	0.0
23	59 16.1	78.4	18	-2.5	-0.1	23	51 0.6	69.5	18	-2.4	0.0	23	43 12.1	61.1	18	-2.3	0.0
24	59 7.7	78.3	24	-3.4	-0.1	24	50 52.6	69.3	24	-3.2	-0.1	24	43 4.6	60.9	24	-3.0	-0.1
25	58 59.2	78.1	30	-4.2	-0.1	25	50 44.5	69.2	30	-4.0	-0.1	25	42 57.1	60.8	30	-3.8	-0.1
26	58 50.8	77.9	36	-5.1	-0.1	26	50 36.5	69.1	36	-4.8	-0.1	26	42 49.6	60.7	36	-4.5	-0.1
27	58 42.4	77.8	42	-5.9	-0.1	27	50 28.4	68.9	42	-5.6	-0.1	27	42 42.1	60.5	42	-5.3	-0.1
28	58 34.1	77.6	48	-6.8	-0.2	28	50 20.4	68.8	48	-6.4	-0.1	28	42 34.6	60.4	48	-6.0	-0.1
29	58 25.7	77.5	54	-7.6	-0.2	29	50 12.4	68.6	54	-7.2	-0.1	29	42 27.1	60.2	54	-6.8	-0.1
30	58 17.3	77.3				30	50 4.4	68.5				30	42 19.7	60.1			
31	58 8.9	77.1	6	-0.8	0.0	31	49 56.4	68.4	6	-0.8	0.0	31	42 12.2	60.0	6	-0.7	0.0
32	58 0.5	77.0	12	-1.7	0.0	32	49 48.4	68.2	12	-1.6	0.0	32	42 4.8	59.8	12	-1.5	0.0
33	57 52.1	76.8	18	-2.5	-0.1	33	49 40.4	68.1	18	-2.4	0.0	33	41 57.3	59.7	18	-2.2	0.0
34	57 43.7	76.7	24	-3.4	-0.1	34	49 32.4	67.9	24	-3.2	-0.1	34	41 49.9	59.5	24	-3.0	-0.1
35	57 35.3	76.5	30	-4.2	-0.1	35	49 24.4	67.8	30	-4.0	-0.1	35	41 42.5	59.4	30	-3.7	-0.1
36	57 27.0	76.4	36	-5.0	-0.1	36	49 16.5	67.7	36	-4.8	-0.1	36	41 35.1	59.3	36	-4.5	-0.1
37	57 18.6	76.2	42	-5.9	-0.1	37	49 8.5	67.5	42	-5.6	-0.1	37	41 27.7	59.1	42	-5.2	-0.1
38	57 10.2	76.1	48	-6.7	-0.2	38	49 0.6	67.4	48	-6.4	-0.1	38	41 20.3	59.0	48	-6.0	-0.1
39	57 1.8	75.9	54	-7.6	-0.2	39	48 52.7	67.2	54	-7.2	-0.1	39	41 13.0	58.8	54	-6.7	-0.1
40	56 53.5	75.8				40	48 44.8	67.1				40	41 5.6	58.7			
41	56 45.2	75.7	6	-0.8	0.0	41	48 36.8	67.0	6	-0.8	0.0	41	40 58.2	58.6	6	-0.7	0.0
42	56 36.9	75.5	12	-1.7	0.0	42	48 28.9	66.8	12	-1.6	0.0	42	40 50.9	58.4	12	-1.5	0.0
43	56 28.6	75.3	18	-2.5	-0.1	43	48 21.0	66.7	18	-2.4	0.0	43	40 43.6	58.3	18	-2.2	0.0
44	56 20.3	75.1	24	-3.3	-0.1	44	48 13.1	66.5	24	-3.2	-0.1	44	40 36.3	58.1	24	-2.9	-0.1
45	56 11.9	75.0	30	-4.2	-0.1	45	48 5.2	66.4	30	-4.0	-0.1	45	40 29.0	58.0	30	-3.7	-0.1
46	56 3.6	74.9	36	-5.0	-0.1	46	47 57.3	66.3	36	-4.8	-0.1	46	40 21.7	57.9	36	-4.4	-0.1
47	55 55.3	74.7	42	-5.8	-0.1	47	47 49.4	66.1	42	-5.6	-0.1	47	40 14.4	57.7	42	-5.1	-0.1
48	55 47.0	74.6	48	-6.7	-0.2	48	47 41.5	66.0	48	-6.4	-0.1	48	40 7.1	57.6	48	-5.9	-0.1
49	55 38.7	74.4	54	-7.5	-0.2	49	47 33.6	65.8	54	-7.2	-0.1	49	39 59.9	57.4	54	-6.6	-0.1
50	55 30.4	74.3				50	47 25.8	65.7				50	39 52.7	57.3			
51	55 22.1	74.1	6	-0.8	0.0	51	47 18.0	65.6	6	-0.8	0.0	51	39 45.4	57.2	6	-0.8	0.0
52	55 13.9	74.0	12	-1.7	0.0	52	47 10.2	65.4	12	-1.6	0.0	52	39 38.2	57.0	12	-1.6	0.0
53	55 5.6	73.8	18	-2.5	0.0	53	47 2.4	65.3	18	-2.4	0.0	53	39 30.9	56.9	18	-2.5	0.0
54	54 57.4	73.7	24	-3.3	-0.1	54	46 54.6	65.1	24	-3.1	-0.1	54	39 23.7	56.7	24	-3.3	-0.1
55	54 49.1	73.5	30	-4.1	-0.1	55	46 46.8	65.0	30	-3.9	-0.1	55	39 16.5	56.6	30	-4.1	-0.1
56	54 40.9	73.4	36	-5.0	-0.1	56	46 39.0	64.9	36	-4.7	-0.1	56	39 9.3	56.5	36	-4.9	-0.1
57	54 32.6	73.2	42	-5.8	-0.1	57	46 31.2	64.7	42	-5.5	-0.1	57	39 2.1	56.3	42	-5.8	-0.1
58	54 24.4	73.1	48	-6.6	-0.2	58	46 23.4	64.6	48	-6.3	-0.1	58	38 55.0	56.2	48	-6.6	-0.1
59	54 16.2	72.9	54	-7.5	-0.2	59	46 15.7	64.4	54	-7.1	-0.1	59	38 47.9	56.0	54	-7.4	-0.1

η Ursae majoris (Benetnasch)

ι Ursae minoris (Kochab)

γ Draconis

α Lyrae (Weğa)

γ Cygni

α Cygni (Deneb)

α Cephei

ι Ursae minoris (Nordstern)

m Std-wkl.	3.Stunde					m Std-wkl.	4.Stunde					m Std-wkl.	5.Stunde				
	Höhe	Azimut	Δt	Δh	ΔA		Höhe	Azimut	Δt	Δh	ΔA		Höhe	Azimut	Δt	Δh	ΔA
Δh	- 0.8	- 1.6	- 2.4			Δh	- 0.9	- 1.8	- 2.6			Δh	- 1.0	- 2.0	- 3.0		
ΔA	—	- 0° 1	- 0° 1			ΔA	—	- 0° 1	- 0° 1			ΔA	—	- 0° 1	- 0° 1		

55°N η Ursae majoris (Benetnasch) 55°N

Std. wkl. m.	6. Stunde					Std. wkl. m.	7. Stunde					Std. wkl. m.	8. Stunde				
	Höhe	Azimit	Δt	Δh	ΔA		Höhe	Azimit	Δt	Δh	ΔA		Höhe	Azimit	Δt	Δh	ΔA
0	38°40'8	55°9	sek			0	31°56'3	47°4	sek			0	26°4'6	38°6	sek		
1	38 33.6	55.8	6	-0.7	0°0	1	31 49.9	47.3	6	-0.6	0°0	1	25 59.2	38.5	6	-0.5	0°0
2	38 26.5	55.6	12	-1.4	0 0	2	31 43.6	47.1	12	-1.2	0 0	2	25 53.9	38.3	12	-1.1	0 0
3	38 19.4	55.5	18	-2.1	0 0	3	31 37.3	47.0	18	-1.9	0 0	3	25 48.5	38.2	18	-1.6	0 0
4	38 12.3	55.3	24	-2.8	-0.1	4	31 31.0	46.8	24	-2.5	-0.1	4	25 43.2	38.0	24	-2.1	-0.1
5	38 5.2	55.2	30	-3.5	-0.1	5	31 24.7	46.7	30	-3.1	-0.1	5	25 37.9	37.9	30	-2.6	-0.1
6	37 58.2	55.1	36	-4.3	-0.1	6	31 18.5	46.5	36	-3.7	-0.1	6	25 32.6	37.7	36	-3.2	-0.1
7	37 51.2	54.9	42	-5.0	-0.1	7	31 12.3	46.4	42	-4.4	-0.1	7	25 27.4	37.6	42	-3.7	-0.1
8	37 44.2	54.8	48	-5.7	-0.1	8	31 6.1	46.2	48	-5.0	-0.1	8	25 22.2	37.4	48	-4.2	-0.1
9	37 37.1	54.6	54	-6.4	-0.1	9	30 59.9	46.1	54	-5.6	-0.1	9	25 17.0	37.3	54	-4.8	-0.1
10	37 30.1	54.5				10	30 53.7	45.9				10	25 11.8	37.1			
11	37 23.1	54.4	6	-0.7	0 0	11	30 47.5	45.8	6	-0.6	0 0	11	25 6.6	36.9	6	-0.5	0 0
12	37 16.1	54.2	12	-1.4	0 0	12	30 41.3	45.6	12	-1.2	0 0	12	25 1.5	36.8	12	-1.0	0 0
13	37 9.1	54.1	18	-2.1	0 0	13	30 35.1	45.5	18	-1.8	0 0	13	24 56.3	36.6	18	-1.5	0 0
14	37 2.2	53.9	24	-2.8	-0.1	14	30 29.0	45.3	24	-2.4	-0.1	14	24 51.2	36.5	24	-2.0	-0.1
15	36 55.3	53.8	30	-3.5	-0.1	15	30 23.0	45.2	30	-3.0	-0.1	15	24 46.2	36.3	30	-2.5	-0.1
16	36 48.4	53.7	36	-4.2	-0.1	16	30 16.9	45.1	36	-3.7	-0.1	16	24 41.1	36.1	36	-3.1	-0.1
17	36 41.4	53.5	42	-4.9	-0.1	17	30 10.8	44.9	42	-4.3	-0.1	17	24 36.0	36.0	42	-3.6	-0.1
18	36 34.5	53.4	48	-5.6	-0.1	18	30 4.7	44.8	48	-4.9	-0.1	18	24 31.0	35.8	48	-4.1	-0.1
19	36 27.6	53.2	54	-6.3	-0.1	19	29 58.6	44.6	54	-5.5	-0.1	19	24 25.9	35.7	54	-4.6	-0.1
20	36 20.7	53.1				20	29 52.6	44.5				20	24 20.9	35.5			
21	36 13.8	53.0	6	-0.7	0 0	21	29 46.6	44.4	6	-0.6	0 0	21	24 15.9	35.4	6	-0.5	0 0
22	36 7.0	52.8	12	-1.4	0 0	22	29 40.6	44.2	12	-1.2	0 0	22	24 10.9	35.2	12	-1.0	0 0
23	36 0.1	52.7	18	-2.1	0 0	23	29 34.7	44.1	18	-1.8	0 0	23	24 6.0	35.1	18	-1.5	0 0
24	35 53.3	52.5	24	-2.7	-0.1	24	29 28.7	43.9	24	-2.4	-0.1	24	24 1.1	34.9	24	-2.0	-0.1
25	35 46.5	52.4	30	-3.4	-0.1	25	29 22.7	43.8	30	-3.0	-0.1	25	23 56.2	34.8	30	-2.5	-0.1
26	35 39.7	52.3	36	-4.1	-0.1	26	29 16.8	43.6	36	-3.6	-0.1	26	23 51.3	34.6	36	-2.9	-0.1
27	35 32.9	52.1	42	-4.8	-0.1	27	29 10.8	43.5	42	-4.2	-0.1	27	23 46.4	34.5	42	-3.4	-0.1
28	35 26.1	52.0	48	-5.5	-0.1	28	29 4.9	43.3	48	-4.8	-0.1	28	23 41.5	34.3	48	-3.9	-0.1
29	35 19.3	51.8	54	-6.2	-0.1	29	28 59.0	43.2	54	-5.4	-0.1	29	23 36.6	34.2	54	-4.4	-0.1
30	35 12.6	51.7				30	28 53.2	43.0				30	23 31.8	34.0			
31	35 5.8	51.6	6	-0.7	0 0	31	28 47.3	42.9	6	-0.6	0 0	31	23 27.1	33.9	6	-0.5	0 0
32	34 59.1	51.4	12	-1.3	0 0	32	28 41.5	42.7	12	-1.2	0 0	32	23 22.3	33.7	12	-0.9	0 0
33	34 52.4	51.3	18	-2.0	0 0	33	28 35.6	42.6	18	-1.7	0 0	33	23 17.5	33.6	18	-1.4	0 0
34	34 45.7	51.1	24	-2.7	-0.1	34	28 29.8	42.4	24	-2.3	-0.1	34	23 12.8	33.4	24	-1.9	-0.1
35	34 39.0	51.0	30	-3.3	-0.1	35	28 24.0	42.3	30	-2.9	-0.1	35	23 8.0	33.3	30	-2.3	-0.1
36	34 32.3	50.8	36	-4.0	-0.1	36	28 18.2	42.1	36	-3.5	-0.1	36	23 3.3	33.1	36	-2.8	-0.1
37	34 25.6	50.7	42	-4.7	-0.1	37	28 12.4	42.0	42	-4.1	-0.1	37	22 58.6	33.0	42	-3.3	-0.1
38	34 19.0	50.5	48	-5.4	-0.1	38	28 6.7	41.8	48	-4.6	-0.1	38	22 53.9	32.8	48	-3.8	-0.1
39	34 12.4	50.4	54	-6.0	-0.1	39	28 1.0	41.7	54	-5.2	-0.1	39	22 49.3	32.7	54	-4.2	-0.1
40	34 5.8	50.2				40	27 55.3	41.5				40	22 44.7	32.5			
41	33 59.2	50.1	6	-0.7	0 0	41	27 49.6	41.4	6	-0.6	0 0	41	22 40.1	32.3	6	-0.4	0 0
42	33 52.6	49.9	12	-1.3	0 0	42	27 43.9	41.2	12	-1.1	0 0	42	22 35.5	32.2	12	-0.9	0 0
43	33 46.0	49.8	18	-2.0	0 0	43	27 38.2	41.1	18	-1.7	0 0	43	22 30.9	32.0	18	-1.3	0 0
44	33 39.4	49.6	24	-2.6	-0.1	44	27 32.6	40.9	24	-2.2	-0.1	44	22 26.4	31.9	24	-1.8	-0.1
45	33 32.8	49.5	30	-3.3	-0.1	45	27 26.9	40.8	30	-2.8	-0.1	45	22 21.8	31.7	30	-2.2	-0.1
46	33 26.3	49.4	36	-3.9	-0.1	46	27 21.3	40.7	36	-3.4	-0.1	46	22 17.3	31.5	36	-2.7	-0.1
47	33 19.7	49.2	42	-4.6	-0.1	47	27 15.7	40.5	42	-3.9	-0.1	47	22 12.8	31.4	42	-3.1	-0.1
48	33 13.2	49.1	48	-5.2	-0.1	48	27 10.1	40.4	48	-4.5	-0.1	48	22 8.3	31.2	48	-3.6	-0.1
49	33 6.7	48.9	54	-5.9	-0.1	49	27 4.6	40.2	54	-5.0	-0.1	49	22 3.9	31.1	54	-4.0	-0.1
50	33 0.3	48.8				50	26 59.1	40.1				50	21 59.5	30.9			
51	32 53.8	48.7	6	-0.6	0 0	51	26 53.5	40.0	6	-0.5	0 0	51	21 55.1	30.8	6	-0.4	0 0
52	32 47.4	48.5	12	-1.3	0 0	52	26 48.0	39.8	12	-1.1	0 0	52	21 50.7	30.6	12	-0.9	0 0
53	32 40.9	48.4	18	-1.9	0 0	53	26 42.5	39.7	18	-1.6	0 0	53	21 46.3	30.5	18	-1.3	0 0
54	32 34.5	48.2	24	-2.6	-0.1	54	26 37.0	39.5	24	-2.2	-0.1	54	21 42.0	30.3	24	-1.7	-0.1
55	32 28.0	48.1	30	-3.2	-0.1	55	26 31.5	39.4	30	-2.7	-0.1	55	21 37.6	30.2	30	-2.1	-0.1
56	32 21.6	48.0	36	-3.9	-0.1	56	26 26.1	39.2	36	-3.3	-0.1	56	21 33.3	30.0	36	-2.6	-0.1
57	32 15.2	47.8	42	-4.5	-0.1	57	26 20.7	39.1	42	-3.8	-0.1	57	21 29.0	29.9	42	-3.0	-0.1
58	32 8.8	47.7	48	-5.2	-0.1	58	26 15.3	38.9	48	-4.4	-0.1	58	21 24.8	29.7	48	-3.4	-0.1
59	32 2.5	47.5	54	-5.8	-0.1	59	26 10.0	38.8	54	-4.9	-0.1	59	21 20.5	29.6	54	-3.9	-0.1

6. Stunde			7. Stunde			8. Stunde					
1920-1925	1925-1930	1930-1935	1920-1925	1925-1930	1930-1935	1920-1925	1925-1930	1930-1935			
Δh	- 1'1	- 2'2	- 3'3	Δh	- 1'2	- 2'5	- 3'7	Δh	- 1'3	- 2'7	- 4'0
ΔA	---	---	---	ΔA	---	---	---	ΔA	---	---	---

55°N

η Ursae majoris (Benetnasch)

55°N

Std-wkl. m.	9. Stunde					Std-wkl. m.	10. Stunde					Std-wkl. m.	11. Stunde				
	Höhe	Azimet	Δt	Δh	ΔA		Höhe	Azimet	Δt	Δh	ΔA		Höhe	Azimet	Δt	Δh	ΔA
0	21° 16' 3	29° 4	sek			0	17° 41' 4	19° 8	sek			0	15° 28' 5	10° 0	sek		
1	21 12.1	29.2	6	-0.4	0.0	1	17 38.5	19.6	6	-0.3	0.0	1	15 27.0	9.8	6	-0.1	0.0
2	21 7.9	29.1	12	-0.8	0.0	2	17 35.6	19.5	12	-0.6	0.0	2	15 25.6	9.7	12	-0.3	0.0
3	21 3.7	28.9	18	-1.2	0.0	3	17 32.7	19.3	18	-0.8	0.0	3	15 24.1	9.5	18	-0.4	-0.1
4	20 59.5	28.8	24	-1.6	-0.1	4	17 29.9	19.2	24	-1.1	-0.1	4	15 22.7	9.4	24	-0.5	-0.1
5	20 55.4	28.6	30	-2.0	-0.1	5	17 27.1	19.0	30	-1.4	-0.1	5	15 21.3	9.2	30	-0.6	-0.1
6	20 51.3	28.4	36	-2.5	-0.1	6	17 24.3	18.8	36	-1.7	-0.1	6	15 20.0	9.0	36	-0.8	-0.1
7	20 47.2	28.3	42	-2.9	-0.1	7	17 21.5	18.7	42	-2.0	-0.1	7	15 18.6	8.8	42	-0.9	-0.1
8	20 43.1	28.1	48	-3.3	-0.1	8	17 18.7	18.5	48	-2.2	-0.1	8	15 17.3	8.7	48	-1.0	-0.1
9	20 39.0	28.0	54	-3.7	-0.1	9	17 16.0	18.4	54	-2.5	-0.1	9	15 16.0	8.5	54	-1.2	-0.1
10	20 35.0	27.8				10	17 13.3	18.2				10	15 14.8	8.3			
11	20 31.0	27.6	6	-0.4	0.0	11	17 10.6	18.0	6	-0.3	0.0	11	15 13.5	8.1	6	-0.1	0.0
12	20 27.0	27.5	12	-0.8	0.0	12	17 7.9	17.9	12	-0.5	0.0	12	15 12.3	8.0	12	-0.2	0.0
13	20 23.0	27.3	18	-1.2	0.0	13	17 5.3	17.7	18	-0.8	0.0	13	15 11.1	7.8	18	-0.3	-0.1
14	20 19.1	27.2	24	-1.6	-0.1	14	17 2.7	17.6	24	-1.0	-0.1	14	15 10.0	7.7	24	-0.4	-0.1
15	20 15.3	27.0	30	-2.0	-0.1	15	17 0.2	17.4	30	-1.3	-0.1	15	15 8.8	7.5	30	-0.5	-0.1
16	20 11.4	26.8	36	-2.3	-0.1	16	16 57.6	17.2	36	-1.6	-0.1	16	15 7.7	7.3	36	-0.7	-0.1
17	20 7.5	26.7	42	-2.7	-0.1	17	16 55.1	17.1	42	-1.8	-0.1	17	15 6.6	7.2	42	-0.8	-0.1
18	20 3.7	26.5	48	-3.1	-0.1	18	16 52.6	16.9	48	-2.1	-0.1	18	15 5.6	7.0	48	-0.9	-0.1
19	19 59.8	26.4	54	-3.5	-0.1	19	16 50.1	16.8	54	-2.3	-0.1	19	15 4.5	6.9	54	-1.0	-0.1
20	19 56.0	26.2				20	16 47.6	16.6				20	15 3.5	6.7			
21	19 52.2	26.0	6	-0.4	0.0	21	16 45.1	16.4	6	-0.2	0.0	21	15 2.5	6.5	6	-0.1	0.0
22	19 48.4	25.9	12	-0.7	0.0	22	16 42.7	16.3	12	-0.5	0.0	22	15 1.6	6.4	12	-0.2	0.0
23	19 44.6	25.7	18	-1.1	0.0	23	16 40.3	16.1	18	-0.7	0.0	23	15 0.6	6.2	18	-0.3	-0.1
24	19 40.9	25.6	24	-1.5	-0.1	24	16 37.9	16.0	24	-1.0	-0.1	24	14 59.7	6.1	24	-0.4	-0.1
25	19 37.2	25.4	30	-1.8	-0.1	25	16 35.6	15.8	30	-1.2	-0.1	25	14 58.8	5.9	30	-0.5	-0.1
26	19 33.5	25.3	36	-2.2	-0.1	26	16 33.3	15.6	36	-1.4	-0.1	26	14 58.0	5.7	36	-0.5	-0.1
27	19 29.9	25.1	42	-2.6	-0.1	27	16 31.0	15.4	42	-1.7	-0.1	27	14 57.1	5.5	42	-0.6	-0.1
28	19 26.3	25.0	48	-3.0	-0.1	28	16 28.7	15.3	48	-1.9	-0.1	28	14 56.3	5.4	48	-0.7	-0.1
29	19 22.7	24.8	54	-3.3	-0.1	29	16 26.5	15.1	54	-2.2	-0.1	29	14 55.5	5.2	54	-0.8	-0.1
30	19 19.1	24.7				30	16 24.3	14.9				30	14 54.8	5.0			
31	19 15.5	24.5	6	-0.3	0.0	31	16 22.1	14.7	6	-0.2	0.0	31	14 54.0	4.8	6	-0.1	0.0
32	19 11.9	24.4	12	-0.7	0.0	32	16 19.9	14.6	12	-0.4	0.0	32	14 53.3	4.7	12	-0.1	0.0
33	19 8.3	24.2	18	-1.0	0.0	33	16 17.7	14.5	18	-0.6	0.0	33	14 52.6	4.5	18	-0.2	0.1
34	19 4.8	24.1	24	-1.4	-0.1	34	16 15.6	14.3	24	-0.8	-0.1	34	14 52.0	4.4	24	-0.2	-0.1
35	19 1.3	23.9	30	-1.7	-0.1	35	16 13.5	14.1	30	-1.0	-0.1	35	14 51.3	4.2	30	-0.3	-0.1
36	18 57.8	23.7	36	-2.1	-0.1	36	16 11.4	13.9	36	-1.3	-0.1	36	14 50.7	4.0	36	-0.4	-0.1
37	18 54.3	23.6	42	-2.4	-0.1	37	16 9.3	13.8	42	-1.5	-0.1	37	14 50.1	3.8	42	-0.4	-0.1
38	18 50.9	23.4	48	-2.8	-0.1	38	16 7.3	13.6	48	-1.7	-0.1	38	14 49.6	3.7	48	-0.5	-0.1
39	18 47.5	23.3	54	-3.1	-0.1	39	16 5.2	13.5	54	-1.9	-0.1	39	14 49.0	3.5	54	-0.5	-0.1
40	18 44.2	23.1				40	16 3.2	13.3				40	14 48.5	3.3			
41	18 40.8	22.9	6	-0.3	0.0	41	16 1.2	13.1	6	-0.2	0.0	41	14 48.0	3.1	6	0.0	0.0
42	18 37.5	22.8	12	-0.6	0.0	42	15 59.3	13.0	12	-0.4	0.0	42	14 47.6	3.0	12	-0.1	0.0
43	18 34.2	22.6	18	-1.0	0.0	43	15 57.4	12.8	18	-0.6	0.0	43	14 47.1	2.8	18	-0.1	-0.1
44	18 30.9	22.5	24	-1.3	-0.1	44	15 55.5	12.7	24	-0.8	-0.1	44	14 46.7	2.7	24	-0.1	-0.1
45	18 27.6	22.3	30	-1.6	-0.1	45	15 53.6	12.5	30	-1.0	-0.1	45	14 46.3	2.5	30	-0.1	-0.1
46	18 24.4	22.1	36	-1.9	-0.1	46	15 51.8	12.3	36	-1.1	-0.1	46	14 46.0	2.3	36	-0.2	-0.1
47	18 21.1	21.9	42	-2.2	-0.1	47	15 49.9	12.1	42	-1.3	-0.1	47	14 45.6	2.2	42	-0.2	-0.1
48	18 17.9	21.8	48	-2.6	-0.1	48	15 48.1	12.0	48	-1.5	-0.1	48	14 45.3	2.0	48	-0.2	-0.1
49	18 14.8	21.6	54	-2.9	-0.1	49	15 46.3	11.8	54	-1.7	-0.1	49	14 45.0	1.9	54	-0.3	-0.1
50	18 11.7	21.4				50	15 44.6	11.6				50	14 44.8	1.7			
51	18 8.5	21.2	6	-0.3	0.0	51	15 42.9	11.4	6	-0.2	0.0	51	14 44.5	1.5	6	0.0	0.0
52	18 5.4	21.1	12	-0.6	0.0	52	15 41.2	11.3	12	-0.3	0.0	52	14 44.3	1.4	12	0.0	0.0
53	18 2.3	20.9	18	-0.9	0.0	53	15 39.5	11.1	18	-0.5	0.0	53	14 44.1	1.2	18	0.0	-0.1
54	17 59.3	20.8	24	-1.2	-0.1	54	15 37.9	11.0	24	-0.7	-0.1	54	14 44.0	1.1	24	0.0	-0.1
55	17 56.2	20.6	30	-1.5	-0.1	55	15 36.2	10.8	30	-0.8	-0.1	55	14 43.8	0.9	30	-0.1	-0.1
56	17 53.2	20.4	36	-1.9	-0.1	56	15 34.6	10.6	36	-1.0	-0.1	56	14 43.7	0.7	36	-0.1	-0.1
57	17 50.2	20.3	42	-2.2	-0.1	57	15 33.0	10.5	42	-1.2	-0.1	57	14 43.6	0.5	42	-0.1	-0.1
58	17 47.2	20.1	48	-2.5	-0.1	58	15 31.5	10.3	48	-1.3	-0.1	58	14 43.6	0.4	48	-0.1	-0.1
59	17 44.3	20.0	54	-2.8	-0.1	59	15 30.0	10.2	54	-1.5	-0.1	59	14 43.5	0.2	54	-0.1	-0.1

m Std-wkl.	9. Stunde					m Std-wkl.	10. Stunde					m Std-wkl.	11. Stunde				
	Höhe	Azimet	Δt	Δh	ΔA		Höhe	Azimet	Δt	Δh	ΔA		Höhe	Azimet	Δt	Δh	ΔA
	1920-1925	1925-1930	1930-1935				1920-1925	1925-1930	1930-1935			1920-1925	1925-1930	1930-1935			
Δh	- 1.4	- 2.9	- 4.3				- 1.5	- 3.0	- 4.5			- 1.5	- 3.1	- 4.6			
ΔA	—	—	—				—	—	—			—	—	—			

- Ursae minoris (Kochab)
- γ Draconis
- α Lyrae (Weğa)
- γ Cygni
- α Cygni (Deneb)
- α Cephei
- Ursae minoris (Nordstern)

55°N

β Ursae minoris (Kochab)

55°N

Std-wkl. nr.	0. Stunde					Std-wkl. m.	1. Stunde					Std-wkl. nr.	2. Stunde				
	Höhe	Azimet	Δt	Δh	ΔA		Höhe	Azimet	Δt	Δh	ΔA		Höhe	Azimet	Δt	Δh	ΔA
0	70° 30' 4	0° 0	sek			0	69° 37' 7	11° 4	sek		0	67° 14' 4	20° 2	sek			
1	70 30.4	0.2	6	0'0	0°0	1	69 36.0	11.6	6	-0'2	0°0	1	67 11.4	20.3	6	-0'3	
2	70 30.4	0.4	12	0.0	0.0	2	69 34.2	11.8	12	-0.4	0.0	2	67 8.4	20.4	12	-0.6	
3	70 30.3	0.6	18	-0.1	-0.1	3	69 32.5	12.0	18	-0.5	-0.1	3	67 5.4	20.6	18	-0.9	
4	70 30.2	0.8	24	-0.1	-0.1	4	69 30.7	12.1	24	-0.7	-0.1	4	67 2.4	20.7	24	-1.2	
5	70 30.1	1.0	30	-0.1	-0.1	5	69 28.9	12.3	30	-0.9	-0.1	5	66 59.4	20.8	30	-1.5	
6	70 29.9	1.2	36	-0.1	-0.1	6	69 27.0	12.5	36	-1.1	-0.1	6	66 56.3	20.9	36	-1.8	
7	70 29.7	1.4	42	-0.1	-0.1	7	69 25.2	12.7	42	-1.3	-0.1	7	66 53.2	21.0	42	-2.1	
8	70 29.4	1.6	48	-0.2	-0.2	8	69 23.3	12.8	48	-1.4	-0.1	8	66 50.1	21.1	48	-2.4	
9	70 29.2	1.8	54	-0.2	-0.2	9	69 21.4	13.0	54	-1.6	-0.1	9	66 47.0	21.2	54	-2.7	
10	70 28.9	2.0				10	69 19.4	13.2				10	66 43.9	21.3			
11	70 28.6	2.2	6	0.0	0.0	11	69 17.4	13.3	6	-0.2	0.0	11	66 40.8	21.4	6	-0.3	
12	70 28.2	2.4	12	0.1	0.0	12	69 15.4	13.5	12	-0.4	0.0	12	66 37.6	21.5	12	-0.6	
13	70 27.8	2.6	18	-0.1	-0.1	13	69 13.4	13.7	18	-0.6	-0.1	13	66 34.5	21.6	18	-1.0	
14	70 27.4	2.8	24	-0.2	-0.1	14	69 11.3	13.8	24	-0.8	-0.1	14	66 31.3	21.7	24	-1.3	
15	70 27.0	3.0	30	-0.2	-0.1	15	69 9.3	14.0	30	-1.0	-0.1	15	66 28.1	21.8	30	-1.6	
16	70 26.5	3.2	36	-0.3	-0.1	16	69 7.2	14.1	36	-1.3	-0.1	16	66 24.9	21.9	36	-1.9	
17	70 26.0	3.4	42	-0.3	-0.1	17	69 5.1	14.3	42	-1.5	-0.1	17	66 21.7	22.0	42	-2.2	
18	70 25.5	3.6	48	-0.4	-0.2	18	69 2.9	14.5	48	-1.7	-0.1	18	66 18.4	22.1	48	-2.6	
19	70 25.0	3.8	54	-0.4	-0.2	19	69 0.8	14.6	54	-1.9	-0.1	19	66 15.2	22.2	54	-2.9	
20	70 24.4	4.0				20	68 58.6	14.8				20	66 11.9	22.3			
21	70 23.8	4.2	6	-0.1	0.0	21	68 56.4	14.9	6	-0.2	0.0	21	66 8.6	22.4	6	-0.3	
22	70 23.2	4.4	12	-0.1	0.0	22	68 54.1	15.1	12	-0.5	0.0	22	66 5.3	22.5	12	-0.7	
23	70 22.5	4.6	18	-0.2	-0.1	23	68 51.9	15.2	18	-0.7	-0.1	23	66 2.0	22.6	18	-1.0	
24	70 21.8	4.8	24	-0.3	-0.1	24	68 49.6	15.4	24	-0.9	-0.1	24	65 58.7	22.7	24	-1.3	
25	70 21.1	5.0	30	-0.3	-0.1	25	68 47.3	15.5	30	-1.1	-0.1	25	65 55.4	22.8	30	-1.6	
26	70 20.3	5.2	36	-0.4	-0.1	26	68 45.0	15.7	36	-1.4	-0.1	26	65 52.0	22.9	36	-2.0	
27	70 19.5	5.4	42	-0.5	-0.1	27	68 42.7	15.8	42	-1.6	-0.1	27	65 48.7	23.0	42	-2.3	
28	70 18.7	5.5	48	-0.6	-0.2	28	68 40.3	16.0	48	-1.8	-0.1	28	65 45.3	23.1	48	-2.6	
29	70 17.9	5.7	54	-0.6	-0.2	29	68 37.9	16.1	54	-2.1	-0.1	29	65 42.0	23.2	54	-3.0	
30	70 17.0	5.9				30	68 35.5	16.3				30	65 38.6	23.2			
31	70 16.1	6.1	6	-0.1	0.0	31	68 33.1	16.4	6	-0.2	0.0	31	65 35.2	23.3	6	-0.3	
32	70 15.1	6.3	12	-0.2	0.0	32	68 30.7	16.6	12	-0.5	0.0	32	65 31.8	23.4	12	-0.7	
33	70 14.1	6.5	18	-0.3	-0.1	33	68 28.2	16.7	18	-0.7	0.0	33	65 28.4	23.5	18	-1.0	
34	70 13.1	6.7	24	-0.4	-0.1	34	68 25.7	16.8	24	-1.0	-0.1	34	65 24.9	23.6	24	-1.4	
35	70 12.1	6.9	30	-0.5	-0.1	35	68 23.2	17.0	30	-1.2	-0.1	35	65 21.5	23.7	30	-1.7	
36	70 11.1	7.1	36	-0.7	-0.1	36	68 20.7	17.1	36	-1.5	-0.1	36	65 18.0	23.7	36	-2.1	
37	70 10.0	7.3	42	-0.8	-0.1	37	68 18.2	17.3	42	-1.7	-0.1	37	65 14.5	23.8	42	-2.4	
38	70 8.9	7.5	48	-0.9	-0.2	38	68 15.6	17.4	48	-2.0	-0.1	38	65 11.0	23.9	48	-2.8	
39	70 7.8	7.7	54	-1.0	-0.2	39	68 13.0	17.6	54	-2.2	-0.1	39	65 7.5	24.0	54	-3.1	
40	70 6.6	7.8				40	68 10.4	17.7				40	65 4.0	24.0			
41	70 5.4	8.0	6	-0.1	0.0	41	68 7.8	17.8	6	-0.3	0.0	41	65 0.5	24.1	6	-0.4	
42	70 4.2	8.2	12	-0.3	0.0	42	68 5.1	18.0	12	-0.5	0.0	42	64 57.0	24.2	12	-0.7	
43	70 3.0	8.4	18	-0.4	-0.1	43	68 2.5	18.1	18	-0.8	0.0	43	64 53.5	24.3	18	-1.1	
44	70 1.7	8.6	24	-0.5	-0.1	44	67 59.8	18.2	24	-1.1	-0.1	44	64 50.0	24.4	24	-1.4	
45	70 0.4	8.8	30	-0.6	-0.1	45	67 57.1	18.4	30	-1.3	-0.1	45	64 46.4	24.4	30	-1.8	
46	69 59.1	9.0	36	-0.8	-0.1	46	67 54.4	18.5	36	-1.6	-0.1	46	64 42.8	24.5	36	-2.2	
47	69 57.7	9.1	42	-0.9	-0.1	47	67 51.7	18.6	42	-1.9	-0.1	47	64 39.2	24.6	42	-2.5	
48	69 56.3	9.3	48	-1.0	-0.2	48	67 48.9	18.7	48	-2.2	-0.1	48	64 35.6	24.6	48	-2.9	
49	69 54.9	9.5	54	-1.2	-0.2	49	67 46.1	18.9	54	-2.4	-0.1	49	64 32.0	24.7	54	-3.2	
50	69 53.5	9.7				50	67 43.3	19.0				50	64 28.4	24.8			
51	69 52.0	9.9	6	-0.2	0.0	51	67 40.5	19.1	6	-0.3	0.0	51	64 24.8	24.8	6	-0.4	
52	69 50.5	10.0	12	-0.3	0.0	52	67 37.7	19.3	12	-0.6	0.0	52	64 21.2	24.9	12	-0.7	
53	69 49.0	10.2	18	-0.5	-0.1	53	67 34.9	19.4	18	-0.9	0.0	53	64 17.6	25.0	18	-1.1	
54	69 47.4	10.4	24	-0.6	-0.1	54	67 32.0	19.5	24	-1.2	0.0	54	64 14.0	25.0	24	-1.4	
55	69 45.9	10.6	30	-0.8	-0.1	55	67 29.1	19.6	30	-1.5	0.0	55	64 10.4	25.1	30	-1.8	
56	69 44.3	10.8	36	-1.0	-0.1	56	67 26.2	19.7	36	-1.7	-0.1	56	64 6.7	25.2	36	-2.2	
57	69 42.7	10.9	42	-1.1	-0.1	57	67 23.3	19.9	42	-2.0	-0.1	57	64 3.1	25.2	42	-2.5	
58	69 41.0	11.1	48	-1.3	-0.2	58	67 20.3	20.0	48	-2.3	-0.1	58	63 59.4	25.3	48	-2.9	
59	69 39.4	11.3	54	-1.4	-0.2	59	67 17.4	20.1	54	-2.6	-0.1	59	63 55.7	25.4	54	-3.2	
m Std-wkl.	Höhe	Azimet	Δt	Δh	ΔA	m Std-wkl.	Höhe	Azimet	Δt	Δh	ΔA	m Std-wkl.	Höhe	Azimet	Δt	Δh	ΔA
	0. Stunde						1. Stunde						2. Stunde				

	1920-1925	1925-1930	1930-1935		1920-1925	1925-1930	1930-1935		1920-1925	1925-1930	1930-1935
Δh	+ 1'2	+ 2'4	+ 3'6	Δh	+ 1'0	+ 2'0	+ 3'0	Δh	+ 0'7	+ 1'3	+ 2'0
ΔA	—	—	—	ΔA	—	+ 0°1	+ 0°1	ΔA	—	+ 0°1	+ 0°1

55°N

β Ursae minoris (Kochab)

55°N

Std. wkl. m.	3. Stunde					Std. wkl. m.	4. Stunde					Std. wkl. m.	5. Stunde				
	Höhe	Azimit	Δt	Δh	ΔA		Höhe	Azimit	Δt	Δh	ΔA		Höhe	Azimit	Δt	Δh	ΔA
0	63°52.0	25.4	sek			0	59°59.9	27.6	sek		0	55°59.9	27.5	sek			
1	63 48.3	25.5	6	-0.4		1	59 55.9	27.6	6	-0.4	1	55 55.9	27.5	6	-0.4		
2	63 44.6	25.5	12	-0.7		2	59 51.9	27.6	12	-0.8	2	55 51.9	27.5	12	-0.8		
3	63 40.9	25.6	18	-1.1		3	59 47.9	27.6	18	-1.2	3	55 47.9	27.5	18	-1.2		
4	63 37.1	25.6	24	-1.5		4	59 43.9	27.6	24	-1.6	4	55 44.0	27.4	24	-1.6		
5	63 33.4	25.7	30	-1.8		5	59 39.9	27.6	30	-2.0	5	55 40.0	27.4	30	-2.0		
6	63 29.7	25.8	36	-2.2		6	59 35.9	27.6	36	-2.4	6	55 36.0	27.4	36	-2.4		
7	63 26.0	25.8	42	-2.6		7	59 31.9	27.7	42	-2.8	7	55 32.0	27.4	42	-2.8		
8	63 22.2	25.9	48	-3.0		8	59 27.9	27.7	48	-3.2	8	55 28.1	27.4	48	-3.2		
9	63 18.5	25.9	54	-3.3		9	59 23.9	27.7	54	-3.6	9	55 24.1	27.3	54	-3.6		
10	63 14.7	26.0				10	59 19.9	27.7			10	55 20.1	27.3				
11	63 10.9	26.0	6	-0.4		11	59 15.9	27.7	6	-0.4	11	55 16.1	27.3	6	-0.4		
12	63 7.1	26.1	12	-0.8		12	59 11.9	27.7	12	-0.8	12	55 12.2	27.3	12	-0.8		
13	63 3.3	26.1	18	-1.1		13	59 7.9	27.7	18	-1.2	13	55 8.3	27.2	18	-1.2		
14	62 59.5	26.2	24	-1.5		14	59 3.9	27.7	24	-1.6	14	55 4.4	27.2	24	-1.6		
15	62 55.7	26.2	30	-1.9		15	58 59.9	27.7	30	-2.0	15	55 0.5	27.2	30	-2.0		
16	62 51.9	26.3	36	-2.3		16	58 55.9	27.7	36	-2.4	16	54 56.6	27.2	36	-2.3		
17	62 48.1	26.3	42	-2.7		17	58 51.9	27.7	42	-2.8	17	54 52.6	27.2	42	-2.7		
18	62 44.3	26.3	48	-3.0		18	58 47.9	27.8	48	-3.2	18	54 48.7	27.1	48	-3.1		
19	62 40.5	26.4	54	-3.4		19	58 43.9	27.8	54	-3.6	19	54 44.8	27.1	54	-3.5		
20	62 36.7	26.4				20	58 39.9	27.8			20	54 40.9	27.1				
21	62 32.9	26.5	6	-0.4		21	58 35.9	27.8	6	-0.4	21	54 37.0	27.1	6	-0.4		
22	62 29.0	26.5	12	-0.8		22	58 31.9	27.8	12	-0.8	22	54 33.1	27.0	12	-0.8		
23	62 25.1	26.6	18	-1.2		23	58 27.9	27.8	18	-1.2	23	54 29.2	27.0	18	-1.2		
24	62 21.2	26.6	24	-1.5		24	58 23.9	27.8	24	-1.6	24	54 25.3	27.0	24	-1.6		
25	62 17.4	26.6	30	-1.9		25	58 19.9	27.8	30	-2.0	25	54 21.4	26.9	30	-2.0		
26	62 13.5	26.7	36	-2.3		26	58 15.9	27.8	36	-2.4	26	54 17.5	26.9	36	-2.3		
27	62 9.6	26.7	42	-2.7		27	58 11.9	27.8	42	-2.8	27	54 13.6	26.9	42	-2.7		
28	62 5.7	26.7	48	-3.1		28	58 7.8	27.8	48	-3.2	28	54 9.8	26.9	48	-3.1		
29	62 1.9	26.8	54	-3.5		29	58 3.8	27.8	54	-3.6	29	54 5.9	26.8	54	-3.5		
30	61 58.0	26.8				30	57 59.8	27.8			30	54 2.0	26.8				
31	61 54.1	26.9	6	-0.4		31	57 55.8	27.8	6	-0.4	31	53 58.1	26.8	6	-0.4		
32	61 50.2	26.9	12	-0.8		32	57 51.8	27.8	12	-0.8	32	53 54.2	26.8	12	-0.8		
33	61 46.4	26.9	18	-1.2		33	57 47.8	27.8	18	-1.2	33	53 50.3	26.7	18	-1.2		
34	61 42.5	27.0	24	-1.6		34	57 43.8	27.8	24	-1.6	34	53 46.4	26.7	24	-1.6		
35	61 38.6	27.0	30	-2.0		35	57 39.8	27.8	30	-2.0	35	53 42.5	26.7	30	-2.0		
36	61 34.7	27.0	36	-2.3		36	57 35.7	27.8	36	-2.4	36	53 38.7	26.6	36	-2.3		
37	61 30.8	27.1	42	-2.7		37	57 31.7	27.8	42	-2.8	37	53 34.8	26.6	42	-2.7		
38	61 26.9	27.1	48	-3.1		38	57 27.7	27.8	48	-3.2	38	53 31.0	26.6	48	-3.1		
39	61 23.0	27.1	54	-3.5		39	57 23.7	27.7	54	-3.6	39	53 27.1	26.6	54	-3.5		
40	61 19.0	27.1				40	57 19.7	27.7			40	53 23.3	26.5				
41	61 15.1	27.2	6	-0.4		41	57 15.7	27.7	6	-0.4	41	53 19.4	26.5	6	-0.4		
42	61 11.2	27.2	12	-0.8		42	57 11.7	27.7	12	-0.8	42	53 15.6	26.5	12	-0.8		
43	61 7.3	27.2	18	-1.2		43	57 7.7	27.7	18	-1.2	43	53 11.8	26.4	18	-1.2		
44	61 3.3	27.3	24	-1.6		44	57 3.7	27.7	24	-1.6	44	53 8.0	26.4	24	-1.6		
45	60 59.4	27.3	30	-2.0		45	56 59.7	27.7	30	-2.0	45	53 4.1	26.4	30	-2.0		
46	60 55.4	27.3	36	-2.4		46	56 55.7	27.7	36	-2.4	46	53 0.3	26.3	36	-2.3		
47	60 51.5	27.3	42	-2.8		47	56 51.7	27.7	42	-2.8	47	52 56.5	26.3	42	-2.7		
48	60 47.5	27.4	48	-3.2		48	56 47.7	27.7	48	-3.2	48	52 52.7	26.3	48	-3.1		
49	60 43.6	27.4	54	-3.6		49	56 43.7	27.7	54	-3.6	49	52 48.9	26.2	54	-3.5		
50	60 39.6	27.4				50	56 39.7	27.7			50	52 45.1	26.2				
51	60 35.7	27.4	6	-0.4		51	56 35.7	27.6	6	-0.4	51	52 41.3	26.1	6	-0.4		
52	60 31.7	27.4	12	-0.8		52	56 31.8	27.6	12	-0.8	52	52 37.6	26.1	12	-0.8		
53	60 27.8	27.5	18	-1.2		53	56 27.8	27.6	18	-1.2	53	52 33.8	26.1	18	-1.1		
54	60 23.8	27.5	24	-1.6		54	56 23.8	27.6	24	-1.6	54	52 30.0	26.0	24	-1.5		
55	60 19.9	27.5	30	-2.0		55	56 19.8	27.6	30	-2.0	55	52 26.2	26.0	30	-1.9		
56	60 15.9	27.5	36	-2.4		56	56 15.8	27.6	36	-2.4	56	52 22.4	26.0	36	-2.3		
57	60 11.9	27.5	42	-2.8		57	56 11.8	27.6	42	-2.8	57	52 18.6	25.9	42	-2.7		
58	60 7.9	27.5	48	-3.2		58	56 7.8	27.5	48	-3.2	58	52 14.9	25.9	48	-3.0		
59	60 3.9	27.6	54	-3.6		59	56 3.8	27.5	54	-3.6	59	52 11.1	25.9	54	-3.4		

β Ursae minoris (Kochab)

γ Draconis

α Lyrae (Weğa)

γ Cygni

α Cygni (Deneb)

α Cephei

Ursae minoris (Nordstern)

	1920-1925	1925-1930	1930-1935		1920-1925	1925-1930	1930-1935		1920-1925	1925-1930	1930-1935
Δh	+0.3	+0.6	+1.0	Δh	—	—	—	Δh	-0.3	-0.6	-0.9
ΔA	—	-0.1	-0.1	ΔA	—	+0.1	+0.1	ΔA	—	+0.1	+0.1

55°N

 β Ursae minoris (Kochab)

55°N

Std-wkl. m.	6. Stunde					Std-wkl. m.	7. Stunde					Std-wkl. m.	8. Stunde				
	Höhe	Azimet	Δt	Δh	ΔA		Höhe	Azimet	Δt	Δh	ΔA		Höhe	Azimet	Δt	Δh	ΔA
0	52° 7.4	25° 8	sek			0	48° 33.6	23° 0	sek		0	45° 27.1	19° 3	sek			
1	52 3.6	25.8	6	-0.4		1	48 30.2	22.9	6	-0.3	1	45 24.2	19.2	6	-0.3		
2	51 59.9	25.7	12	-0.7		2	48 26.9	22.9	12	-0.7	2	45 21.4	19.1	12	-0.6		
3	51 56.1	25.7	18	-1.1		3	48 23.5	22.8	18	-1.0	3	45 18.6	19.1	18	-0.8		
4	51 52.4	25.7	24	-1.5		4	48 20.2	22.7	24	-1.3	4	45 15.8	19.0	24	-1.1		
5	51 48.7	25.6	30	-1.9		5	48 16.9	22.7	30	-1.6	5	45 13.0	18.9	30	-1.4		
6	51 45.0	25.6	36	-2.2		6	48 13.6	22.6	36	-2.0	6	45 10.2	18.9	36	-1.7		
7	51 41.3	25.5	42	-2.6		7	48 10.3	22.6	42	-2.3	7	45 7.4	18.8	42	-2.0		
8	51 37.6	25.5	48	-3.0		8	48 7.0	22.5	48	-2.6	8	45 4.7	18.7	48	-2.2		
9	51 33.9	25.5	54	-3.4		9	48 3.7	22.5	54	-3.0	9	45 1.9	18.7	54	-2.5		
10	51 30.2	25.4				10	48 0.4	22.4			10	44 59.2	18.6				
11	51 26.5	25.4	6	-0.4		11	47 57.1	22.3	6	-0.3	11	44 56.4	18.5	6	-0.3		
12	51 22.8	25.3	12	-0.7		12	47 53.8	22.3	12	-0.6	12	44 53.7	18.5	12	-0.5		
13	51 19.1	25.3	18	-1.1		13	47 50.5	22.2	18	-1.0	13	44 51.0	18.4	18	-0.8		
14	51 15.5	25.2	24	-1.5		14	47 47.3	22.2	24	-1.3	14	44 48.3	18.3	24	-1.1		
15	51 11.8	25.2	30	-1.8		15	47 44.0	22.1	30	-1.6	15	44 45.6	18.2	30	-1.3		
16	51 8.2	25.1	36	-2.2		16	47 40.8	22.1	36	-1.9	16	44 42.9	18.2	36	-1.6		
17	51 4.5	25.1	42	-2.6		17	47 37.6	22.0	42	-2.3	17	44 40.2	18.1	42	-1.9		
18	51 0.9	25.1	48	-2.9		18	47 34.4	21.9	48	-2.6	18	44 37.6	18.0	48	-2.2		
19	50 57.3	25.0	54	-3.3		19	47 31.2	21.9	54	-2.9	19	44 34.9	18.0	54	-2.4		
20	50 53.6	25.0				20	47 28.0	21.8			20	44 32.3	17.9				
21	50 50.0	24.9	6	-0.4		21	47 24.8	21.8	6	-0.3	21	44 29.6	17.8	6	-0.3		
22	50 46.4	24.9	12	-0.7		22	47 21.6	21.7	12	-0.6	22	44 27.0	17.8	12	-0.5		
23	50 42.8	24.8	18	-1.1		23	47 18.4	21.6	18	-0.9	23	44 24.4	17.7	18	-0.8		
24	50 39.2	24.8	24	-1.4		24	47 15.3	21.6	24	-1.3	24	44 21.8	17.6	24	-1.0		
25	50 35.5	24.7	30	-1.8		25	47 12.1	21.5	30	-1.6	25	44 19.2	17.5	30	-1.3		
26	50 31.9	24.7	36	-2.2		26	47 9.0	21.4	36	-1.9	26	44 16.6	17.5	36	-1.6		
27	50 28.3	24.7	42	-2.5		27	47 5.8	21.4	42	-2.2	27	44 14.0	17.4	42	-1.8		
28	50 24.7	24.6	48	-2.9		28	47 2.7	21.3	48	-2.5	28	44 11.4	17.3	48	-2.1		
29	50 21.1	24.6	54	-3.2		29	46 59.5	21.3	54	-2.8	29	44 8.8	17.2	54	-2.3		
30	50 17.5	24.5				30	46 56.4	21.2			30	44 6.3	17.2				
31	50 13.9	24.5	6	-0.3		31	46 53.3	21.1	6	-0.3	31	44 3.8	17.1	6	-0.2		
32	50 10.4	24.4	12	-0.7		32	46 50.2	21.1	12	-0.6	32	44 1.3	17.0	12	-0.5		
33	50 6.8	24.4	18	-1.0		33	46 47.1	21.0	18	-0.9	33	43 58.8	17.0	18	-0.7		
34	50 3.3	24.3	24	-1.4		34	46 44.0	21.0	24	-1.2	34	43 56.3	16.9	24	-1.0		
35	49 59.8	24.3	30	-1.7		35	46 40.9	20.9	30	-1.5	35	43 53.8	16.8	30	-1.2		
36	49 56.3	24.2	36	-2.1		36	46 37.9	20.8	36	-1.9	36	43 51.3	16.7	36	-1.5		
37	49 52.7	24.2	42	-2.4		37	46 34.8	20.8	42	-2.2	37	43 48.8	16.7	42	-1.7		
38	49 49.2	24.1	48	-2.8		38	46 31.8	20.7	48	-2.5	38	43 46.3	16.6	48	-2.0		
39	49 45.7	24.1	54	-3.1		39	46 28.8	20.6	54	-2.8	39	43 43.8	16.5	54	-2.2		
40	49 42.2	24.0				40	46 25.8	20.6			40	43 41.4	16.4				
41	49 38.7	24.0	6	-0.3		41	46 22.8	20.5	6	-0.3	41	43 39.0	16.4	6	-0.2		
42	49 35.2	23.9	12	-0.7		42	46 19.8	20.5	12	-0.6	42	43 36.6	16.3	12	-0.5		
43	49 31.7	23.9	18	-1.0		43	46 16.8	20.4	18	-0.9	43	43 34.2	16.2	18	-0.7		
44	49 28.2	23.8	24	-1.4		44	46 13.8	20.3	24	-1.2	44	43 31.8	16.2	24	-1.0		
45	49 24.7	23.8	30	-1.7		45	46 10.8	20.3	30	-1.5	45	43 29.4	16.1	30	-1.2		
46	49 21.3	23.7	36	-2.1		46	46 7.8	20.2	36	-1.8	46	43 27.0	16.0	36	-1.4		
47	49 17.8	23.7	42	-2.4		47	46 4.8	20.1	42	-2.1	47	43 24.6	15.9	42	-1.7		
48	49 14.4	23.6	48	-2.8		48	46 1.9	20.1	48	-2.4	48	43 22.3	15.9	48	-1.9		
49	49 10.9	23.6	54	-3.1		49	45 58.9	20.0	54	-2.7	49	43 19.9	15.8	54	-2.2		
50	49 7.5	23.5				50	45 56.0	19.9			50	43 17.6	15.7				
51	49 4.1	23.5	6	-0.3		51	45 53.0	19.9	6	-0.3	51	43 15.3	15.6	6	-0.2		
52	49 0.7	23.4	12	-0.7		52	45 50.1	19.8	12	-0.6	52	43 13.0	15.6	12	-0.4		
53	48 57.3	23.4	18	-1.0		53	45 47.2	19.7	18	-0.9	53	43 10.7	15.5	18	-0.7		
54	48 53.9	23.3	24	-1.4		54	45 44.3	19.7	24	-1.2	54	43 8.4	15.4	24	-0.9		
55	48 50.5	23.2	30	-1.7		55	45 41.4	19.6	30	-1.5	55	43 6.1	15.3	30	-1.1		
56	48 47.1	23.2	36	-2.0		56	45 38.6	19.5	36	-1.7	56	43 3.8	15.3	36	-1.3		
57	48 43.7	23.1	42	-2.4		57	45 35.7	19.5	42	-2.0	57	43 1.5	15.2	42	-1.6		
58	48 40.3	23.1	48	-2.7		58	45 32.8	19.4	48	-2.2	58	42 59.3	15.1	48	-1.8		
59	48 36.9	23.0	54	-3.1		59	45 29.9	19.3	54	-2.6	59	42 57.1	15.0	54	-2.0		
m Std-wkl.	Höhe	Azimet	Δt	Δh	ΔA	m Std-wkl.	Höhe	Azimet	Δt	Δh	ΔA	m Std-wkl.	Höhe	Azimet	Δt	Δh	ΔA
	6. Stunde						7. Stunde						8. Stunde				
Δh	1920-1925	1925-1930	1930-1935			Δh	1920-1925	1925-1930	1930-1935			Δh	1920-1925	1925-1930	1930-1935		
ΔA	—	+ 0°1	+ 0°1			ΔA	—	—	+ 0°1			ΔA	—	—	+ 0°1		

 α 1917 = 14^h 50^m 56^s Jährliche Änderung - 0^s2

55°N

β Ursae minoris (Kochab)

55°N

Std. wkl. m.	9. Stunde					Std. wkl. m.	10. Stunde					Std. wkl. m.	11. Stunde				
	Höhe	Azimut	Δt	Δh	ΔA		Höhe	Azimut	Δt	Δh	ΔA		Höhe	Azimut	Δt	Δh	ΔA
0	42°54.9	15°0	sek			0	41°2.1	10°2	sek		0	39°52.9	5°2	sek			
1	42 52.7	14.9	6	-0.2		1	41 0.6	10.1	6	-0.1	1	39 52.1	5.1	6	-0.1		
2	42 50.5	14.8	12	-0.4		2	40 59.1	10.0	12	-0.3	2	39 51.4	5.0	12	-0.1		
3	42 48.3	14.7	18	-0.7		3	40 57.6	10.0	18	-0.4	3	39 50.6	4.9	18	-0.2		
4	42 46.1	14.7	24	-0.9		4	40 56.2	9.9	24	-0.6	4	39 49.9	4.8	24	-0.3		
5	42 43.9	14.6	30	-1.1		5	40 54.7	9.8	30	-0.7	5	39 49.2	4.7	30	-0.3		
6	42 41.7	14.5	36	-1.3		6	40 53.3	9.7	36	-0.9	6	39 48.5	4.7	36	-0.4		
7	42 39.5	14.4	42	-1.5		7	40 51.8	9.6	42	-1.0	7	39 47.8	4.6	42	-0.5		
8	42 37.4	14.3	48	-1.8		8	40 50.4	9.5	48	-1.2	8	39 47.1	4.5	48	-0.6		
9	42 35.3	14.3	54	-2.0		9	40 49.0	9.5	54	-1.3	9	39 46.4	4.4	54	-0.6		
10	42 33.2	14.2				10	40 47.6	9.4			10	39 45.8	4.3				
11	42 31.1	14.1	6	-0.2		11	40 46.2	9.3	6	-0.1	11	39 45.1	4.2	6	-0.1		
12	42 29.0	14.0	12	-0.4		12	40 44.8	9.2	12	-0.3	12	39 44.5	4.1	12	-0.1		
13	42 26.9	14.0	18	-0.6		13	40 43.4	9.1	18	-0.4	13	39 43.9	4.1	18	-0.2		
14	42 24.8	13.9	24	-0.8		14	40 42.0	9.1	24	-0.5	14	39 43.3	4.0	24	-0.2		
15	42 22.7	13.8	30	-1.0		15	40 40.6	9.0	30	-0.7	15	39 42.7	3.9	30	-0.3		
16	42 20.7	13.7	36	-1.2		16	40 39.3	8.9	36	-0.8	16	39 42.2	3.8	36	-0.4		
17	42 18.6	13.7	42	-1.4		17	40 38.0	8.8	42	-0.9	17	39 41.6	3.7	42	-0.4		
18	42 16.6	13.6	48	-1.6		18	40 36.7	8.7	48	-1.1	18	39 41.1	3.6	48	-0.5		
19	42 14.6	13.5	54	-1.8		19	40 35.4	8.6	54	-1.2	19	39 40.5	3.5	54	-0.5		
20	42 12.6	13.4				20	40 34.1	8.6			20	39 40.0	3.5				
21	42 10.6	13.3	6	-0.2		21	40 32.8	8.5	6	-0.1	21	39 39.5	3.4	6	0.0		
22	42 8.7	13.3	12	-0.4		22	40 31.6	8.4	12	-0.2	22	39 39.0	3.3	12	-0.1		
23	42 6.7	13.2	18	-0.6		23	40 30.3	8.3	18	-0.4	23	39 38.5	3.2	18	-0.1		
24	42 4.8	13.1	24	-0.8		24	40 29.1	8.2	24	-0.5	24	39 38.0	3.1	24	-0.2		
25	42 2.8	13.0	30	-1.0		25	40 27.9	8.1	30	-0.6	25	39 37.5	3.0	30	-0.2		
26	42 0.9	12.9	36	-1.2		26	40 26.7	8.0	36	-0.7	26	39 37.1	2.9	36	-0.3		
27	41 59.0	12.9	42	-1.4		27	40 25.5	8.0	42	-0.9	27	39 36.7	2.9	42	-0.3		
28	41 57.1	12.8	48	-1.6		28	40 24.3	7.9	48	-1.0	28	39 36.3	2.8	48	-0.4		
29	41 55.2	12.7	54	-1.8		29	40 23.1	7.8	54	-1.1	29	39 35.9	2.7	54	-0.4		
30	41 53.3	12.6				30	40 21.9	7.7			30	39 35.5	2.6				
31	41 51.4	12.5	6	-0.2		31	40 20.7	7.6	6	-0.1	31	39 35.1	2.5	6	0.0		
32	41 49.5	12.5	12	-0.4		32	40 19.6	7.5	12	-0.2	32	39 34.7	2.4	12	-0.1		
33	41 47.6	12.4	18	-0.5		33	40 18.5	7.5	18	-0.3	33	39 34.3	2.3	18	-0.1		
34	41 45.8	12.3	24	-0.7		34	40 17.4	7.4	24	-0.4	34	39 34.0	2.2	24	-0.1		
35	41 44.0	12.2	30	-0.9		35	40 16.3	7.3	30	-0.5	35	39 33.6	2.2	30	-0.1		
36	41 42.2	12.1	36	-1.1		36	40 15.2	7.2	36	-0.7	36	39 33.3	2.1	36	-0.2		
37	41 40.4	12.1	42	-1.3		37	40 14.1	7.1	42	-0.8	37	39 33.0	2.0	42	-0.2		
38	41 38.6	12.0	48	-1.5		38	40 13.1	7.0	48	-0.9	38	39 32.7	1.9	48	-0.2		
39	41 36.8	11.9	54	-1.7		39	40 12.0	7.0	54	-1.0	39	39 32.4	1.8	54	-0.3		
40	41 35.0	11.8				40	40 11.0	6.9			40	39 32.2	1.7				
41	41 33.2	11.7	6	-0.2		41	40 10.0	6.8	6	-0.1	41	39 31.9	1.6	6	0.0		
42	41 31.5	11.7	12	-0.3		42	40 9.0	6.7	12	-0.2	42	39 31.7	1.6	12	0.0		
43	41 29.8	11.6	18	-0.5		43	40 8.0	6.6	18	-0.3	43	39 31.5	1.5	18	-0.1		
44	41 28.1	11.5	24	-0.7		44	40 7.0	6.5	24	-0.4	44	39 31.3	1.4	24	-0.1		
45	41 26.4	11.4	30	-0.8		45	40 6.0	6.5	30	-0.5	45	39 31.1	1.3	30	-0.1		
46	41 24.7	11.3	36	-1.0		46	40 5.0	6.4	36	-0.6	46	39 30.9	1.2	36	-0.1		
47	41 23.0	11.3	42	-1.2		47	40 4.0	6.3	42	-0.7	47	39 30.7	1.1	42	-0.2		
48	41 21.3	11.2	48	-1.4		48	40 3.1	6.2	48	-0.8	48	39 30.5	1.0	48	-0.2		
49	41 19.6	11.1	54	-1.5		49	40 2.2	6.1	54	-0.9	49	39 30.3	1.0	54	-0.2		
50	41 18.0	11.0				50	40 1.3	6.0			50	39 30.2	0.9				
51	41 16.3	10.9	6	-0.2		51	40 0.4	5.9	6	-0.1	51	39 30.1	0.8	6	0.0		
52	41 14.7	10.9	12	-0.3		52	39 59.6	5.9	12	-0.2	52	39 30.0	0.7	12	0.0		
53	41 13.1	10.8	18	-0.5		53	39 58.7	5.8	18	-0.3	53	39 29.9	0.6	18	0.0		
54	41 11.5	10.7	24	-0.6		54	39 57.8	5.7	24	-0.3	54	39 29.8	0.5	24	0.0		
55	41 9.9	10.6	30	-0.8		55	39 56.9	5.6	30	-0.4	55	39 29.7	0.4	30	0.0		
56	41 8.4	10.5	36	-0.9		56	39 56.1	5.5	36	-0.5	56	39 29.7	0.3	36	0.0		
57	41 6.8	10.4	42	-1.1		57	39 55.3	5.4	42	-0.6	57	39 29.7	0.3	42	-0.1		
58	41 5.2	10.4	48	-1.2		58	39 54.5	5.3	48	-0.7	58	39 29.7	0.2	48	-0.1		
59	41 3.6	10.3	54	-1.4		59	39 53.7	5.3	54	-0.8	59	39 29.6	0.1	54	-0.1		

m Std. wkl.	9. Stunde					m Std. wkl.	10. Stunde					m Std. wkl.	11. Stunde				
	Höhe	Azimut	Δt	Δh	ΔA		Höhe	Azimut	Δt	Δh	ΔA		Höhe	Azimut	Δt	Δh	ΔA
	1920-1925	1925-1930	1930-1935				1920-1925	1925-1930	1930-1935				1920-1925	1925-1930	1930-1935		
Δh	- 1.1	- 2.2	- 3.3	Δh	- 1.2	- 2.4	- 3.6	Δh	- 1.2	- 2.5	- 3.7						
ΔA	—	—	—	ΔA	—	—	—	ΔA	—	—	—						

- γ Draconis
- α Lyrae (Weğa)
- γ Cygni
- α Cygni (Deneb)
- α Cephei
- Ursae minoris (Nordstern)

α 1917 = 14^h 50^m 56^s Jährliche Änderung = 0.2

55°N

γ Draconis

55°N

Std. wkl. m.	1. Stunde					Std. wkl. m.	2. Stunde				
	Höhe	Azimut	Δt	Δh	ΔA		Höhe	Azimut	Δt	Δh	ΔA
0	80° 23'.4	105.2	sek			0	71° 51'.5	88.7	sek		
1	80 15.1	104.8	6	-0.8	0.0	1	71 42.9	88.5	6	-0.9	0.0
2	80 6.7	104.4	12	-1.7	-0.1	2	71 34.4	88.3	12	-1.7	0.0
3	79 58.4	104.0	18	-2.5	-0.1	3	71 25.8	88.1	18	-2.6	-0.1
4	79 50.0	103.6	24	-3.4	-0.2	4	71 17.2	87.9	24	-3.4	-0.1
5	79 41.7	103.2	30	-4.2	-0.2	5	71 8.6	87.7	30	-4.3	-0.1
6	79 33.3	102.8	36	-5.0	-0.2	6	71 0.0	87.5	36	-5.2	-0.1
7	79 24.9	102.4	42	-5.9	-0.3	7	70 51.4	87.3	42	-6.0	-0.1
8	79 16.5	102.1	48	-6.7	-0.3	8	70 42.8	87.2	48	-6.9	-0.2
9	79 8.1	101.7	54	-7.6	-0.4	9	70 34.2	87.0	54	-7.7	-0.2
10	78 59.6	101.3				10	70 25.6	86.8			
11	78 51.2	101.0	6	-0.8	0.0	11	70 17.0	86.6	6	-0.8	0.0
12	78 42.7	100.6	12	-1.7	-0.1	12	70 8.4	86.4	12	-1.7	0.0
13	78 34.3	100.3	18	-2.5	-0.1	13	69 59.8	86.3	18	-2.5	-0.1
14	78 25.8	99.9	24	-3.4	-0.1	14	69 51.2	86.1	24	-3.4	-0.1
15	78 17.3	99.6	30	-4.2	-0.2	15	69 42.6	85.9	30	-4.2	-0.1
16	78 8.8	99.3	36	-5.1	-0.2	16	69 34.0	85.7	36	-5.1	-0.1
17	78 0.3	99.0	42	-5.9	-0.2	17	69 25.4	85.5	42	-5.9	-0.1
18	77 51.8	98.7	48	-6.8	-0.3	18	69 16.9	85.4	48	-6.8	-0.1
19	77 43.3	98.4	54	-7.6	-0.3	19	69 8.3	85.2	54	-7.6	-0.2
20	77 34.8	98.1				20	68 59.8	85.0			
21	77 26.3	97.8	6	-0.8	0.0	21	68 51.2	84.8	6	-0.8	0.0
22	77 17.8	97.5	12	-1.7	-0.1	22	68 42.7	84.6	12	-1.7	0.0
23	77 9.3	97.3	18	-2.5	-0.1	23	68 34.1	84.5	18	-2.5	-0.1
24	77 0.7	97.0	24	-3.4	-0.1	24	68 25.5	84.3	24	-3.4	-0.1
25	76 52.2	96.7	30	-4.2	-0.1	25	68 16.9	84.1	30	-4.2	-0.1
26	76 43.6	96.4	36	-5.1	-0.2	26	68 8.4	83.9	36	-5.1	-0.1
27	76 35.1	96.1	42	-5.9	-0.2	27	67 59.8	83.8	42	-5.9	-0.1
28	76 26.5	95.9	48	-6.8	-0.2	28	67 51.3	83.6	48	-6.8	-0.1
29	76 18.0	95.6	54	-7.6	-0.2	29	67 42.7	83.5	54	-7.6	-0.1
30	76 9.4	95.3				30	67 34.2	83.3			
31	76 0.9	95.1	6	-0.9	0.0	31	67 25.6	83.1	6	-0.8	0.0
32	75 52.3	94.8	12	-1.7	0.0	32	67 17.1	83.0	12	-1.7	0.0
33	75 43.7	94.6	18	-2.6	-0.1	33	67 8.5	82.8	18	-2.5	0.0
34	75 35.1	94.3	24	-3.4	-0.1	34	67 0.0	82.7	24	-3.4	-0.1
35	75 26.5	94.1	30	-4.3	-0.1	35	66 51.5	82.5	30	-4.2	-0.1
36	75 17.9	93.9	36	-5.1	-0.1	36	66 43.0	82.3	36	-5.1	-0.1
37	75 9.4	93.6	42	-6.0	-0.2	37	66 34.4	82.2	42	-5.9	-0.1
38	75 0.8	93.4	48	-6.8	-0.2	38	66 25.9	82.0	48	-6.8	-0.1
39	74 52.2	93.1	54	-7.7	-0.2	39	66 17.4	81.9	54	-7.6	-0.1
40	74 43.6	92.9				40	66 8.9	81.7			
41	74 35.0	92.7	6	-0.9	0.0	41	66 0.4	81.5	6	-0.8	0.0
42	74 26.4	92.5	12	-1.7	0.0	42	65 51.9	81.4	12	-1.7	0.0
43	74 17.8	92.2	18	-2.6	-0.1	43	65 43.4	81.2	18	-2.5	0.0
44	74 9.2	92.0	24	-3.4	-0.1	44	65 34.9	81.1	24	-3.4	-0.1
45	74 0.6	91.8	30	-4.3	-0.1	45	65 26.4	80.9	30	-4.2	-0.1
46	73 52.0	91.6	36	-5.2	-0.1	46	65 17.9	80.8	36	-5.1	-0.1
47	73 43.4	91.4	42	-6.0	-0.2	47	65 9.4	80.6	42	-5.9	-0.1
48	73 34.8	91.1	48	-6.9	-0.2	48	65 0.9	80.5	48	-6.8	-0.1
49	73 26.2	90.9	54	-7.7	-0.2	49	64 52.4	80.3	54	-7.6	-0.1
50	73 17.6	90.7				50	64 43.9	80.2			
51	73 9.0	90.5	6	-0.9	0.0	51	64 35.4	80.0	6	-0.8	0.0
52	73 0.4	90.3	12	-1.7	0.0	52	64 27.0	79.9	12	-1.7	0.0
53	72 51.8	90.1	18	-2.6	-0.1	53	64 18.5	79.7	18	-2.5	0.0
54	72 43.2	89.9	24	-3.4	-0.1	54	64 10.0	79.6	24	-3.4	-0.1
55	72 34.6	89.7	30	-4.3	-0.1	55	64 1.5	79.4	30	-4.2	-0.1
56	72 26.0	89.5	36	-5.2	-0.1	56	63 53.1	79.3	36	-5.1	-0.1
57	72 17.4	89.3	42	-6.0	-0.1	57	63 44.6	79.1	42	-5.9	-0.1
58	72 8.8	89.1	48	-6.9	-0.2	58	63 36.2	79.0	48	-6.8	-0.1
59	72 0.2	88.9	54	-7.7	-0.2	59	63 27.8	78.8	54	-7.6	-0.1
m Std. wkl.	Höhe	Azimut	Δt	Δh	ΔA	m Std. wkl.	Höhe	Azimut	Δt	Δh	ΔA
	1. Stunde						2. Stunde				

	1920-1925	1925-1930	1930-1935		1920-1925	1925-1930	1930-1935
Δh	—	—	—	Δh	—	—	—
ΔA	—	—	—	ΔA	—	—	—

55°N

γ Draconis

55°N

Std. wkl. m.	3. Stunde					Std. wkl. m.	4. Stunde					Std. wkl. m.	5. Stunde				
	Höhe	Azimuth	Δt	Δh	ΔA		Höhe	Azimuth	Δt	Δh	ΔA		Höhe	Azimuth	Δt	Δh	ΔA
0	63°19.4	78.7	sek			0	55° 2.7	70.2	sek			0	47°10.7	62.2	sek		
1	63 10.9	78.5	6	-0.8	0.0	1	54 54.6	70.1	6	-0.8	0.0	1	47 3.1	62.1	6	-0.8	0.0
2	63 2.5	78.4	12	-1.7	0.0	2	54 46.5	69.9	12	-1.6	0.0	2	46 55.5	61.9	12	-1.5	0.0
3	62 54.0	78.2	18	-2.5	0.0	3	54 38.4	69.8	18	-2.4	0.0	3	46 47.9	61.8	18	-2.3	0.0
4	62 45.6	78.1	24	-3.4	-0.1	4	54 30.3	69.6	24	-3.2	-0.1	4	46 40.4	61.6	24	-3.0	-0.1
5	62 37.2	77.9	30	-4.2	-0.1	5	54 22.2	69.5	30	-4.0	-0.1	5	46 32.8	61.5	30	-3.8	-0.1
6	62 28.8	77.8	36	-5.0	-0.1	6	54 14.2	69.4	36	-4.8	-0.1	6	46 25.2	61.4	36	-4.6	-0.1
7	62 20.4	77.6	42	-5.9	-0.1	7	54 6.2	69.3	42	-5.6	-0.1	7	46 17.6	61.3	42	-5.3	-0.1
8	62 12.0	77.5	48	-6.7	-0.1	8	53 58.2	69.1	48	-6.4	-0.1	8	46 10.1	61.1	48	-6.1	-0.1
9	62 3.6	77.3	54	-7.6	-0.1	9	53 50.1	69.0	54	-7.2	-0.1	9	46 2.5	61.0	54	-6.8	-0.1
10	61 55.2	77.2				10	53 42.1	68.9				10	45 55.0	60.9			
11	61 46.8	77.0	6	-0.8	0.0	11	53 34.1	68.8	6	-0.8	0.0	11	45 47.5	60.8	6	-0.7	0.0
12	61 38.5	76.9	12	-1.7	0.0	12	53 26.1	68.6	12	-1.6	0.0	12	45 40.0	60.6	12	-1.5	0.0
13	61 30.1	76.7	18	-2.5	0.0	13	53 18.1	68.5	18	-2.4	0.0	13	45 32.5	60.5	18	-2.2	0.0
14	61 21.7	76.6	24	-3.3	-0.1	14	53 10.1	68.3	24	-3.2	-0.1	14	45 25.0	60.3	24	-3.0	-0.1
15	61 13.3	76.4	30	-4.2	-0.1	15	53 2.1	68.2	30	-4.0	-0.1	15	45 17.5	60.2	30	-3.7	-0.1
16	61 5.0	76.3	36	-5.0	-0.1	16	52 54.1	68.1	36	-4.8	-0.1	16	45 10.1	60.1	36	-4.5	-0.1
17	60 56.6	76.1	42	-5.8	-0.1	17	52 46.1	67.9	42	-5.6	-0.1	17	45 2.6	60.0	42	-5.2	-0.1
18	60 48.3	76.0	48	-6.7	-0.1	18	52 38.1	67.8	48	-6.4	-0.1	18	44 55.2	59.8	48	-6.0	-0.1
19	60 39.9	75.8	54	-7.5	-0.1	19	52 30.1	67.6	54	-7.2	-0.1	19	44 47.8	59.7	54	-6.7	-0.1
20	60 31.6	75.7				20	52 22.2	67.5				20	44 40.4	59.6			
21	60 23.3	75.6	6	-0.8	0.0	21	52 14.2	67.4	6	-0.8	0.0	21	44 33.0	59.5	6	-0.7	0.0
22	60 15.0	75.4	12	-1.7	0.0	22	52 6.2	67.2	12	-1.6	0.0	22	44 25.6	59.3	12	-1.5	0.0
23	60 6.6	75.3	18	-2.5	0.0	23	51 58.2	67.1	18	-2.4	0.0	23	44 18.2	59.2	18	-2.2	0.0
24	59 58.3	75.1	24	-3.3	-0.1	24	51 50.3	66.9	24	-3.2	-0.1	24	44 10.8	59.0	24	-3.0	-0.1
25	59 49.9	75.0	30	-4.1	-0.1	25	51 42.4	66.8	30	-4.0	-0.1	25	44 3.4	58.9	30	-3.7	-0.1
26	59 41.6	74.9	36	-5.0	-0.1	26	51 34.5	66.7	36	-4.7	-0.1	26	43 56.1	58.8	36	-4.4	-0.1
27	59 33.3	74.7	42	-5.8	-0.1	27	51 26.6	66.6	42	-5.5	-0.1	27	43 48.7	58.6	42	-5.2	-0.1
28	59 25.0	74.6	48	-6.6	-0.1	28	51 18.8	66.4	48	-6.3	-0.1	28	43 41.4	58.5	48	-5.9	-0.1
29	59 16.7	74.4	54	-7.5	-0.1	29	51 10.9	66.3	54	-7.1	-0.1	29	43 34.0	58.3	54	-6.7	-0.1
30	59 8.4	74.3				30	51 3.0	66.2				30	43 26.7	58.2			
31	59 0.1	74.2	6	-0.8	0.0	31	50 55.1	66.1	6	-0.8	0.0	31	43 19.4	58.1	6	-0.7	0.0
32	58 51.9	74.0	12	-1.6	0.0	32	50 47.3	65.9	12	-1.6	0.0	32	43 12.1	57.9	12	-1.4	0.0
33	58 43.6	73.9	18	-2.5	0.0	33	50 39.4	65.8	18	-2.4	0.0	33	43 4.8	57.8	18	-2.2	0.0
34	58 35.4	73.7	24	-3.3	-0.1	34	50 31.6	65.6	24	-3.1	-0.1	34	42 57.5	57.6	24	-2.9	-0.1
35	58 27.1	73.6	30	-4.1	-0.1	35	50 23.8	65.5	30	-3.9	-0.1	35	42 50.2	57.5	30	-3.6	-0.1
36	58 18.9	73.5	36	-4.9	-0.1	36	50 16.0	65.4	36	-4.7	-0.1	36	42 43.0	57.4	36	-4.3	-0.1
37	58 10.6	73.3	42	-5.8	-0.1	37	50 8.2	65.3	42	-5.5	-0.1	37	42 35.7	57.3	42	-5.1	-0.1
38	58 2.4	73.2	48	-6.6	-0.1	38	50 0.4	65.1	48	-6.3	-0.1	38	42 28.5	57.1	48	-5.8	-0.1
39	57 54.1	73.0	54	-7.4	-0.1	39	49 52.6	65.0	54	-7.1	-0.1	39	42 21.3	57.0	54	-6.5	-0.1
40	57 45.9	72.9				40	49 44.8	64.9				40	42 14.1	56.9			
41	57 37.6	72.8	6	-0.8	0.0	41	49 37.0	64.8	6	-0.8	0.0	41	42 6.9	56.8	6	-0.7	0.0
42	57 29.4	72.6	12	-1.6	0.0	42	49 29.2	64.6	12	-1.5	0.0	42	41 59.7	56.6	12	-1.4	0.0
43	57 21.2	72.5	18	-2.5	0.0	43	49 21.4	64.5	18	-2.3	0.0	43	41 52.5	56.5	18	-2.1	0.0
44	57 13.0	72.3	24	-3.3	-0.1	44	49 13.6	64.3	24	-3.1	-0.1	44	41 45.4	56.3	24	-2.9	-0.1
45	57 4.8	72.2	30	-4.1	-0.1	45	49 5.8	64.2	30	-3.9	-0.1	45	41 38.2	56.2	30	-3.6	-0.1
46	56 56.6	72.1	36	-4.9	-0.1	46	48 58.1	64.1	36	-4.6	-0.1	46	41 31.1	56.1	36	-4.3	-0.1
47	56 48.4	72.0	42	-5.8	-0.1	47	48 50.4	63.9	42	-5.4	-0.1	47	41 24.0	56.0	42	-5.0	-0.1
48	56 40.3	71.8	48	-6.6	-0.1	48	48 42.7	63.8	48	-6.2	-0.1	48	41 16.9	55.8	48	-5.7	-0.1
49	56 32.1	71.7	54	-7.4	-0.1	49	48 35.0	63.6	54	-7.0	-0.1	49	41 9.8	55.7	54	-6.4	-0.1
50	56 23.9	71.6				50	48 27.3	63.5				50	41 2.7	55.6			
51	56 15.7	71.5	6	-0.8	0.0	51	48 19.6	63.4	6	-0.8	0.0	51	40 55.6	55.5	6	-0.7	0.0
52	56 7.6	71.3	12	-1.6	0.0	52	48 11.9	63.2	12	-1.5	0.0	52	40 48.5	55.3	12	-1.4	0.0
53	55 59.4	71.2	18	-2.4	0.0	53	48 4.2	63.1	18	-2.3	0.0	53	40 41.4	55.2	18	-2.1	0.0
54	55 51.3	71.0	24	-3.3	-0.1	54	47 56.5	62.9	24	-3.1	-0.1	54	40 34.4	55.0	24	-2.8	-0.1
55	55 43.2	70.9	30	-4.1	-0.1	55	47 48.8	62.8	30	-3.8	-0.1	55	40 27.3	54.9	30	-3.5	-0.1
56	55 35.1	70.8	36	-4.9	-0.1	56	47 41.2	62.7	36	-4.6	-0.1	56	40 20.3	54.8	36	-4.2	-0.1
57	55 27.0	70.6	42	-5.7	-0.1	57	47 33.5	62.6	42	-5.4	-0.1	57	40 13.3	54.6	42	-4.9	-0.1
58	55 18.9	70.5	48	-6.5	-0.1	58	47 25.9	62.4	48	-6.1	-0.1	58	40 6.3	54.5	48	-5.6	-0.1
59	55 10.8	70.3	54	-7.3	-0.1	59	47 18.3	62.3	54	-6.9	-0.1	59	39 59.3	54.3	54	-6.3	-0.1
m Std. wkl.	Höhe	Azimuth	Δt	Δh	ΔA	m Std. wkl.	Höhe	Azimuth	Δt	Δh	ΔA	m Std. wkl.	Höhe	Azimuth	Δt	Δh	ΔA
	3. Stunde						4. Stunde						5. Stunde				

γ Draconis
α Lyrae (Weğa)
γ Cygni
α Cygni (Deneb)
α Cephei

	1920-1925	1925-1930	1930-1935		1920-1925	1925-1930	1930-1935		1920-1925	1925-1930	1930-1935
Δh	—	—	—	Δh	—	-0.1	-0.1	Δh	—	-0.1	-0.1
ΔA	—	—	—	ΔA	—	—	—	ΔA	—	—	—

α 1917 = 17^h54^m41^s Jährliche Änderung +1^s.4

Ursae minoris (Nordstern)

55°N

γ Draconis

55°N

Std-wkl. m.	6. Stunde					Std-wkl. m.	7. Stunde					Std-wkl. m.	8. Stunde				
	Höhe	Azimit	Δt	Δh	ΔA		Höhe	Azimit	Δt	Δh	ΔA		Höhe	Azimit	Δt	Δh	ΔA
0	39° 52' 3	54° 2	sek			0	33° 16' 4	46° 0	sek			0	27° 33' 0	37° 5	sek		
1	39 45.3	54.1	6	-0.7	0.0	1	33 10.2	45.9	6	-0.6	0.0	1	27 27.8	37.4	6	-0.5	0.0
2	39 38.3	53.9	12	-1.4	0.0	2	33 4.1	45.7	12	-1.2	0.0	2	27 22.6	37.2	12	-1.0	0.0
3	39 31.3	53.8	18	-2.1	0.0	3	32 57.9	45.6	18	-1.8	0.0	3	27 17.4	37.1	18	-1.5	0.0
4	39 24.4	53.6	24	-2.8	-0.1	4	32 51.8	45.4	24	-2.4	-0.1	4	27 12.2	36.9	24	-2.1	-0.1
5	39 17.5	53.5	30	-3.5	-0.1	5	32 45.7	45.3	30	-3.0	-0.1	5	27 7.0	36.8	30	-2.6	-0.1
6	39 10.6	53.4	36	-4.1	-0.1	6	32 39.6	45.2	36	-3.7	-0.1	6	27 1.9	36.6	36	-3.1	-0.1
7	39 3.7	53.3	42	-4.8	-0.1	7	32 33.5	45.0	42	-4.3	-0.1	7	26 56.8	36.5	42	-3.6	-0.1
8	38 56.8	53.1	48	-5.5	-0.1	8	32 27.4	44.9	48	-4.9	-0.1	8	26 51.7	36.3	48	-4.1	-0.1
9	38 49.9	53.0	54	-6.2	-0.1	9	32 21.3	44.7	54	-5.5	-0.1	9	26 46.6	36.2	54	-4.6	-0.1
10	38 43.1	52.9				10	32 15.3	44.6				10	26 41.6	36.0			
11	38 36.2	52.8	6	-0.7	0.0	11	32 9.2	44.5	6	-0.6	0.0	11	26 36.5	35.9	6	-0.5	0.0
12	38 29.4	52.6	12	-1.4	0.0	12	32 3.2	44.3	12	-1.2	0.0	12	26 31.5	35.7	12	-1.0	0.0
13	38 22.5	52.5	18	-2.0	0.0	13	31 57.2	44.2	18	-1.8	0.0	13	26 26.5	35.6	18	-1.5	0.0
14	38 15.7	52.3	24	-2.7	-0.1	14	31 51.2	44.0	24	-2.4	-0.1	14	26 21.5	35.4	24	-2.0	-0.1
15	38 8.9	52.2	30	-3.4	-0.1	15	31 45.2	43.9	30	-3.0	-0.1	15	26 16.5	35.3	30	-2.5	-0.1
16	38 2.1	52.1	36	-4.1	-0.1	16	31 39.3	43.8	36	-3.6	-0.1	16	26 11.5	35.1	36	-3.0	-0.1
17	37 55.3	51.9	42	-4.8	-0.1	17	31 33.3	43.6	42	-4.2	-0.1	17	26 6.6	35.0	42	-3.5	-0.1
18	37 48.6	51.8	48	-5.4	-0.1	18	31 27.4	43.5	48	-4.8	-0.1	18	26 1.7	34.8	48	-4.0	-0.1
19	37 41.8	51.6	54	-6.1	-0.1	19	31 21.5	43.3	54	-5.4	-0.1	19	25 56.8	34.7	54	-4.5	-0.1
20	37 35.1	51.5				20	31 15.6	43.2				20	25 51.9	34.5			
21	37 28.4	51.4	6	-0.7	0.0	21	31 9.7	43.1	6	-0.6	0.0	21	25 47.1	34.4	6	-0.5	0.0
22	37 21.7	51.2	12	-1.3	0.0	22	31 3.9	42.9	12	-1.2	0.0	22	25 42.3	34.2	12	-1.0	0.0
23	37 15.0	51.1	18	-2.0	0.0	23	30 58.0	42.8	18	-1.7	0.0	23	25 37.5	34.1	18	-1.4	0.0
24	37 8.3	50.9	24	-2.7	-0.1	24	30 52.2	42.6	24	-2.3	-0.1	24	25 32.7	33.9	24	-1.9	-0.1
25	37 1.6	50.8	30	-3.3	-0.1	25	30 46.4	42.5	30	-2.9	-0.1	25	25 27.9	33.8	30	-2.4	-0.1
26	36 54.9	50.7	36	-4.0	-0.1	26	30 40.6	42.4	36	-3.5	-0.1	26	25 23.1	33.6	36	-2.9	-0.1
27	36 48.2	50.5	42	-4.7	-0.1	27	30 34.8	42.2	42	-4.1	-0.1	27	25 18.3	33.5	42	-3.4	-0.1
28	36 41.6	50.4	48	-5.3	-0.1	28	30 29.0	42.1	48	-4.6	-0.1	28	25 13.5	33.3	48	-3.8	-0.1
29	36 35.0	50.2	54	-6.0	-0.1	29	30 23.2	41.9	54	-5.2	-0.1	29	25 8.8	33.2	54	-4.3	-0.1
30	36 28.4	50.1				30	30 17.5	41.8				30	25 4.1	33.0			
31	36 21.8	50.0	6	-0.6	0.0	31	30 11.8	41.7	6	-0.6	0.0	31	24 59.4	32.9	6	-0.5	0.0
32	36 15.3	49.8	12	-1.3	0.0	32	30 6.1	41.5	12	-1.1	0.0	32	24 54.7	32.7	12	-0.9	0.0
33	36 8.7	49.7	18	-1.9	0.0	33	30 0.4	41.4	18	-1.7	0.0	33	24 50.1	32.6	18	-1.4	0.0
34	36 2.1	49.5	24	-2.6	-0.1	34	29 54.8	41.2	24	-2.3	-0.1	34	24 45.5	32.4	24	-1.8	-0.1
35	35 55.5	49.4	30	-3.2	-0.1	35	29 49.1	41.1	30	-2.8	-0.1	35	24 40.9	32.3	30	-2.3	-0.1
36	35 49.0	49.3	36	-3.9	-0.1	36	29 43.5	40.9	36	-3.4	-0.1	36	24 36.3	32.2	36	-2.8	-0.1
37	35 42.5	49.2	42	-4.5	-0.1	37	29 37.8	40.8	42	-4.0	-0.1	37	24 31.7	32.0	42	-3.2	-0.1
38	35 36.0	49.0	48	-5.2	-0.1	38	29 32.2	40.6	48	-4.5	-0.1	38	24 27.2	31.9	48	-3.7	-0.1
39	35 29.5	48.9	54	-5.8	-0.1	39	29 26.6	40.5	54	-5.1	-0.1	39	24 22.6	31.7	54	-4.1	-0.1
40	35 23.1	48.8				40	29 21.0	40.3				40	24 18.1	31.6			
41	35 16.6	48.7	6	-0.6	0.0	41	29 15.4	40.2	6	-0.5	0.0	41	24 13.6	31.5	6	-0.4	0.0
42	35 10.2	48.5	12	-1.3	0.0	42	29 9.9	40.0	12	-1.1	0.0	42	24 9.1	31.3	12	-0.9	0.0
43	35 3.7	48.4	18	-1.9	0.0	43	29 4.4	39.9	18	-1.6	0.0	43	24 4.6	31.2	18	-1.3	0.0
44	34 57.3	48.2	24	-2.6	-0.1	44	28 58.9	39.7	24	-2.2	-0.1	44	24 0.2	31.0	24	-1.8	-0.1
45	34 50.9	48.1	30	-3.2	-0.1	45	28 53.4	39.6	30	-2.7	-0.1	45	23 55.8	30.9	30	-2.2	-0.1
46	34 44.5	48.0	36	-3.8	-0.1	46	28 47.9	39.5	36	-3.3	-0.1	46	23 51.4	30.7	36	-2.7	-0.1
47	34 38.1	47.9	42	-4.5	-0.1	47	28 42.4	39.3	42	-3.8	-0.1	47	23 47.0	30.6	42	-3.1	-0.1
48	34 31.7	47.7	48	-5.1	-0.1	48	28 37.0	39.2	48	-4.4	-0.1	48	23 42.7	30.4	48	-3.6	-0.1
49	34 25.3	47.5	54	-5.8	-0.1	49	28 31.6	39.0	54	-4.9	-0.1	49	23 38.4	30.3	54	-4.0	-0.1
50	34 19.0	47.4				50	28 26.2	38.9				50	23 34.1	30.1			
51	34 12.7	47.3	6	-0.6	0.0	51	28 20.8	38.8	6	-0.5	0.0	51	23 29.8	29.9	6	-0.4	0.0
52	34 6.4	47.1	12	-1.2	0.0	52	28 15.4	38.6	12	-1.1	0.0	52	23 25.5	29.8	12	-0.8	0.0
53	34 0.1	47.0	18	-1.9	0.0	53	28 10.0	38.5	18	-1.6	0.0	53	23 21.2	29.6	18	-1.3	0.0
54	33 53.8	46.8	24	-2.5	-0.1	54	28 4.7	38.3	24	-2.1	-0.1	54	23 17.0	29.5	24	-1.7	-0.1
55	33 47.5	46.7	30	-3.1	-0.1	55	27 59.4	38.2	30	-2.6	-0.1	55	23 12.7	29.3	30	-2.1	-0.1
56	33 41.3	46.6	36	-3.7	-0.1	56	27 54.1	38.1	36	-3.2	-0.1	56	23 8.5	29.1	36	-2.5	-0.1
57	33 35.0	46.4	42	-4.4	-0.1	57	27 48.8	37.9	42	-3.7	-0.1	57	23 4.3	29.0	42	-3.0	-0.1
58	33 28.8	46.3	48	-5.0	-0.1	58	27 43.5	37.8	48	-4.2	-0.1	58	23 0.2	28.8	48	-3.4	-0.1
59	33 22.6	46.1	54	-5.6	-0.1	59	27 38.2	37.6	54	-4.8	-0.1	59	22 56.0	28.7	54	-3.8	-0.1

m Std-wkl.	6. Stunde					m Std-wkl.	7. Stunde					m Std-wkl.	8. Stunde				
	Höhe	Azimit	Δt	Δh	ΔA		Höhe	Azimit	Δt	Δh	ΔA		Höhe	Azimit	Δt	Δh	ΔA
	1920-1925	1925-1930	1930-1935				1920-1925	1925-1930	1930-1935				1920-1925	1925-1930	1930-1935		
Δh	—	-0.1	-0.1	Δh	—	-0.1	-0.1	Δh	—	-0.1	-0.1	Δh	—	-0.1	-0.1		
ΔA	—	—	—	ΔA	—	—	—	ΔA	—	—	—	ΔA	—	—	—		

α 1917 = 17^h 54^m 41^s Jährliche Änderung + 1^s.4

55°N

γ Draconis

55°N

Std-wkl. m.	9. Stunde					Std-wkl. m.	10. Stunde					Std-wkl. m.	11. Stunde				
	Höhe	Azimet	Δt	Δh	ΔA		Höhe	Azimet	Δt	Δh	ΔA		Höhe	Azimet	Δt	Δh	ΔA
0	22° 51.9	28° 5	sek			0	19° 22.8	19° 3	sek			0	17° 13.6	9° 7	sek		
1	22 47.8	28.4	6	-0.4	0° 0	1	19 20.0	19.1	6	-0.3	0° 0	1	17 12.2	9.5	6	-0.1	0° 0
2	22 43.7	28.2	12	-0.8	0.0	2	19 17.2	19.0	12	-0.5	0.0	2	17 10.8	9.4	12	-0.3	0.0
3	22 39.6	28.1	18	-1.2	0.0	3	19 14.4	18.8	18	-0.8	0.0	3	17 9.4	9.2	18	-0.4	0.0
4	22 35.6	27.9	24	-1.6	-0.1	4	19 11.7	18.7	24	-1.1	-0.1	4	17 8.0	9.1	24	-0.5	-0.1
5	22 31.6	27.8	30	-2.0	-0.1	5	19 8.9	18.5	30	-1.3	-0.1	5	17 6.7	8.9	30	-0.6	-0.1
6	22 27.6	27.6	36	-2.4	-0.1	6	19 6.2	18.3	36	-1.6	-0.1	6	17 5.4	8.7	36	-0.8	-0.1
7	22 23.6	27.5	42	-2.8	-0.1	7	19 3.5	18.2	42	-1.9	-0.1	7	17 4.1	8.6	42	-0.9	-0.1
8	22 19.7	27.3	48	-3.2	-0.1	8	19 0.8	18.0	48	-2.2	-0.1	8	17 2.8	8.4	48	-1.1	-0.1
9	22 15.7	27.2	54	-3.6	-0.1	9	18 58.1	17.9	54	-2.4	-0.1	9	17 1.5	8.3	54	-1.2	-0.1
10	22 11.8	27.0				10	18 55.5	17.7				10	17 0.3	8.1			
11	22 7.9	26.9	6	-0.4	0.0	11	18 52.9	17.5	6	-0.2	0.0	11	16 59.1	7.9	6	-0.1	0.0
12	22 4.0	26.7	12	-0.8	0.0	12	18 50.3	17.4	12	-0.5	0.0	12	16 57.9	7.8	12	-0.2	0.0
13	22 0.2	26.6	18	-1.1	0.0	13	18 47.8	17.2	18	-0.7	0.0	13	16 56.8	7.6	18	-0.3	0.0
14	21 56.4	26.4	24	-1.5	-0.1	14	18 45.3	17.1	24	-1.0	-0.1	14	16 55.7	7.5	24	-0.4	-0.1
15	21 52.6	26.3	30	-1.9	-0.1	15	18 42.8	16.9	30	-1.2	-0.1	15	16 54.6	7.3	30	-0.5	-0.1
16	21 48.8	26.1	36	-2.3	-0.1	16	18 40.3	16.7	36	-1.5	-0.1	16	16 53.5	7.1	36	-0.7	-0.1
17	21 45.0	26.0	42	-2.7	-0.1	17	18 37.8	16.6	42	-1.7	-0.1	17	16 52.4	7.0	42	-0.8	-0.1
18	21 41.3	25.8	48	-3.0	-0.1	18	18 35.4	16.4	48	-2.0	-0.1	18	16 51.4	6.8	48	-0.9	-0.1
19	21 37.5	25.7	54	-3.4	-0.1	19	18 32.9	16.3	54	-2.2	-0.1	19	16 50.4	6.7	54	-1.0	-0.1
20	21 33.8	25.5				20	18 30.5	16.1				20	16 49.4	6.5			
21	21 30.1	25.3	6	-0.4	0.0	21	18 28.1	15.9	6	-0.2	0.0	21	16 48.4	6.3	6	-0.1	0.0
22	21 26.4	25.2	12	-0.7	0.0	22	18 25.8	15.8	12	-0.5	0.0	22	16 47.5	6.2	12	-0.2	0.0
23	21 22.7	25.0	18	-1.1	0.0	23	18 23.4	15.6	18	-0.7	0.0	23	16 46.6	6.0	18	-0.2	0.0
24	21 19.1	24.9	24	-1.4	-0.1	24	18 21.1	15.5	24	-0.9	-0.1	24	16 45.7	5.9	24	-0.3	-0.1
25	21 15.5	24.7	30	-1.8	-0.1	25	18 18.8	15.3	30	-1.1	-0.1	25	16 44.8	5.7	30	-0.4	-0.1
26	21 11.9	24.5	36	-2.2	-0.1	26	18 16.6	15.1	36	-1.4	-0.1	26	16 44.0	5.5	36	-0.5	-0.1
27	21 8.3	24.4	42	-2.5	-0.1	27	18 14.3	15.0	42	-1.6	-0.1	27	16 43.2	5.4	42	-0.6	-0.1
28	21 4.8	24.2	48	-2.9	-0.1	28	18 12.1	14.8	48	-1.8	-0.1	28	16 42.4	5.2	48	-0.6	-0.1
29	21 1.3	24.1	54	-3.2	-0.1	29	18 9.9	14.7	54	-2.1	-0.1	29	16 41.6	5.1	54	-0.7	-0.1
30	20 57.8	23.9				30	18 7.8	14.5				30	16 40.9	4.9			
31	20 54.3	23.8	6	-0.3	0.0	31	18 5.6	14.3	6	-0.2	0.0	31	16 40.1	4.7	6	-0.1	0.0
32	20 50.9	23.6	12	-0.7	0.0	32	18 3.5	14.2	12	-0.4	0.0	32	16 39.4	4.6	12	-0.1	0.0
33	20 47.5	23.5	18	-1.0	0.0	33	18 1.4	14.0	18	-0.6	0.0	33	16 38.7	4.4	18	-0.2	0.0
34	20 44.1	23.3	24	-1.4	-0.1	34	17 59.3	13.9	24	-0.8	-0.1	34	16 38.1	4.3	24	-0.2	-0.1
35	20 40.7	23.2	30	-1.7	-0.1	35	17 57.2	13.7	30	-1.0	-0.1	35	16 37.5	4.1	30	-0.3	-0.1
36	20 37.3	23.0	36	-2.0	-0.1	36	17 55.2	13.5	36	-1.3	-0.1	36	16 36.9	3.9	36	-0.4	-0.1
37	20 33.9	22.9	42	-2.4	-0.1	37	17 53.2	13.4	42	-1.5	-0.1	37	16 36.3	3.7	42	-0.4	-0.1
38	20 30.6	22.7	48	-2.7	-0.1	38	17 51.3	13.2	48	-1.7	-0.1	38	16 35.8	3.6	48	-0.5	-0.1
39	20 27.3	22.6	54	-3.1	-0.1	39	17 49.3	13.1	54	-1.9	-0.1	39	16 35.3	3.4	54	-0.5	-0.1
40	20 24.0	22.4				40	17 47.4	12.9				40	16 34.8	3.2			
41	20 20.7	22.2	6	-0.3	0.0	41	17 45.5	12.7	6	-0.2	0.0	41	16 34.3	3.0	6	0.0	0.0
42	20 17.5	22.1	12	-0.6	0.0	42	17 43.6	12.6	12	-0.4	0.0	42	16 33.9	2.9	12	-0.1	0.0
43	20 14.2	21.9	18	-0.9	0.0	43	17 41.7	12.4	18	-0.5	0.0	43	16 33.4	2.7	18	-0.1	0.0
44	20 11.0	21.8	24	-1.2	-0.1	44	17 39.9	12.3	24	-0.7	-0.1	44	16 33.0	2.6	24	-0.1	-0.1
45	20 7.8	21.6	30	-1.5	-0.1	45	17 38.1	12.1	30	-0.9	-0.1	45	16 32.6	2.4	30	-0.1	-0.1
46	20 4.7	21.4	36	-1.9	-0.1	46	17 36.3	11.9	36	-1.1	-0.1	46	16 32.3	2.2	36	-0.2	-0.1
47	20 1.5	21.3	42	-2.2	-0.1	47	17 34.5	11.8	42	-1.3	-0.1	47	16 32.0	2.1	42	-0.2	-0.1
48	19 58.4	21.1	48	-2.5	-0.1	48	17 32.7	11.6	48	-1.4	-0.1	48	16 31.7	1.9	48	-0.2	-0.1
49	19 55.3	21.0	54	-2.8	-0.1	49	17 31.0	11.5	54	-1.6	-0.1	49	16 31.4	1.8	54	-0.3	-0.1
50	19 52.3	20.8				50	17 29.3	11.3				50	16 31.2	1.6			
51	19 49.2	20.7	6	-0.3	0.0	51	17 27.6	11.1	6	-0.2	0.0	51	16 30.9	1.4	6	0.0	0.0
52	19 46.2	20.5	12	-0.6	0.0	52	17 26.0	11.0	12	-0.3	0.0	52	16 30.7	1.3	12	0.0	0.0
53	19 43.2	20.4	18	-0.9	0.0	53	17 24.4	10.8	18	-0.5	0.0	53	16 30.5	1.1	18	0.0	0.0
54	19 40.2	20.2	24	-1.2	-0.1	54	17 22.8	10.7	24	-0.6	-0.1	54	16 30.4	1.0	24	0.0	-0.1
55	19 37.2	20.1	30	-1.5	-0.1	55	17 21.2	10.5	30	-0.8	-0.1	55	16 30.2	0.8	30	0.0	-0.1
56	19 34.3	19.9	36	-1.8	-0.1	56	17 19.6	10.3	36	-1.0	-0.1	56	16 30.1	0.6	36	-0.1	-0.1
57	19 31.4	19.8	42	-2.1	-0.1	57	17 18.1	10.2	42	-1.1	-0.1	57	16 30.0	0.5	42	-0.1	-0.1
58	19 28.5	19.6	48	-2.4	-0.1	58	17 16.6	10.0	48	-1.3	-0.1	58	16 30.0	0.3	48	-0.1	-0.1
59	19 25.6	19.5	54	-2.7	-0.1	59	17 15.1	9.9	54	-1.4	-0.1	59	16 29.9	0.2	54	-0.1	-0.1

α Lyrae (Weğa)
 γ Cygni
 α Cygni (Deneb)
 α Cephei
 Ursae minoris (Nordstern)

m Std-wkl.	9. Stunde			m Std-wkl.	10. Stunde			m Std-wkl.	11. Stunde		
	Höhe	Azimet	ΔA		Höhe	Azimet	ΔA		Höhe	Azimet	ΔA
Δh	—	- 0.1	- 0.1	Δh	—	- 0.1	- 0.1	Δh	—	- 0.1	- 0.1
ΔA	—	—	—	ΔA	—	—	—	ΔA	—	—	—

α 1917 = 17^h 54^m 41^s Jährliche Änderung + 1.4

55°N

 α Lyrae (Wega)

55°N

Std. wkl. m.	0. Stunde					Std. wkl. m.	1. Stunde					Std. wkl. m.	2. Stunde				
	Höhe	Azimet	Δt	Δh	ΔA		Höhe	Azimet	Δt	Δh	ΔA		Höhe	Azimet	Δt	Δh	ΔA
0	73°42'3	180°0	sek			0	70°50'1	142°0	sek			0	64°8'4	116°6	sek		
1	73 42.2	179.3	6	-0.1	-0.1	1	70 44.8	141.5	6	-0.6	0.0	1	64 0.7	116.3	6	-0.8	0.0
2	73 42.1	178.6	12	-0.1	-0.1	2	70 39.4	141.0	12	-1.1	-0.1	2	63 53.0	115.9	12	-1.6	-0.1
3	73 41.8	177.9	18	-0.2	-0.2	3	70 34.0	140.4	18	-1.7	-0.1	3	63 45.3	115.6	18	-2.3	-0.1
4	73 41.5	177.2	24	-0.2	-0.2	4	70 28.5	139.9	24	-2.2	-0.2	4	63 37.5	115.2	24	-3.1	-0.1
5	73 41.0	176.5	30	-0.3	-0.3	5	70 22.9	139.4	30	-2.8	-0.2	5	63 29.7	114.9	30	-3.9	-0.2
6	73 40.5	175.8	36	-0.4	-0.4	6	70 17.3	138.9	36	-3.4	-0.3	6	63 21.9	114.6	36	-4.7	-0.2
7	73 39.8	175.1	42	-0.4	-0.5	7	70 11.6	138.4	42	-3.9	-0.3	7	63 14.1	114.3	42	-5.5	-0.2
8	73 39.0	174.5	48	-0.5	-0.6	8	70 5.8	137.9	48	-4.5	-0.4	8	63 6.2	113.9	48	-6.2	-0.3
9	73 38.1	173.8	54	-0.5	-0.6	9	70 0.0	137.4	54	-5.0	-0.4	9	62 58.3	113.6	54	-7.0	-0.3
10	73 37.1	173.1				10	69 54.2	136.9				10	62 50.4	113.3			
11	73 36.0	172.4	6	-0.2	-0.1	11	69 48.3	136.4	6	-0.6	0.0	11	62 42.5	113.0	6	-0.8	0.0
12	73 34.8	171.7	12	-0.3	-0.1	12	69 42.3	135.9	12	-1.2	-0.1	12	62 34.5	112.7	12	-1.6	-0.1
13	73 33.5	171.1	18	-0.5	-0.2	13	69 36.3	135.5	18	-1.8	-0.1	13	62 26.6	112.3	18	-2.4	-0.1
14	73 32.1	170.4	24	-0.6	-0.2	14	69 30.3	135.0	24	-2.4	-0.2	14	62 18.6	112.0	24	-3.2	-0.1
15	73 30.6	169.7	30	-0.8	-0.3	15	69 24.2	134.5	30	-3.0	-0.2	15	62 10.6	111.7	30	-4.0	-0.1
16	73 29.0	169.0	36	-1.0	-0.4	16	69 18.0	134.0	36	-3.6	-0.3	16	62 2.6	111.4	36	-4.8	-0.2
17	73 27.3	168.3	42	-1.3	-0.5	17	69 11.8	133.6	42	-4.2	-0.3	17	61 54.6	111.1	42	-5.6	-0.2
18	73 25.6	167.7	48	-1.5	-0.6	18	69 5.5	133.1	48	-4.8	-0.4	18	61 46.5	110.8	48	-6.4	-0.2
19	73 23.7	167.0	54	-1.6	-0.6	19	68 59.2	132.7	54	-5.4	-0.4	19	61 38.5	110.5	54	-7.2	-0.3
20	73 21.7	166.3				20	68 52.9	132.2				20	61 30.4	110.2			
21	73 19.6	165.6	6	-0.3	-0.1	21	68 46.5	131.8	6	-0.7	0.0	21	61 22.4	109.9	6	-0.8	0.0
22	73 17.4	165.0	12	-0.5	-0.1	22	68 40.0	131.3	12	-1.3	-0.1	22	61 14.3	109.6	12	-1.6	-0.1
23	73 15.1	164.3	18	-0.8	-0.2	23	68 33.5	130.9	18	-2.0	-0.1	23	61 6.2	109.3	18	-2.4	-0.1
24	73 12.7	163.7	24	-1.0	-0.2	24	68 27.0	130.4	24	-2.6	-0.2	24	60 58.1	109.0	24	-3.2	-0.1
25	73 10.2	163.0	30	-1.3	-0.3	25	68 20.4	130.0	30	-3.3	-0.2	25	60 50.0	108.7	30	-4.0	-0.1
26	73 7.6	162.3	36	-1.6	-0.4	26	68 13.8	129.6	36	-4.0	-0.3	26	60 41.8	108.4	36	-4.9	-0.2
27	73 4.9	161.7	42	-1.8	-0.5	27	68 7.2	129.1	42	-4.6	-0.3	27	60 33.6	108.1	42	-5.7	-0.2
28	73 2.2	161.0	48	-2.1	-0.6	28	68 0.5	128.7	48	-5.3	-0.4	28	60 25.4	107.9	48	-6.5	-0.2
29	72 59.3	160.4	54	-2.3	-0.6	29	67 53.8	128.2	54	-5.9	-0.4	29	60 17.2	107.6	54	-7.3	-0.3
30	72 56.4	159.7				30	67 47.0	127.8				30	60 9.0	107.3			
31	72 53.4	159.0	6	-0.3	-0.1	31	67 40.1	127.4	6	-0.7	0.0	31	60 0.8	107.0	6	-0.8	0.0
32	72 50.3	158.4	12	-0.7	-0.1	32	67 33.2	127.0	12	-1.4	-0.1	32	59 52.5	106.7	12	-1.6	-0.1
33	72 47.1	157.8	18	-1.0	-0.2	33	67 26.3	126.6	18	-2.1	-0.1	33	59 44.3	106.5	18	-2.5	-0.1
34	72 43.8	157.1	24	-1.4	-0.2	34	67 19.4	126.2	24	-2.8	-0.2	34	59 36.0	106.2	24	-3.3	-1.1
35	72 40.4	156.5	30	-1.7	-0.3	35	67 12.5	125.8	30	-3.5	-0.2	35	59 27.8	105.9	30	-4.1	-1.3
36	72 36.9	155.9	36	-2.0	-0.4	36	67 5.5	125.4	36	-4.2	-0.2	36	59 19.5	105.6	36	-4.9	-1.6
37	72 33.3	155.3	42	-2.4	-0.5	37	66 58.5	125.0	42	-4.9	-0.3	37	59 11.3	105.4	42	-5.8	-1.9
38	72 29.7	154.6	48	-2.7	-0.6	38	66 51.4	124.6	48	-5.6	-0.3	38	59 3.0	105.1	48	-6.6	-2.2
39	72 26.0	154.0	54	-3.1	-0.6	39	66 44.3	124.2	54	-6.3	-0.4	39	58 54.7	104.9	54	-7.4	-2.5
40	72 22.2	153.4				40	66 37.2	123.8				40	58 46.4	104.6			
41	72 18.3	152.8	6	-0.4	-0.1	41	66 30.0	123.4	6	-0.7	0.0	41	58 38.1	104.3	6	-0.8	0.0
42	72 14.3	152.2	12	-0.8	-0.1	42	66 22.8	123.0	12	-1.5	-0.1	42	58 29.7	104.1	12	-1.7	0.0
43	72 10.2	151.6	18	-1.3	-0.2	43	66 15.6	122.7	18	-2.2	-0.1	43	58 21.3	103.8	18	-2.5	-0.1
44	72 6.1	151.0	24	-1.7	-0.2	44	66 8.3	122.3	24	-2.9	-0.2	44	58 12.9	103.6	24	-3.4	-0.1
45	72 1.9	150.4	30	-2.1	-0.3	45	66 1.0	121.9	30	-3.6	-0.2	45	58 4.6	103.3	30	-4.2	-0.1
46	71 57.6	149.8	36	-2.5	-0.4	46	65 53.7	121.5	36	-4.4	-0.2	46	57 56.2	103.1	36	-5.0	-0.1
47	71 53.2	149.2	42	-2.9	-0.4	47	65 46.4	121.2	42	-5.1	-0.3	47	57 47.8	102.8	42	-5.9	-0.2
48	71 48.8	148.7	48	-3.4	-0.5	48	65 39.0	120.8	48	-5.8	-0.3	48	57 39.4	102.6	48	-6.7	-0.2
49	71 44.3	148.1	54	-3.8	-0.5	49	65 31.6	120.5	54	-6.6	-0.4	49	57 31.0	102.3	54	-7.6	-0.2
50	71 39.8	147.5				50	65 24.1	120.1				50	57 22.6	102.1			
51	71 35.1	146.9	6	-0.5	-0.1	51	65 16.7	119.7	6	-0.7	0.0	51	57 14.2	101.8	6	-0.8	0.0
52	71 30.4	146.4	12	-1.0	-0.1	52	65 9.2	119.4	12	-1.5	-0.1	52	57 5.8	101.6	12	-1.7	0.0
53	71 25.6	145.9	18	-1.5	-0.2	53	65 1.7	119.0	18	-2.2	-0.1	53	56 57.4	101.3	18	-2.5	-0.1
54	71 20.7	145.4	24	-2.0	-0.2	54	64 54.1	118.7	24	-3.0	-0.1	54	56 48.9	101.1	24	-3.4	-0.1
55	71 15.8	144.8	30	-2.5	-0.3	55	64 46.6	118.3	30	-3.7	-0.2	55	56 40.5	100.8	30	-4.2	-0.1
56	71 10.8	144.2	36	-3.0	-0.4	56	64 39.0	118.0	36	-4.4	-0.2	56	56 32.0	100.6	36	-5.1	-0.1
57	71 5.7	143.7	42	-3.5	-0.4	57	64 31.4	117.6	42	-5.2	-0.2	57	56 23.6	100.4	42	-5.9	-0.2
58	71 0.6	143.1	48	-4.0	-0.5	58	64 23.7	117.3	48	-6.0	-0.3	58	56 15.2	100.0	48	-6.8	-0.2
59	70 55.4	142.6	54	-4.5	-0.5	59	64 16.1	116.9	54	-6.7	-0.3	59	56 6.7	99.8	54	-7.6	-0.2
m Std. wkl.	Höhe	Azimet	Δt	Δh	ΔA	m Std. wkl.	Höhe	Azimet	Δt	Δh	ΔA	m Std. wkl.	Höhe	Azimet	Δt	Δh	ΔA
	0. Stunde						1. Stunde						2. Stunde				

	1920-1925	1925-1930	1930-1935		1920-1925	1925-1930	1930-1935		1920-1925	1925-1930	1930-1935
Δh	+ 0.2	+ 0.5	+ 0.7	Δh	+ 0.2	+ 0.4	+ 0.6	Δh	+ 0.2	+ 0.4	+ 0.5
ΔA	—	—	—	ΔA	—	—	—	ΔA	—	—	—

 α 1917-18^b 34^m 9^s Jährliche Änderung +2^s 0

55°N

α Lyrae (Weğa)

55°N

Std. wkl. m.	3. Stunde					Std. wkl. m.	4. Stunde					Std. wkl. m.	5. Stunde							
	Höhe	Azimet	Δt	Δh	ΔA		Höhe	Azimet	Δt	Δh	ΔA		Höhe	Azimet	Δt	Δh	ΔA			
0	55°58.1	99°6	sek			0	47°23.7	86°7	sek			0	38°54.5	75°6	sek					
1	55 49.6	99.4	6	-0.8	0.0	1	47 15.1	86.5	6	-0.9	0.0	1	38 46.1	75.4	6	-0.8	0.0			
2	55 41.1	99.1	12	-1.7	0.0	2	47 6.5	86.3	12	-1.7	0.0	2	38 37.8	75.2	12	-1.7	0.0			
3	55 32.6	98.9	18	-2.5	-0.1	3	46 57.9	86.1	18	-2.6	-0.1	3	38 29.5	75.1	18	-2.5	-0.1			
4	55 24.1	98.7	24	-3.4	-0.1	4	46 49.3	85.9	24	-3.4	-0.1	4	38 21.2	74.9	24	-3.3	-0.1			
5	55 15.6	98.4	30	-4.2	-0.1	5	46 40.7	85.7	30	-4.3	-0.1	5	38 12.9	74.7	30	-4.2	-0.1			
6	55 7.1	98.2	36	-5.1	-0.1	6	46 32.1	85.5	36	-5.2	-0.1	6	38 4.6	74.5	36	-5.0	-0.1			
7	54 58.6	98.0	42	-5.9	-0.2	7	46 23.5	85.3	42	-6.0	-0.1	7	37 56.3	74.4	42	-5.8	-0.1			
8	54 50.1	97.8	48	-6.7	-0.2	8	46 15.0	85.2	48	-6.9	-0.2	8	37 48.0	74.2	48	-6.6	-0.1			
9	54 41.6	97.5	54	-7.5	-0.2	9	46 6.4	85.0	54	-7.7	-0.2	9	37 39.7	74.1	54	-7.5	-0.2			
10	54 33.0	97.3				10	45 57.8	84.8				10	37 31.5	73.9						
11	54 24.5	97.1	6	-0.9	0.0	11	45 49.2	84.6	6	-0.9	0.0	11	37 23.2	73.7	6	-0.8	0.0			
12	54 16.0	96.8	12	-1.7	0.0	12	45 40.7	84.4	12	-1.7	0.0	12	37 15.0	73.5	12	-1.6	0.0			
13	54 7.4	96.6	18	-2.6	-0.1	13	45 32.1	84.2	18	-2.6	-0.1	13	37 6.7	73.4	18	-2.5	-0.1			
14	53 58.8	96.3	24	-3.4	-0.1	14	45 23.6	84.0	24	-3.4	-0.1	14	36 58.5	73.2	24	-3.3	-0.1			
15	53 50.3	96.1	30	-4.3	-0.1	15	45 15.0	83.8	30	-4.3	-0.1	15	36 50.2	73.0	30	-4.1	-0.1			
16	53 41.7	95.9	36	-5.2	-0.1	16	45 6.5	83.6	36	-5.1	-0.1	16	36 42.0	72.8	36	-4.9	-0.1			
17	53 33.2	95.7	42	-6.0	-0.2	17	44 57.9	83.4	42	-6.0	-0.1	17	36 33.8	72.7	42	-5.7	-0.1			
18	53 24.6	95.4	48	-6.9	-0.2	18	44 49.4	83.3	48	-6.8	-0.2	18	36 25.6	72.5	48	-6.6	-0.1			
19	53 16.0	95.2	54	-7.7	-0.2	19	44 40.8	83.1	54	-7.7	-0.2	19	36 17.4	72.4	54	-7.4	-0.2			
20	53 7.4	95.0				20	44 32.3	82.9				20	36 9.2	72.2						
21	52 58.9	94.8	6	-0.9	0.0	21	44 23.7	82.7	6	-0.9	0.0	21	36 1.0	72.0	6	-0.8	0.0			
22	52 50.3	94.6	12	-1.7	0.0	22	44 15.2	82.5	12	-1.7	0.0	22	35 52.8	71.8	12	-1.6	0.0			
23	52 41.8	94.3	18	-2.6	-0.1	23	44 6.7	82.3	18	-2.6	-0.1	23	35 44.6	71.7	18	-2.4	-0.1			
24	52 33.2	94.1	24	-3.4	-0.1	24	43 58.2	82.1	24	-3.4	-0.1	24	35 36.5	71.5	24	-3.3	-0.1			
25	52 24.6	93.9	30	-4.3	-0.1	25	43 49.6	81.9	30	-4.3	-0.1	25	35 28.3	71.3	30	-4.1	-0.1			
26	52 16.0	93.7	36	-5.2	-0.1	26	43 41.1	81.7	36	-5.1	-0.1	26	35 20.2	71.1	36	-4.9	-0.1			
27	52 7.4	93.5	42	-6.0	-0.2	27	43 32.6	81.5	42	-6.0	-0.1	27	35 12.1	70.9	42	-5.7	-0.1			
28	51 58.8	93.2	48	-6.9	-0.2	28	43 24.1	81.4	48	-6.8	-0.2	28	35 4.0	70.8	48	-6.5	-0.1			
29	51 50.2	93.0	54	-7.7	-0.2	29	43 15.6	81.2	54	-7.7	-0.2	29	34 55.8	70.6	54	-7.3	-0.2			
30	51 41.6	92.8				30	43 7.1	81.0				30	34 47.7	70.4						
31	51 33.0	92.6	6	-0.9	0.0	31	42 58.6	80.8	6	-0.8	0.0	31	34 39.6	70.2	6	-0.8	0.0			
32	51 24.4	92.4	12	-1.7	0.0	32	42 50.1	80.6	12	-1.7	0.0	32	34 31.5	70.0	12	-1.6	0.0			
33	51 15.9	92.1	18	-2.6	-0.1	33	42 41.6	80.5	18	-2.5	-0.1	33	34 23.4	69.9	18	-2.4	-0.1			
34	51 7.3	91.9	24	-3.4	-0.1	34	42 33.1	80.3	24	-3.4	-0.1	34	34 15.4	69.7	24	-3.2	-0.1			
35	50 58.7	91.7	30	-4.3	-0.1	35	42 24.6	80.1	30	-4.2	-0.1	35	34 7.3	69.5	30	-4.0	-0.1			
36	50 50.1	91.5	36	-5.2	-0.1	36	42 16.2	79.9	36	-5.1	-0.1	36	33 59.3	69.3	36	-4.8	-0.1			
37	50 41.5	91.3	42	-6.0	-0.2	37	42 7.7	79.7	42	-5.9	-0.1	37	33 51.2	69.2	42	-5.6	-0.1			
38	50 32.9	91.1	48	-6.9	-0.2	38	41 59.3	79.6	48	-6.8	-0.2	38	33 43.2	69.0	48	-6.4	-0.1			
39	50 24.3	90.9	54	-7.7	-0.2	39	41 50.8	79.4	54	-7.6	-0.2	39	33 35.1	68.9	54	-7.2	-0.2			
40	50 15.6	90.7				40	41 42.4	79.2				40	33 27.1	68.7						
41	50 7.0	90.5	6	-0.9	0.0	41	41 33.9	79.0	6	-0.8	0.0	41	33 19.1	68.5	6	-0.8	0.0			
42	49 58.4	90.3	12	-1.7	0.0	42	41 25.5	78.8	12	-1.7	0.0	42	33 11.1	68.3	12	-1.6	0.0			
43	49 49.8	90.1	18	-2.6	-0.1	43	41 17.0	78.7	18	-2.5	-0.1	43	33 3.1	68.2	18	-2.4	-0.1			
44	49 41.2	89.9	24	-3.4	-0.1	44	41 8.6	78.5	24	-3.4	-0.1	44	32 55.1	68.0	24	-3.2	-0.1			
45	49 32.6	89.7	30	-4.3	-0.1	45	41 0.2	78.3	30	-4.2	-0.1	45	32 47.1	67.8	30	-4.0	-0.1			
46	49 24.0	89.5	36	-5.2	-0.1	46	40 51.8	78.1	36	-5.1	-0.1	46	32 39.2	67.6	36	-4.8	-0.1			
47	49 15.4	89.3	42	-6.0	-0.2	47	40 43.4	77.9	42	-5.9	-0.1	47	32 31.2	67.5	42	-5.6	-0.1			
48	49 6.8	89.1	48	-6.9	-0.2	48	40 35.0	77.8	48	-6.8	-0.1	48	32 23.3	67.3	48	-6.4	-0.1			
49	48 58.2	88.9	54	-7.7	-0.2	49	40 26.6	77.6	54	-7.6	-0.2	49	32 15.3	67.2	54	-7.2	-0.2			
50	48 49.6	88.7				50	40 18.2	77.4				50	32 7.4	67.0						
51	48 41.0	88.5	6	-0.9	0.0	51	40 9.8	77.2	6	-0.8	0.0	51	31 59.5	66.8	6	-0.8	0.0			
52	48 32.4	88.3	12	-1.7	0.0	52	40 1.4	77.0	12	-1.7	0.0	52	31 51.6	66.6	12	-1.6	0.0			
53	48 23.8	88.1	18	-2.6	-0.1	53	39 53.0	76.9	18	-2.5	-0.1	53	31 43.7	66.5	18	-2.4	-0.1			
54	48 15.2	87.9	24	-3.4	-0.1	54	39 44.6	76.7	24	-3.4	-0.1	54	31 35.8	66.3	24	-3.1	-0.1			
55	48 6.6	87.7	30	-4.3	-0.1	55	39 36.2	76.5	30	-4.2	-0.1	55	31 27.9	66.1	30	-3.9	-0.1			
56	47 58.0	87.5	36	-5.2	-0.1	56	39 27.9	76.3	36	-5.0	-0.1	56	31 20.1	65.9	36	-4.7	-0.1			
57	47 49.5	87.3	42	-6.0	-0.1	57	39 19.5	76.1	42	-5.9	-0.1	57	31 12.2	65.8	42	-5.5	-0.1			
58	47 40.9	87.1	48	-6.9	-0.2	58	39 11.2	76.0	48	-6.7	-0.1	58	31 4.4	65.6	48	-6.3	-0.1			
59	47 32.3	86.9	54	-7.7	-0.2	59	39 2.8	75.8	54	-7.6	-0.2	59	30 56.6	65.5	54	-7.1	-0.2			
m Std. wkl.	Höhe	Azimet	Δt	Δh	ΔA	m Std. wkl.	Höhe	Azimet	Δt	Δh	ΔA	m Std. wkl.	Höhe	Azimet	Δt	Δh	ΔA			
	3. Stunde						4. Stunde						5. Stunde							
Δh	1920-1925	1925-1930	1930-1935			Δh	1920-1925	1925-1930	1930-1935			Δh	1920-1925	1925-1930	1930-1935					
ΔA	+	0.2	+	0.3	+	0.5	ΔA	+	0.2	+	0.3	+	0.5	ΔA	+	0.2	+	0.4	+	0.6

α Lyrae
(Weğa)

γ Cygni

α Cygni
(Deneb)

α Cephei

Ursae minoris
(Nordstern)

55°N

α Lyrae (Wega)

55°N

Std. wkl. m.	6. Stunde					Std. wkl. m.	7. Stunde					Std. wkl. m.	8. Stunde				
	Höhe	Azimet	Δt	Δh	ΔA		Höhe	Azimet	Δt	Δh	ΔA		Höhe	Azimet	Δt	Δh	ΔA
0	30°48.8	65.3	sek			0	23°21.1	55.2	sek			0	16°45.8	44.9	sek		
1	30 40.9	65.1	6	-0.8	0.0	1	23 14.0	55.0	6	-0.7	0.0	1	16 39.7	44.7	6	-0.6	0.0
2	30 33.1	64.9	12	-1.6	0.0	2	23 7.0	54.8	12	-1.4	0.0	2	16 33.7	44.5	12	-1.2	0.0
3	30 25.3	64.8	18	-2.3	-0.1	3	23 0.0	54.7	18	-2.1	-0.1	3	16 27.7	44.4	18	-1.8	-0.1
4	30 17.5	64.6	24	-3.1	-0.1	4	22 53.0	54.5	24	-2.8	-0.1	4	16 21.7	44.2	24	-2.4	-0.1
5	30 9.7	64.4	30	-3.9	-0.1	5	22 46.0	54.3	30	-3.5	-0.1	5	16 15.7	44.0	30	-3.0	-0.1
6	30 2.0	64.2	36	-4.7	-0.1	6	22 39.0	54.1	36	-4.2	-0.1	6	16 9.7	43.8	36	-3.6	-0.1
7	29 54.2	64.1	42	-5.5	-0.1	7	22 32.0	54.0	42	-4.9	-0.1	7	16 3.7	43.7	42	-4.2	-0.1
8	29 46.5	63.9	48	-6.2	-0.1	8	22 25.1	53.8	48	-5.6	-0.1	8	15 57.8	43.5	48	-4.8	-0.1
9	29 38.8	63.8	54	-7.0	-0.2	9	22 18.1	53.7	54	-6.3	-0.2	9	15 51.9	43.4	54	-5.4	-0.2
10	29 31.1	63.6				10	22 11.2	53.5				10	15 46.0	43.2			
11	29 23.4	63.4	6	-0.8	0.0	11	22 4.3	53.3	6	-0.7	0.0	11	15 40.1	43.0	6	-0.6	0.0
12	29 15.7	63.2	12	-1.5	0.0	12	21 57.4	53.1	12	-1.4	0.0	12	15 34.3	42.8	12	-1.2	0.0
13	29 8.0	63.1	18	-2.3	-0.1	13	21 50.5	53.0	18	-2.1	-0.1	13	15 28.5	42.7	18	-1.7	-0.1
14	29 0.3	62.9	24	-3.1	-0.1	14	21 43.7	52.8	24	-2.7	-0.1	14	15 22.7	42.5	24	-2.3	-0.1
15	28 52.6	62.7	30	-3.8	-0.1	15	21 36.8	52.6	30	-3.4	-0.1	15	15 16.9	42.3	30	-2.9	-0.1
16	28 45.0	62.5	36	-4.6	-0.1	16	21 30.0	52.4	36	-4.1	-0.1	16	15 11.1	42.1	36	-3.5	-0.1
17	28 37.4	62.4	42	-5.4	-0.1	17	21 23.2	52.3	42	-4.8	-0.1	17	15 5.3	41.9	42	-4.1	-0.1
18	28 29.8	62.2	48	-6.1	-0.1	18	21 16.4	52.1	48	-5.5	-0.1	18	14 59.6	41.8	48	-4.6	-0.1
19	28 22.2	62.1	54	-6.9	-0.2	19	21 9.6	52.0	54	-6.2	-0.2	19	14 53.8	41.6	54	-5.2	-0.2
20	28 14.6	61.9				20	21 2.8	51.8				20	14 48.1	41.4			
21	28 7.0	61.7	6	-0.8	0.0	21	20 56.0	51.6	6	-0.7	0.0	21	14 42.4	41.2	6	-0.6	0.0
22	27 59.4	61.6	12	-1.5	0.0	22	20 49.3	51.4	12	-1.3	0.0	22	14 36.8	41.0	12	-1.1	0.0
23	27 51.8	61.4	18	-2.3	-0.1	23	20 42.6	51.3	18	-2.0	-0.1	23	14 31.2	40.9	18	-1.7	-0.1
24	27 44.3	61.3	24	-3.0	-0.1	24	20 35.9	51.1	24	-2.7	-0.1	24	14 25.6	40.7	24	-2.2	-0.1
25	27 36.7	61.1	30	-3.8	-0.1	25	20 29.2	50.9	30	-3.3	-0.1	25	14 20.0	40.5	30	-2.8	-0.1
26	27 29.2	60.9	36	-4.5	-0.1	26	20 22.6	50.7	36	-4.0	-0.1	26	14 14.4	40.3	36	-3.4	-0.1
27	27 21.7	60.8	42	-5.3	-0.1	27	20 15.9	50.6	42	-4.7	-0.1	27	14 8.8	40.1	42	-3.9	-0.1
28	27 14.2	60.6	48	-6.0	-0.1	28	20 9.3	50.4	48	-5.4	-0.1	28	14 3.3	40.0	48	-4.5	-0.1
29	27 6.7	60.5	54	-6.8	-0.2	29	20 2.7	50.3	54	-6.0	-0.2	29	13 57.8	39.8	54	-5.0	-0.2
30	26 59.2	60.3				30	19 56.1	50.1				30	13 52.3	39.6			
31	26 51.7	60.1	6	-0.7	0.0	31	19 49.5	49.9	6	-0.6	0.0	31	13 46.8	39.4	6	-0.5	0.0
32	26 44.3	59.9	12	-1.5	0.0	32	19 42.9	49.7	12	-1.3	0.0	32	13 41.3	39.2	12	-1.1	0.0
33	26 36.9	59.8	18	-2.2	-0.1	33	19 36.3	49.6	18	-1.9	-0.1	33	13 35.9	39.1	18	-1.6	-0.1
34	26 29.5	59.6	24	-3.0	-0.1	34	19 29.8	49.4	24	-2.6	-0.1	34	13 30.5	38.9	24	-2.2	-0.1
35	26 22.1	59.4	30	-3.7	-0.1	35	19 23.2	49.2	30	-3.2	-0.1	35	13 25.1	38.7	30	-2.7	-0.1
36	26 14.7	59.2	36	-4.4	-0.1	36	19 16.7	49.0	36	-3.9	-0.1	36	13 19.7	38.5	36	-3.2	-0.1
37	26 7.3	59.1	42	-5.2	-0.1	37	19 10.2	48.9	42	-4.5	-0.1	37	13 14.3	38.4	42	-3.8	-0.1
38	25 59.9	58.9	48	-5.9	-0.1	38	19 3.8	48.7	48	-5.2	-0.1	38	13 9.0	38.2	48	-4.3	-0.1
39	25 52.5	58.8	54	-6.7	-0.2	39	18 57.3	48.6	54	-5.8	-0.2	39	13 3.7	38.1	54	-4.9	-0.2
40	25 45.2	58.6				40	18 50.9	48.4				40	12 58.4	37.9			
41	25 37.9	58.4	6	-0.7	0.0	41	18 44.5	48.2	6	-0.6	0.0	41	12 53.1	37.7	6	-0.5	0.0
42	25 30.6	58.2	12	-1.4	0.0	42	18 38.1	48.0	12	-1.3	0.0	42	12 47.9	37.5	12	-1.0	0.0
43	25 23.3	58.1	18	-2.2	-0.1	43	18 31.7	47.9	18	-1.9	-0.1	43	12 42.7	37.4	18	-1.5	-0.1
44	25 16.0	57.9	24	-2.9	-0.1	44	18 25.3	47.7	24	-2.5	-0.1	44	12 37.5	37.2	24	-2.0	-0.1
45	25 8.7	57.7	30	-3.6	-0.1	45	18 18.9	47.5	30	-3.1	-0.1	45	12 32.3	37.0	30	-2.5	-0.1
46	25 1.4	57.5	36	-4.3	-0.1	46	18 12.6	47.3	36	-3.8	-0.1	46	12 27.2	36.8	36	-3.1	-0.1
47	24 54.1	57.4	42	-5.1	-0.1	47	18 6.3	47.1	42	-4.4	-0.1	47	12 22.0	36.6	42	-3.6	-0.1
48	24 46.9	57.2	48	-5.8	-0.1	48	18 0.0	47.0	48	-5.0	-0.1	48	12 16.9	36.5	48	-4.1	-0.1
49	24 39.7	57.1	54	-6.5	-0.2	49	17 53.7	46.8	54	-5.7	-0.2	49	12 11.8	36.3	54	-4.6	-0.2
50	24 32.5	56.9				50	17 47.5	46.6				50	12 6.8	36.1			
51	24 25.3	56.7	6	-0.7	0.0	51	17 41.2	46.4	6	-0.6	0.0	51	12 1.7	35.9	6	-0.5	0.0
52	24 18.1	56.5	12	-1.4	0.0	52	17 35.0	46.2	12	-1.2	0.0	52	11 56.7	35.7	12	-1.0	0.0
53	24 10.9	56.4	18	-2.1	-0.1	53	17 28.8	46.1	18	-1.9	-0.1	53	11 51.7	35.6	18	-1.5	-0.1
54	24 3.8	56.2	24	-2.9	-0.1	54	17 22.6	45.9	24	-2.5	-0.1	54	11 46.7	35.4	24	-2.0	-0.1
55	23 56.6	56.0	30	-3.6	-0.1	55	17 16.4	45.7	30	-3.1	-0.1	55	11 41.7	35.2	30	-2.5	-0.1
56	23 49.5	55.8	36	-4.3	-0.1	56	17 10.3	45.5	36	-3.7	-0.1	56	11 36.8	35.0	36	-3.0	-0.1
57	23 42.4	55.7	42	-5.0	-0.1	57	17 4.1	45.4	42	-4.3	-0.1	57	11 31.9	34.8	42	-3.5	-0.1
58	23 35.3	55.5	48	-5.7	-0.1	58	16 58.0	45.2	48	-5.0	-0.1	58	11 27.0	34.6	48	-4.0	-0.1
59	23 28.2	55.2	54	-6.4	-0.2	59	16 51.9	45.1	54	-5.6	-0.2	59	11 22.1	34.4	54	-4.5	-0.2

Std. wkl. m.	6. Stunde					Std. wkl. m.	7. Stunde					Std. wkl. m.	8. Stunde				
	Höhe	Azimet	Δt	Δh	ΔA		Höhe	Azimet	Δt	Δh	ΔA		Höhe	Azimet	Δt	Δh	ΔA
	1920-1925	1925-1930	1930-1935				1920-1925	1925-1930	1930-1935				1920-1925	1925-1930	1930-1935		
Δh	+ 0.2	+ 0.4	+ 0.6			Δh	+ 0.2	+ 0.4	+ 0.6			Δh	+ 0.2	+ 0.4	+ 0.7		
ΔA	—	—	—			ΔA	—	—	—			ΔA	—	—	—		

55°N

α Lyrae (Weğa)

55°N

Std. wkl. m.	9. Stunde					Std. wkl. m.	10. Stunde					Std. wkl. m.	11. Stunde				
	Höhe	Azimet	Δt	Δh	ΔA		Höhe	Azimet	Δt	Δh	ΔA		Höhe	Azimet	Δt	Δh	ΔA
0	11° 17.2	34.2	sek			0	7° 9.4	23.2	sek			0	4° 34.9	11.7	sek		
1	11 12.4	34.0	6	-0.5	0.0	1	7 6.0	23.0	6	-0.3	0.0	1	4 33.2	11.5	6	-0.2	0.0
2	11 7.6	33.8	12	-0.9	0.0	2	7 2.7	22.8	12	-0.6	0.0	2	4 31.5	11.3	12	-0.3	0.0
3	11 2.8	33.7	18	-1.4	-0.1	3	6 59.4	22.7	18	-1.0	-0.1	3	4 29.8	11.1	18	-0.5	-0.1
4	10 58.0	33.5	24	-1.9	-0.1	4	6 56.1	22.5	24	-1.3	-0.1	4	4 28.1	10.9	24	-0.6	-0.1
5	10 53.3	33.3	30	-2.3	-0.1	5	6 52.8	22.3	30	-1.6	-0.1	5	4 26.5	10.7	30	-0.8	-0.1
6	10 48.6	33.1	36	-2.8	-0.1	6	6 49.6	22.1	36	-1.9	-0.1	6	4 24.9	10.5	36	-1.0	-0.1
7	10 43.9	32.9	42	-3.3	-0.1	7	6 46.4	21.9	42	-2.2	-0.1	7	4 23.3	10.3	42	-1.1	-0.1
8	10 39.2	32.8	48	-3.8	-0.1	8	6 43.2	21.7	48	-2.6	-0.2	8	4 21.8	10.1	48	-1.3	-0.2
9	10 34.6	32.6	54	-4.2	-0.2	9	6 40.0	21.5	54	-2.9	-0.2	9	4 20.3	9.9	54	-1.4	-0.2
10	10 30.0	32.4				10	6 36.9	21.3				10	4 18.9	9.7			
11	10 25.4	32.2	6	-0.4	0.0	11	6 33.8	21.1	6	-0.3	0.0	11	4 17.4	9.5	6	-0.1	0.0
12	10 20.8	32.0	12	-0.9	0.0	12	6 30.7	20.9	12	-0.6	0.0	12	4 16.0	9.3	12	-0.3	0.0
13	10 16.2	31.9	18	-1.3	-0.1	13	6 27.7	20.8	18	-0.9	-0.1	13	4 14.6	9.2	18	-0.4	-0.1
14	10 11.7	31.7	24	-1.8	-0.1	14	6 24.7	20.6	24	-1.2	-0.1	14	4 13.3	9.0	24	-0.5	-0.1
15	10 7.2	31.5	30	-2.2	-0.1	15	6 21.7	20.4	30	-1.5	-0.1	15	4 11.9	8.8	30	-0.6	-0.1
16	10 2.7	31.3	36	-2.7	-0.1	16	6 18.7	20.2	36	-1.8	-0.1	16	4 10.6	8.6	36	-0.8	-0.1
17	9 58.2	31.1	42	-3.1	-0.1	17	6 15.7	20.0	42	-2.1	-0.1	17	4 9.3	8.4	42	-0.9	-0.1
18	9 53.8	31.0	48	-3.6	-0.1	18	6 12.8	19.8	48	-2.4	-0.2	18	4 8.1	8.3	48	-1.0	-0.2
19	9 49.4	30.8	54	-4.0	-0.2	19	6 9.9	19.6	54	-2.7	-0.2	19	4 6.9	8.1	54	-1.2	-0.2
20	9 45.0	30.6				20	6 7.0	19.4				20	4 5.7	7.9			
21	9 40.6	30.4	6	-0.4	0.0	21	6 4.2	19.2	6	-0.3	0.0	21	4 4.6	7.7	6	-0.1	0.0
22	9 36.3	30.2	12	-0.8	0.0	22	6 1.4	19.0	12	-0.5	0.0	22	4 3.5	7.5	12	-0.2	0.0
23	9 31.9	30.1	18	-1.3	-0.1	23	5 58.6	18.9	18	-0.8	-0.1	23	4 2.4	7.3	18	-0.3	-0.1
24	9 27.6	29.9	24	-1.7	-0.1	24	5 55.8	18.7	24	-1.1	-0.1	24	4 1.3	7.1	24	-0.4	-0.1
25	9 23.3	29.7	30	-2.1	-0.1	25	5 53.1	18.5	30	-1.3	-0.1	25	4 0.3	6.9	30	-0.5	-0.1
26	9 19.1	29.5	36	-2.5	-0.1	26	5 50.4	18.3	36	-1.6	-0.1	26	3 59.3	6.7	36	-0.6	-0.1
27	9 14.9	29.3	42	-2.9	-0.1	27	5 47.7	18.1	42	-1.9	-0.1	27	3 58.3	6.5	42	-0.7	-0.1
28	9 10.7	29.2	48	-3.4	-0.1	28	5 45.0	17.9	48	-2.2	-0.2	28	3 57.3	6.3	48	-0.8	-0.2
29	9 6.5	29.0	54	-3.8	-0.2	29	5 42.4	17.7	54	-2.4	-0.2	29	3 56.4	6.1	54	-0.9	-0.2
30	9 2.4	28.8				30	5 39.8	17.5				30	3 55.5	5.9			
31	8 58.2	28.6	6	-0.4	0.0	31	5 37.2	17.3	6	-0.2	0.0	31	3 54.6	5.7	6	-0.1	0.0
32	8 54.1	28.4	12	-0.8	0.0	32	5 34.7	17.1	12	-0.5	0.0	32	3 53.7	5.5	12	-0.1	0.0
33	8 50.0	28.3	18	-1.2	-0.1	33	5 32.2	17.0	18	-0.7	-0.1	33	3 52.9	5.3	18	-0.2	-0.1
34	8 46.0	28.1	24	-1.6	-0.1	34	5 29.7	16.8	24	-1.0	-0.1	34	3 52.2	5.1	24	-0.3	-0.1
35	8 42.0	27.9	30	-2.0	-0.1	35	5 27.2	16.6	30	-1.2	-0.1	35	3 51.4	4.9	30	-0.3	-0.1
36	8 38.0	27.7	36	-2.4	-0.1	36	5 24.8	16.4	36	-1.5	-0.1	36	3 50.7	4.7	36	-0.4	-0.1
37	8 34.0	27.5	42	-2.8	-0.1	37	5 22.4	16.2	42	-1.7	-0.1	37	3 50.0	4.5	42	-0.5	-0.1
38	8 30.1	27.4	48	-3.2	-0.1	38	5 20.1	16.0	48	-2.0	-0.2	38	3 49.4	4.3	48	-0.6	-0.2
39	8 26.1	27.2	54	-3.6	-0.2	39	5 17.7	15.8	54	-2.2	-0.2	39	3 48.8	4.1	54	-0.6	-0.2
40	8 22.2	27.0				40	5 15.4	15.6				40	3 48.2	3.9			
41	8 18.3	26.8	6	-0.4	0.0	41	5 13.1	15.4	6	-0.2	0.0	41	3 47.6	3.7	6	0.0	0.0
42	8 14.5	26.6	12	-0.7	0.0	42	5 10.9	15.2	12	-0.4	0.0	42	3 47.1	3.5	12	-0.1	0.0
43	8 10.6	26.5	18	-1.1	-0.1	43	5 8.6	15.0	18	-0.7	-0.1	43	3 46.6	3.4	18	-0.1	-0.1
44	8 6.8	26.3	24	-1.5	-0.1	44	5 6.4	14.8	24	-0.9	-0.1	44	3 46.1	3.2	24	-0.2	-0.1
45	8 3.0	26.1	30	-1.8	-0.1	45	5 4.2	14.6	30	-1.1	-0.1	45	3 45.6	3.0	30	-0.2	-0.1
46	7 59.3	25.9	36	-2.2	-0.1	46	5 2.1	14.4	36	-1.3	-0.1	46	3 45.2	2.8	36	-0.2	-0.1
47	7 55.6	25.7	42	-2.6	-0.1	47	4 59.9	14.2	42	-1.5	-0.1	47	3 44.8	2.6	42	-0.3	-0.1
48	7 51.9	25.5	48	-3.0	-0.1	48	4 57.8	14.0	48	-1.8	-0.2	48	3 44.4	2.4	48	-0.3	-0.2
49	7 48.2	25.3	54	-3.3	-0.2	49	4 55.7	13.8	54	-2.0	-0.2	49	3 44.0	2.2	54	-0.4	-0.2
50	7 44.6	25.1				50	4 53.7	13.6				50	3 43.7	2.0			
51	7 40.9	24.9	6	-0.3	0.0	51	4 51.7	13.4	6	-0.2	0.0	51	3 43.4	1.8	6	0.0	0.0
52	7 37.3	24.7	12	-0.7	0.0	52	4 49.7	13.2	12	-0.4	0.0	52	3 43.2	1.6	12	0.0	0.0
53	7 33.7	24.6	18	-1.0	-0.1	53	4 47.8	13.1	18	-0.6	-0.1	53	3 43.0	1.4	18	0.0	-0.1
54	7 30.2	24.4	24	-1.4	-0.1	54	4 45.9	12.9	24	-0.8	-0.1	54	3 42.8	1.2	24	0.0	-0.1
55	7 26.6	24.2	30	-1.7	-0.1	55	4 44.0	12.7	30	-1.0	-0.1	55	3 42.7	1.0	30	0.0	-0.1
56	7 23.1	24.0	36	-2.1	-0.1	56	4 42.1	12.5	36	-1.1	-0.1	56	3 42.6	0.8	36	-0.1	-0.1
57	7 19.6	23.8	42	-2.4	-0.1	57	4 40.3	12.3	42	-1.3	-0.1	57	3 42.5	0.6	42	-0.1	-0.1
58	7 16.2	23.6	48	-2.8	-0.1	58	4 38.5	12.1	48	-1.5	-0.2	58	3 42.4	0.4	48	-0.1	-0.2
59	7 12.8	23.4	54	-3.1	-0.2	59	4 36.7	11.9	54	-1.7	-0.2	59	3 42.3	0.2	54	-0.1	-0.2
m Std. wkl.	Höhe	Azimet	Δt	Δh	ΔA	m Std. wkl.	Höhe	Azimet	Δt	Δh	ΔA	m Std. wkl.	Höhe	Azimet	Δt	Δh	ΔA
	9. Stunde						10. Stunde						11. Stunde				
Δh	+ 0.2	+ 0.5	+ 0.7			Δh	+ 0.2	+ 0.5	- 0.7			Δh	+ 0.2	+ 0.5	+ 0.7		
ΔA	—	—	—			ΔA	—	—	—			ΔA	—	—	—		

γ Cygni
 α Cygni (Deneb)
 α Cephei
Ursae minoris (Nordstern)

55°N

γ Cygni

55°N

Std. wkl. m.	0. Stunde					Std. wkl. m.	1. Stunde					Std. wkl. m.	2. Stunde				
	Höhe	Azimet	Δt	Δh	ΔA		Höhe	Azimet	Δt	Δh	ΔA		Höhe	Azimet	Δt	Δh	ΔA
0	74° 59.5	180.0	sek			0	71° 58.4	140.1	sek			0	65° 5.8	114.5	sek		
1	74 59.4	179.3	6	0.0	-0.1	1	71 52.8	139.6	6	-0.6	-0.1	1	64 58.0	114.2	6	-0.8	0.0
2	74 59.3	178.5	12	-0.1	-0.1	2	71 47.2	139.1	12	-1.2	-0.1	2	64 50.2	113.9	12	-1.6	-0.1
3	74 59.0	177.8	18	-0.2	-0.2	3	71 41.5	138.5	18	-1.7	-0.2	3	64 42.3	113.5	18	-2.4	-0.1
4	74 58.6	177.0	24	-0.2	-0.3	4	71 35.8	138.0	24	-2.3	-0.2	4	64 34.3	113.2	24	-3.2	-0.1
5	74 58.1	176.3	30	-0.3	-0.3	5	71 30.0	137.5	30	-2.9	-0.3	5	64 26.4	112.9	30	-4.0	-0.2
6	74 57.5	175.6	36	-0.4	-0.4	6	71 24.2	137.0	36	-3.5	-0.3	6	64 18.4	112.6	36	-4.8	-0.2
7	74 56.7	174.8	42	-0.4	-0.5	7	71 18.3	136.5	42	-4.1	-0.4	7	64 10.5	112.3	42	-5.6	-0.2
8	74 55.9	174.1	48	-0.5	-0.6	8	71 12.3	135.9	48	-4.6	-0.4	8	64 2.5	111.9	48	-6.4	-0.3
9	74 54.9	173.3	54	-0.5	-0.6	9	71 6.3	135.4	54	-5.2	-0.5	9	63 54.5	111.6	54	-7.2	-0.3
10	74 53.9	172.6				10	71 0.3	134.9				10	63 46.5	111.3			
11	74 52.7	171.9	6	-0.2	-0.1	11	70 54.2	134.4	6	-0.6	0.0	11	63 38.5	111.0	6	-0.8	0.0
12	74 51.5	171.2	12	-0.3	-0.1	12	70 48.0	133.9	12	-1.3	-0.1	12	63 30.5	110.7	12	-1.6	-0.1
13	74 50.2	170.4	18	-0.5	-0.2	13	70 41.8	133.5	18	-1.9	-0.1	13	63 22.4	110.4	18	-2.4	-0.1
14	74 48.7	169.7	24	-0.7	-0.3	14	70 35.5	133.0	24	-2.5	-0.2	14	63 14.3	110.1	24	-3.2	-0.1
15	74 47.1	169.0	30	-0.8	-0.3	15	70 29.2	132.5	30	-3.1	-0.2	15	63 6.2	109.8	30	-4.0	-0.1
16	74 45.4	168.3	36	-1.0	-0.4	16	70 22.9	132.0	36	-3.8	-0.3	16	62 58.1	109.5	36	-4.9	-0.2
17	74 43.6	167.6	42	-1.2	-0.5	17	70 16.5	131.6	42	-4.4	-0.3	17	62 50.0	109.2	42	-5.7	-0.2
18	74 41.7	166.8	48	-1.4	-0.6	18	70 10.0	131.1	48	-5.0	-0.4	18	62 41.9	108.9	48	-6.5	-0.2
19	74 39.6	166.1	54	-1.5	-0.6	19	70 3.5	130.7	54	-5.7	-0.4	19	62 33.8	108.6	54	-7.3	-0.3
20	74 37.5	165.4				20	69 57.0	130.2				20	62 25.6	108.3			
21	74 35.3	164.7	6	-0.3	-0.1	21	69 50.4	129.8	6	-0.7	0.0	21	62 17.4	108.0	6	-0.8	0.0
22	74 33.0	164.0	12	-0.5	-0.1	22	69 43.7	129.3	12	-1.4	-0.1	22	62 9.2	107.7	12	-1.6	-0.1
23	74 30.6	163.3	18	-0.8	-0.2	23	69 37.0	128.9	18	-2.0	-0.1	23	62 1.0	107.5	18	-2.5	-0.1
24	74 28.1	162.6	24	-1.0	-0.3	24	69 30.3	128.4	24	-2.7	-0.2	24	61 52.8	107.2	24	-3.3	-0.1
25	74 25.5	161.9	30	-1.3	-0.3	25	69 23.5	128.0	30	-3.4	-0.2	25	61 44.6	106.9	30	-4.1	-0.1
26	74 22.8	161.2	36	-1.6	-0.4	26	69 16.7	127.6	36	-4.1	-0.3	26	61 36.3	106.6	36	-4.9	-0.2
27	74 19.9	160.5	42	-1.8	-0.5	27	69 9.9	127.1	42	-4.8	-0.3	27	61 28.1	106.3	42	-5.8	-0.2
28	74 17.0	159.9	48	-2.1	-0.6	28	69 3.0	126.7	48	-5.4	-0.4	28	61 19.8	106.1	48	-6.6	-0.2
29	74 14.0	159.2	54	-2.3	-0.6	29	68 56.1	126.2	54	-6.1	-0.4	29	61 11.5	105.8	54	-7.4	-0.3
30	74 10.9	158.5				30	68 49.1	125.8				30	61 3.2	105.5			
31	74 7.7	157.8	6	-0.4	-0.1	31	68 42.1	125.4	6	-0.7	0.0	31	60 54.9	105.2	6	-0.8	0.0
32	74 4.4	157.2	12	-0.7	-0.1	32	68 35.0	125.0	12	-1.4	-0.1	32	60 46.6	104.9	12	-1.7	-0.1
33	74 1.0	156.5	18	-1.1	-0.2	33	68 27.9	124.5	18	-2.2	-0.1	33	60 38.3	104.7	18	-2.5	-0.1
34	73 57.5	155.9	24	-1.4	-0.3	34	68 20.8	124.1	24	-2.9	-0.2	34	60 30.0	104.4	24	-3.3	-0.1
35	73 53.9	155.2	30	-1.8	-0.3	35	68 13.7	123.7	30	-3.6	-0.2	35	60 21.7	104.1	30	-4.2	-0.1
36	73 50.3	154.5	36	-2.2	-0.4	36	68 6.5	123.3	36	-4.3	-0.2	36	60 13.4	103.8	36	-5.0	-0.2
37	73 46.5	153.9	42	-2.5	-0.5	37	67 59.3	122.9	42	-5.0	-0.3	37	60 5.1	103.6	42	-5.8	-0.2
38	73 42.7	153.2	48	-2.9	-0.5	38	67 52.1	122.5	48	-5.8	-0.3	38	59 56.7	103.3	48	-6.7	-0.2
39	73 38.8	152.6	54	-3.2	-0.6	39	67 44.8	122.1	54	-6.5	-0.4	39	59 48.3	103.1	54	-7.5	-0.2
40	73 34.8	151.9				40	67 37.5	121.7				40	59 39.9	102.8			
41	73 30.7	151.3	6	-0.4	-0.1	41	67 30.2	121.3	6	-0.7	0.0	41	59 31.5	102.5	6	-0.8	0.0
42	73 26.5	150.7	12	-0.9	-0.1	42	67 22.8	120.9	12	-1.5	-0.1	42	59 23.1	102.3	12	-1.7	-0.1
43	73 22.2	150.0	18	-1.3	-0.2	43	67 15.4	120.6	18	-2.2	-0.1	43	59 14.7	102.0	18	-2.5	-0.1
44	73 17.9	149.4	24	-1.8	-0.2	44	67 8.0	120.2	24	-3.0	-0.2	44	59 6.2	101.8	24	-3.4	-0.1
45	73 13.5	148.8	30	-2.2	-0.3	45	67 0.6	119.8	30	-3.7	-0.2	45	58 57.8	101.5	30	-4.2	-0.1
46	73 9.0	148.3	36	-2.7	-0.4	46	66 53.1	119.4	36	-4.4	-0.2	46	58 49.4	101.3	36	-5.0	-0.2
47	73 4.4	147.8	42	-3.1	-0.4	47	66 45.6	119.1	42	-5.2	-0.3	47	58 41.0	101.0	42	-5.9	-0.2
48	72 59.8	146.8	48	-3.6	-0.5	48	66 38.0	118.7	48	-5.9	-0.3	48	58 32.5	100.8	48	-6.7	-0.2
49	72 55.1	146.3	54	-4.0	-0.5	49	66 30.5	118.4	54	-6.7	-0.4	49	58 24.1	100.5	54	-7.6	-0.2
50	72 50.3	145.8				50	66 22.9	118.0				50	58 15.6	100.3			
51	72 45.4	145.2	6	-0.5	-0.1	51	66 15.3	117.6	6	-0.8	0.0	51	58 7.1	100.1	6	-0.8	0.0
52	72 40.4	144.6	12	-1.0	-0.1	52	66 7.7	117.3	12	-1.5	-0.1	52	57 58.6	99.8	12	-1.7	0.0
53	72 35.4	144.1	18	-1.6	-0.2	53	66 0.1	116.9	18	-2.3	-0.1	53	57 50.2	99.6	18	-2.5	-0.1
54	72 30.3	143.5	24	-2.1	-0.2	54	65 52.4	116.6	24	-3.1	-0.2	54	57 41.7	99.3	24	-3.4	-0.1
55	72 25.2	142.9	30	-2.6	-0.3	55	65 44.7	116.2	30	-3.8	-0.2	55	57 33.2	99.1	30	-4.2	-0.1
56	72 20.0	142.3	36	-3.1	-0.3	56	65 36.9	115.9	36	-4.6	-0.2	56	57 24.7	98.9	36	-5.1	-0.1
57	72 14.7	141.8	42	-3.6	-0.4	57	65 29.2	115.5	42	-5.4	-0.3	57	57 16.2	98.6	42	-5.9	-0.2
58	72 9.3	141.2	48	-4.2	-0.5	58	65 21.4	115.2	48	-6.2	-0.3	58	57 7.7	98.4	48	-6.7	-0.2
59	72 3.9	140.7	54	-4.7	-0.5	59	65 13.6	114.8	54	-7.0	-0.4	59	56 59.2	98.1	54	-7.6	-0.2

m Std. wkl.	0. Stunde			m Std. wkl.	1. Stunde			m Std. wkl.	2. Stunde		
	Höhe	Azimet	Δt		Höhe	Azimet	Δt		Höhe	Azimet	Δt
	1920-1925	1925-1930	1930-1935		1920-1925	1925-1930	1930-1935		1920-1925	1925-1930	1930-1935
Δh	+ 0.9	+ 1.7	+ 2.6	Δh	+ 0.8	+ 1.5	+ 2.3	Δh	+ 0.7	+ 1.3	+ 2.0
ΔA	—	—	- 0.1	ΔA	—	—	- 0.1	ΔA	—	—	- 0.1

55°N

γ Cygni

55°N

Std. wkl. m.	3. Stunde					Std. wkl. m.	4. Stunde					Std. wkl. m.	5. Stunde				
	Höhe	Azimut	Δt	Δh	ΔA		Höhe	Azimut	Δt	Δh	ΔA		Höhe	Azimut	Δt	Δh	ΔA
0	56°50'6	97°9	sek			0	48°15'6	85°3	sek			0	39°48'3	74°4	sek		
1	56 42.1	97.7	6	-0.8	0.0	1	48 7.0	85.1	6	-0.9	0.0	1	39 40.0	74.2	6	-0.8	0.0
2	56 33.6	97.4	12	-1.7	0.0	2	47 58.4	84.9	12	-1.7	0.0	2	39 31.7	74.0	12	-1.6	0.0
3	56 25.1	97.2	18	-2.5	-0.1	3	47 49.8	84.7	18	-2.6	-0.1	3	39 23.4	73.9	18	-2.5	-0.1
4	56 16.5	96.9	24	-3.4	-0.1	4	47 41.3	84.5	24	-3.4	-0.1	4	39 15.2	73.7	24	-3.3	-0.1
5	56 8.0	96.7	30	-4.2	-0.1	5	47 32.7	84.3	30	-4.3	-0.1	5	39 6.9	73.5	30	-4.1	-0.1
6	55 59.4	96.5	36	-5.1	-0.1	6	47 24.2	84.1	36	-5.2	-0.1	6	38 58.7	73.3	36	-4.9	-0.1
7	55 50.9	96.3	42	-5.9	-0.2	7	47 15.6	83.9	42	-6.0	-0.1	7	38 50.5	73.2	42	-5.8	-0.1
8	55 42.3	96.0	48	-6.8	-0.2	8	47 7.1	83.8	48	-6.9	-0.2	8	38 42.3	73.0	48	-6.6	-0.1
9	55 33.8	95.8	54	-7.6	-0.2	9	46 58.5	83.6	54	-7.7	-0.2	9	38 34.0	72.9	54	-7.4	-0.2
10	55 25.2	95.6				10	46 50.0	83.4				10	38 25.8	72.7			
11	55 16.7	95.4	6	-0.8	0.0	11	46 41.4	83.2	6	-0.8	0.0	11	38 17.6	72.5	6	-0.8	0.0
12	55 8.1	95.2	12	-1.7	0.0	12	46 32.9	83.0	12	-1.7	0.0	12	38 9.4	72.3	12	-1.6	0.0
13	54 59.6	94.9	18	-2.5	-0.1	13	46 24.3	82.8	18	-2.5	-0.1	13	38 1.2	72.2	18	-2.4	-0.1
14	54 51.0	94.7	24	-3.4	-0.1	14	46 15.8	82.6	24	-3.4	-0.1	14	37 53.0	72.0	24	-3.3	-0.1
15	54 42.4	94.5	30	-4.2	-0.1	15	46 7.2	82.4	30	-4.2	-0.1	15	37 44.8	71.8	30	-4.1	-0.1
16	54 33.8	94.3	36	-5.1	-0.1	16	45 58.7	82.2	36	-5.1	-0.1	16	37 36.7	71.6	36	-4.9	-0.1
17	54 25.2	94.1	42	-5.9	-0.2	17	45 50.2	82.0	42	-5.9	-0.1	17	37 28.5	71.5	42	-5.7	-0.1
18	54 16.6	93.8	48	-6.8	-0.2	18	45 41.7	81.9	48	-6.8	-0.2	18	37 20.4	71.3	48	-6.5	-0.1
19	54 8.0	93.6	54	-7.6	-0.2	19	45 33.2	81.7	54	-7.6	-0.2	19	37 12.2	71.2	54	-7.3	-0.2
20	53 59.4	93.4				20	45 24.7	81.5				20	37 4.1	71.0			
21	53 50.8	93.2	6	-0.9	0.0	21	45 16.2	81.3	6	-0.8	0.0	21	36 55.9	70.8	6	-0.8	0.0
22	53 42.2	93.0	12	-1.7	0.0	22	45 7.7	81.1	12	-1.7	0.0	22	36 47.8	70.6	12	-1.6	0.0
23	53 33.6	92.7	18	-2.6	-0.1	23	44 59.2	81.0	18	-2.5	-0.1	23	36 39.7	70.5	18	-2.4	-0.1
24	53 25.0	92.5	24	-3.4	-0.1	24	44 50.7	80.8	24	-3.4	-0.1	24	36 31.6	70.3	24	-3.2	-0.1
25	53 16.4	92.3	30	-4.3	-0.1	25	44 42.2	80.6	30	-4.2	-0.1	25	36 23.5	70.1	30	-4.0	-0.1
26	53 7.8	92.1	36	-5.2	-0.1	26	44 33.7	80.4	36	-5.1	-0.1	26	36 15.5	69.9	36	-4.9	-0.1
27	52 59.2	91.9	42	-6.0	-0.1	27	44 25.2	80.2	42	-5.9	-0.1	27	36 7.4	69.8	42	-5.7	-0.1
28	52 50.6	91.7	48	-6.9	-0.2	28	44 16.7	80.1	48	-6.8	-0.1	28	35 59.4	69.6	48	-6.5	-0.1
29	52 42.0	91.5	54	-7.7	-0.2	29	44 8.2	79.9	54	-7.6	-0.2	29	35 51.3	69.5	54	-7.3	-0.2
30	52 33.4	91.3				30	43 59.8	79.7				30	35 43.2	69.3			
31	52 24.8	91.1	6	-0.9	0.0	31	43 51.3	79.5	6	-0.8	0.0	31	35 35.1	69.1	6	-0.8	0.0
32	52 16.2	90.9	12	-1.7	0.0	32	43 42.9	79.3	12	-1.7	0.0	32	35 27.0	68.9	12	-1.6	0.0
33	52 7.6	90.6	18	-2.6	-0.1	33	43 34.4	79.2	18	-2.5	-0.1	33	35 19.0	68.8	18	-2.4	-0.1
34	51 59.0	90.4	24	-3.4	-0.1	34	43 26.0	79.0	24	-3.4	-0.1	34	35 11.0	68.6	24	-3.2	-0.1
35	51 50.4	90.2	30	-4.3	-0.1	35	43 17.5	78.8	30	-4.2	-0.1	35	35 3.0	68.4	30	-4.0	-0.1
36	51 41.8	90.0	36	-5.2	-0.1	36	43 9.1	78.6	36	-5.0	-0.1	36	34 55.0	68.2	36	-4.8	-0.1
37	51 33.2	89.8	42	-6.0	-0.1	37	43 0.6	78.4	42	-5.9	-0.1	37	34 47.0	68.1	42	-5.6	-0.1
38	51 24.6	89.6	48	-6.9	-0.2	38	42 52.2	78.3	48	-6.7	-0.1	38	34 39.0	67.9	48	-6.4	-0.1
39	51 16.0	89.4	54	-7.7	-0.2	39	42 43.8	78.1	54	-7.6	-0.2	39	34 31.0	67.8	54	-7.2	-0.2
40	51 7.4	89.2				40	42 35.4	77.9				40	34 23.1	67.6			
41	50 58.8	89.0	6	-0.9	0.0	41	42 27.0	77.7	6	-0.8	0.0	41	34 15.1	67.4	6	-0.8	0.0
42	50 50.2	88.8	12	-1.7	0.0	42	42 18.6	77.5	12	-1.7	0.0	42	34 7.2	67.3	12	-1.6	0.0
43	50 41.6	88.6	18	-2.6	-0.1	43	42 10.2	77.4	18	-2.5	-0.1	43	33 59.2	67.1	18	-2.4	-0.1
44	50 33.0	88.4	24	-3.4	-0.1	44	42 1.8	77.2	24	-3.3	-0.1	44	33 51.3	67.0	24	-3.2	-0.1
45	50 24.4	88.2	30	-4.3	-0.1	45	41 53.4	77.0	30	-4.2	-0.1	45	33 43.4	66.8	30	-4.0	-0.1
46	50 15.8	88.0	36	-5.2	-0.1	46	41 45.0	76.8	36	-5.0	-0.1	46	33 35.5	66.6	36	-4.7	-0.1
47	50 7.2	87.8	42	-6.0	-0.1	47	41 36.6	76.7	42	-5.8	-0.1	47	33 27.6	66.5	42	-5.5	-0.1
48	49 58.6	87.6	48	-6.9	-0.2	48	41 28.3	76.5	48	-6.7	-0.1	48	33 19.8	66.3	48	-6.3	-0.1
49	49 50.0	87.4	54	-7.7	-0.2	49	41 19.9	76.4	54	-7.5	-0.2	49	33 11.9	66.2	54	-7.1	-0.2
50	49 41.4	87.2				50	41 11.6	76.2				50	33 4.0	66.0			
51	49 32.8	87.0	6	-0.9	0.0	51	41 3.2	76.0	6	-0.8	0.0	51	32 56.1	65.8	6	-0.8	0.0
52	49 24.3	86.8	12	-1.7	0.0	52	40 54.9	75.9	12	-1.7	0.0	52	32 48.3	65.6	12	-1.6	0.0
53	49 15.7	86.6	18	-2.6	-0.1	53	40 46.5	75.6	18	-2.5	-0.1	53	32 40.4	65.5	18	-2.3	-0.1
54	49 7.1	86.4	24	-3.4	-0.1	54	40 38.2	75.5	24	-3.3	-0.1	54	32 32.6	65.3	24	-3.1	-0.1
55	48 58.5	86.2	30	-4.3	-0.1	55	40 29.8	75.3	30	-4.1	-0.1	55	32 24.8	65.1	30	-3.9	-0.1
56	48 49.9	86.0	36	-5.2	-0.1	56	40 21.5	75.1	36	-5.0	-0.1	56	32 17.0	64.9	36	-4.7	-0.1
57	48 41.3	85.8	42	-6.0	-0.1	57	40 13.2	75.0	42	-5.8	-0.1	57	32 9.2	64.8	42	-5.5	-0.1
58	48 32.7	85.7	48	-6.9	-0.2	58	40 4.9	74.7	48	-6.6	-0.1	58	32 1.5	64.6	48	-6.2	-0.1
59	48 24.1	85.5	54	-7.7	-0.2	59	39 56.6	74.6	54	-7.5	-0.2	59	31 53.7	64.5	54	-7.0	-0.2

γ Cygni

α Cygni
(Deneb)

α Cephei

Ursae minoris
(Nordstern)

	1920-1925	1925-1930	1930-1935		1920-1925	1925-1930	1930-1935		1920-1925	1925-1930	1930-1935
Δh	+0.6	+1.3	+1.9	Δh	+0.6	+1.3	+1.9	Δh	+0.7	+1.4	+2.1
ΔA	—	—	—	ΔA	—	—	—	ΔA	—	—	—

55°N

γ Cygni

55°N

Std-wkl. m.	6. Stunde					Std-wkl. m.	7. Stunde					Std-wkl. m.	8. Stunde				
	Höhe	Azimut	Δt	Δh	ΔA		Höhe	Azimut	Δt	Δh	ΔA		Höhe	Azimut	Δt	Δh	ΔA
0	31°46'0	64°3	sek			0	24°22'5	54°3	sek			0	17°51'7	44°2	sek		
1	31 38.2	64.4	6	-0.8	0.0	1	24 15.5	54.1	6	-0.7	0.0	1	17 45.7	44.0	6	-0.6	0.0
2	31 30.5	63.9	12	-1.5	0.0	2	24 8.6	54.0	12	-1.4	0.0	2	17 39.8	43.8	12	-1.2	0.0
3	31 22.7	63.8	18	-2.3	-0.1	3	24 1.6	53.8	18	-2.1	-0.1	3	17 33.8	43.7	18	-1.8	-0.1
4	31 15.0	63.6	24	-3.1	-0.1	4	23 54.7	53.7	24	-2.8	-0.1	4	17 27.9	43.5	24	-2.4	-0.1
5	31 7.3	63.4	30	-3.8	-0.1	5	23 47.8	53.5	30	-3.5	-0.1	5	17 22.0	43.3	30	-3.0	-0.1
6	30 59.6	63.2	36	-4.6	-0.1	6	23 40.9	53.3	36	-4.1	-0.1	6	17 16.1	43.1	36	-3.5	-0.1
7	30 51.9	63.1	42	-5.4	-0.1	7	23 34.0	53.2	42	-4.8	-0.1	7	17 10.2	43.0	42	-4.1	-0.1
8	30 44.3	62.9	48	-6.2	-0.1	8	23 27.1	53.0	48	-5.5	-0.1	8	17 4.4	42.8	48	-4.7	-0.1
9	30 36.6	62.8	54	-7.0	-0.2	9	23 20.2	52.9	54	-6.2	-0.2	9	16 58.5	42.7	54	-5.3	-0.2
10	30 29.0	62.6				10	23 13.4	52.7				10	16 52.7	42.5			
11	30 21.3	62.4	6	-0.8	0.0	11	23 6.5	52.5	6	-0.7	0.0	11	16 46.9	42.3	6	-0.6	0.0
12	30 13.7	62.3	12	-1.5	0.0	12	22 59.7	52.3	12	-1.4	0.0	12	16 41.1	42.1	12	-1.1	0.0
13	30 6.1	62.1	18	-2.3	-0.1	13	22 52.9	52.2	18	-2.0	-0.1	13	16 35.3	42.0	18	-1.7	-0.1
14	29 58.5	62.0	24	-3.0	-0.1	14	22 46.1	52.0	24	-2.7	-0.1	14	16 29.6	41.8	24	-2.3	-0.1
15	29 50.9	61.8	30	-3.8	-0.1	15	22 39.3	51.8	30	-3.4	-0.1	15	16 23.9	41.6	30	-2.8	-0.1
16	29 43.4	61.6	36	-4.6	-0.1	16	22 32.6	51.6	36	-4.1	-0.1	16	16 18.2	41.4	36	-3.4	-0.1
17	29 35.8	61.5	42	-5.3	-0.1	17	22 25.8	51.5	42	-4.8	-0.1	17	16 12.5	41.2	42	-4.0	-0.1
18	29 28.3	61.3	48	-6.1	-0.1	18	22 19.1	51.3	48	-5.4	-0.1	18	16 6.9	41.1	48	-4.6	-0.1
19	29 20.7	61.2	54	-6.8	-0.2	19	22 12.4	51.2	54	-6.1	-0.2	19	16 1.2	40.9	54	-5.1	-0.2
20	29 13.2	61.0				20	22 5.7	51.0				20	15 55.6	40.7			
21	29 5.7	60.8	6	-0.7	0.0	21	21 59.0	50.8	6	-0.7	0.0	21	15 50.0	40.5	6	-0.5	0.0
22	28 58.2	60.6	12	-1.5	0.0	22	21 52.4	50.6	12	-1.3	0.0	22	15 44.4	40.4	12	-1.1	0.0
23	28 50.7	60.5	18	-2.2	-0.1	23	21 45.7	50.5	18	-2.0	-0.1	23	15 38.8	40.2	18	-1.6	-0.1
24	28 43.2	60.3	24	-3.0	-0.1	24	21 39.1	50.3	24	-2.6	-0.1	24	15 33.3	40.1	24	-2.2	-0.1
25	28 35.7	60.1	30	-3.7	-0.1	25	21 32.5	50.1	30	-3.3	-0.1	25	15 27.8	39.9	30	-2.7	-0.1
26	28 28.3	59.9	36	-4.5	-0.1	26	21 25.9	49.9	36	-4.0	-0.1	26	15 22.3	39.7	36	-3.3	-0.1
27	28 20.8	59.8	42	-5.2	-0.1	27	21 19.3	49.8	42	-4.6	-0.1	27	15 16.8	39.5	42	-3.8	-0.1
28	28 13.4	59.6	48	-6.0	-0.1	28	21 12.8	49.6	48	-5.3	-0.1	28	15 11.3	39.4	48	-4.4	-0.1
29	28 5.9	59.5	54	-6.8	-0.2	29	21 6.2	49.5	54	-5.9	-0.2	29	15 5.8	39.2	54	-4.9	-0.2
30	27 58.5	59.3				30	20 59.7	49.3				30	15 0.4	39.0			
31	27 51.1	59.1	6	-0.7	0.0	31	20 53.2	49.1	6	-0.6	0.0	31	14 55.0	38.8	6	-0.5	0.0
32	27 43.7	59.0	12	-1.5	0.0	32	20 46.7	48.9	12	-1.3	0.0	32	14 49.6	38.6	12	-1.1	0.0
33	27 36.3	58.8	18	-2.2	-0.1	33	20 40.2	48.8	18	-1.9	-0.1	33	14 44.2	38.5	18	-1.6	-0.1
34	27 29.0	58.7	24	-2.9	-0.1	34	20 33.8	48.6	24	-2.6	-0.1	34	14 38.9	38.3	24	-2.1	-0.1
35	27 21.7	58.5	30	-3.7	-0.1	35	20 27.3	48.4	30	-3.2	-0.1	35	14 33.6	38.1	30	-2.6	-0.1
36	27 14.4	58.3	36	-4.4	-0.1	36	20 20.9	48.2	36	-3.9	-0.1	36	14 28.3	37.9	36	-3.2	-0.1
37	27 7.1	58.2	42	-5.1	-0.1	37	20 14.5	48.1	42	-4.5	-0.1	37	14 23.0	37.7	42	-3.7	-0.1
38	26 59.8	58.0	48	-5.8	-0.1	38	20 8.1	47.9	48	-5.2	-0.1	38	14 17.8	37.6	48	-4.2	-0.1
39	26 52.5	57.9	54	-6.6	-0.2	39	20 1.7	47.8	54	-5.8	-0.2	39	14 12.5	37.4	54	-4.8	-0.2
40	26 45.2	57.7				40	19 55.3	47.6				40	14 7.3	37.2			
41	26 37.9	57.5	6	-0.7	0.0	41	19 48.9	47.4	6	-0.6	0.0	41	14 2.1	37.0	6	-0.5	0.0
42	26 30.7	57.3	12	-1.4	0.0	42	19 42.6	47.2	12	-1.3	0.0	42	13 56.9	36.9	12	-1.0	0.0
43	26 23.4	57.2	18	-2.2	-0.1	43	19 36.3	47.1	18	-1.9	-0.1	43	13 51.7	36.7	18	-1.5	-0.1
44	26 16.2	57.0	24	-2.9	-0.1	44	19 30.0	46.9	24	-2.5	-0.1	44	13 46.6	36.6	24	-2.0	-0.1
45	26 9.0	56.8	30	-3.6	-0.1	45	19 23.7	46.7	30	-3.1	-0.1	45	13 41.5	36.4	30	-2.5	-0.1
46	26 1.8	56.6	36	-4.3	-0.1	46	19 17.5	46.5	36	-3.8	-0.1	46	13 36.4	36.2	36	-3.1	-0.1
47	25 54.6	56.5	42	-5.0	-0.1	47	19 11.2	46.4	42	-4.4	-0.1	47	13 31.3	36.0	42	-3.6	-0.1
48	25 47.5	56.3	48	-5.8	-0.1	48	19 5.0	46.2	48	-5.0	-0.1	48	13 26.3	35.9	48	-4.1	-0.1
49	25 40.3	56.2	54	-6.5	-0.2	49	18 58.8	46.1	54	-5.7	-0.2	49	13 21.3	35.7	54	-4.6	-0.2
50	25 33.2	56.0				50	18 52.6	45.9				50	13 16.3	35.5			
51	25 26.0	55.8	6	-0.7	0.0	51	18 46.4	45.7	6	-0.6	0.0	51	13 11.3	35.3	6	-0.5	-0.0
52	25 18.9	55.7	12	-1.4	0.0	52	18 40.3	45.5	12	-1.2	0.0	52	13 6.4	35.1	12	-1.0	-0.0
53	25 11.8	55.5	18	-2.1	-0.1	53	18 34.2	45.4	18	-1.8	-0.1	53	13 1.5	35.0	18	-1.5	-0.1
54	25 4.7	55.4	24	-2.8	-0.1	54	18 28.1	45.2	24	-2.4	-0.1	54	12 56.6	34.8	24	-2.0	-0.1
55	24 57.6	55.2	30	-3.5	-0.1	55	18 22.0	45.0	30	-3.0	-0.1	55	12 51.7	34.6	30	-2.5	-0.1
56	24 50.6	55.0	36	-4.3	-0.1	56	18 15.9	44.8	36	-3.7	-0.1	56	12 46.8	34.4	36	-2.9	-0.1
57	24 43.5	54.9	42	-4.9	-0.1	57	18 9.8	44.7	42	-4.3	-0.1	57	12 41.9	34.2	42	-3.4	-0.1
58	24 36.5	54.6	48	-5.7	-0.1	58	18 3.8	44.5	48	-4.9	-0.1	58	12 37.1	34.1	48	-3.9	-0.1
59	24 29.5	54.5	54	-6.4	-0.2	59	17 57.7	44.4	54	-5.5	-0.2	59	12 32.3	33.9	54	-4.4	-0.2

	1920-1925	1925-1930	1930-1935		1920-1925	1925-1930	1930-1935		1920-1925	1925-1930	1930-1935
Δh	+0.7	+1.5	+2.2	Δh	+0.8	+1.6	+2.3	Δh	+0.8	+1.7	+2.5
ΔA	—	—	—	ΔA	—	—	—	ΔA	—	—	—

55°N

γ Cygni

55°N

Std. wkl. m.	9. Stunde					Std. wkl. m.	10. Stunde					Std. wkl. m.	11. Stunde				
	Höhe	Azimut	Δt	Δh	ΔA		Höhe	Azimut	Δt	Δh	ΔA		Höhe	Azimut	Δt	Δh	ΔA
0	12° 27.5	33° 07	sek			0	8° 23.3	22° 08	sek			0	5° 51.2	11° 05	sek		
1	12 22.7	33.5	6	-0.5	0.0	1	8 20.0	22.6	6	-0.3	0.0	1	5 49.5	11.3	6	-0.1	0.0
2	12 18.0	33.3	12	-0.9	0.0	2	8 16.7	22.4	12	-0.6	0.0	2	5 47.9	11.1	12	-0.3	0.0
3	12 13.2	33.2	18	-1.4	-0.1	3	8 13.4	22.3	18	-1.0	-0.1	3	5 46.2	11.0	18	-0.4	-0.1
4	12 8.5	33.0	24	-1.8	-0.1	4	8 10.2	22.1	24	-1.3	-0.1	4	5 44.6	10.8	24	-0.6	-0.1
5	12 3.8	32.8	30	-2.3	-0.1	5	8 7.0	21.9	30	-1.6	-0.1	5	5 43.0	10.6	30	-0.7	-0.1
6	11 59.2	32.6	36	-2.8	-0.1	6	8 3.8	21.7	36	-1.9	-0.1	6	5 41.5	10.4	36	-0.9	-0.1
7	11 54.6	32.4	42	-3.2	-0.1	7	8 0.6	21.5	42	-2.2	-0.1	7	5 39.9	10.2	42	-1.0	-0.1
8	11 50.0	32.3	48	-3.7	-0.1	8	7 57.5	21.3	48	-2.6	-0.2	8	5 38.4	10.0	48	-1.2	-0.2
9	11 45.4	32.1	54	-4.1	-0.2	9	7 54.4	21.1	54	-2.9	-0.2	9	5 36.9	9.8	54	-1.3	-0.2
10	11 40.9	31.9				10	7 51.3	20.9				10	5 35.5	9.6			
11	11 36.3	31.7	6	-0.4	0.0	11	7 48.2	20.7	6	-0.3	0.0	11	5 34.0	9.4	6	-0.1	0.0
12	11 31.8	31.5	12	-0.9	0.0	12	7 45.2	20.5	12	-0.6	0.0	12	5 32.6	9.2	12	-0.3	0.0
13	11 27.3	31.4	18	-1.3	-0.1	13	7 42.2	20.4	18	-0.9	-0.1	13	5 31.2	9.1	18	-0.4	-0.1
14	11 22.9	31.2	24	-1.8	-0.1	14	7 39.2	20.2	24	-1.2	-0.1	14	5 29.8	8.9	24	-0.5	-0.1
15	11 18.4	31.0	30	-2.2	-0.1	15	7 36.2	20.0	30	-1.5	-0.1	15	5 28.5	8.7	30	-0.6	-0.1
16	11 14.0	30.9	36	-2.6	-0.1	16	7 33.3	19.8	36	-1.7	-0.1	16	5 27.3	8.5	36	-0.8	-0.1
17	11 9.6	30.7	42	-3.1	-0.1	17	7 30.4	19.6	42	-2.0	-0.1	17	5 26.1	8.3	42	-0.9	-0.1
18	11 5.2	30.5	48	-3.5	-0.1	18	7 27.6	19.4	48	-2.3	-0.2	18	5 24.9	8.1	48	-1.0	-0.2
19	11 0.8	30.3	54	-4.0	-0.2	19	7 24.7	19.2	54	-2.6	-0.2	19	5 23.7	7.9	54	-1.2	-0.2
20	10 56.5	30.1				20	7 21.9	19.0				20	5 22.6	7.7			
21	10 52.2	29.9	6	-0.4	0.0	21	7 19.1	18.8	6	-0.3	0.0	21	5 21.5	7.5	6	-0.1	0.0
22	10 48.0	29.7	12	-0.8	0.0	22	7 16.4	18.6	12	-0.5	0.0	22	5 20.4	7.3	12	-0.2	0.0
23	10 43.7	29.6	18	-1.3	-0.1	23	7 13.6	18.5	18	-0.8	-0.1	23	5 19.3	7.2	18	-0.3	-0.1
24	10 39.5	29.4	24	-1.7	-0.1	24	7 10.9	18.3	24	-1.0	-0.1	24	5 18.2	7.0	24	-0.4	-0.1
25	10 35.3	29.2	30	-2.1	-0.1	25	7 8.2	18.1	30	-1.3	-0.1	25	5 17.2	6.8	30	-0.5	-0.1
26	10 31.1	29.0	36	-2.5	-0.1	26	7 5.5	17.9	36	-1.6	-0.1	26	5 16.2	6.6	36	-0.6	-0.1
27	10 26.9	28.8	42	-2.9	-0.1	27	7 2.8	17.7	42	-1.8	-0.1	27	5 15.2	6.4	42	-0.7	-0.1
28	10 22.8	28.7	48	-3.4	-0.1	28	7 0.2	17.6	48	-2.1	-0.2	28	5 14.3	6.2	48	-0.8	-0.2
29	10 18.7	28.5	54	-3.8	-0.2	29	6 57.6	17.4	54	-2.3	-0.2	29	5 13.4	6.0	54	-0.9	-0.2
30	10 14.6	28.3				30	6 55.1	17.2				30	5 12.5	5.8			
31	10 10.5	28.1	6	-0.4	0.0	31	6 52.6	17.0	6	-0.2	0.0	31	5 11.6	5.6	6	-0.1	0.0
32	10 6.5	27.9	12	-0.8	0.0	32	6 50.1	16.8	12	-0.5	0.0	32	5 10.8	5.4	12	-0.1	0.0
33	10 2.5	27.8	18	-1.2	-0.1	33	6 47.6	16.7	18	-0.7	-0.1	33	5 10.0	5.2	18	-0.2	-0.1
34	9 58.5	27.6	24	-1.6	-0.1	34	6 45.2	16.5	24	-1.0	-0.1	34	5 9.3	5.0	24	-0.3	-0.1
35	9 54.5	27.4	30	-2.0	-0.1	35	6 42.8	16.3	30	-1.2	-0.1	35	5 8.5	4.8	30	-0.3	-0.1
36	9 50.6	27.2	36	-2.4	-0.1	36	6 40.4	16.1	36	-1.4	-0.1	36	5 7.8	4.6	36	-0.4	-0.1
37	9 46.7	27.0	42	-2.8	-0.1	37	6 38.0	15.9	42	-1.7	-0.1	37	5 7.1	4.4	42	-0.5	-0.1
38	9 42.8	26.9	48	-3.2	-0.1	38	6 35.7	15.7	48	-1.9	-0.2	38	5 6.5	4.2	48	-0.6	-0.2
39	9 38.9	26.7	54	-3.6	-0.2	39	6 33.4	15.5	54	-2.2	-0.2	39	5 5.9	4.0	54	-0.6	-0.2
40	9 35.0	26.5				40	6 31.1	15.3				40	5 5.3	3.8			
41	9 31.2	26.3	6	-0.4	0.0	41	6 28.8	15.1	6	-0.2	0.0	41	5 4.7	3.6	6	0.0	0.0
42	9 27.4	26.1	12	-0.7	0.0	42	6 26.6	14.9	12	-0.4	0.0	42	5 4.2	3.4	12	-0.1	0.0
43	9 23.6	26.0	18	-1.1	-0.1	43	6 24.4	14.8	18	-0.6	-0.1	43	5 3.7	3.3	18	-0.1	-0.1
44	9 19.9	25.8	24	-1.5	-0.1	44	6 22.2	14.6	24	-0.8	-0.1	44	5 3.2	3.1	24	-0.2	-0.1
45	9 16.2	25.6	30	-1.8	-0.1	45	6 20.1	14.4	30	-1.0	-0.1	45	5 2.8	2.9	30	-0.2	-0.1
46	9 12.5	25.4	36	-2.2	-0.1	46	6 18.0	14.2	36	-1.3	-0.1	46	5 2.4	2.7	36	-0.2	-0.1
47	9 8.8	25.2	42	-2.6	-0.1	47	6 15.9	14.0	42	-1.5	-0.1	47	5 2.0	2.5	42	-0.3	-0.1
48	9 5.1	25.0	48	-3.0	-0.1	48	6 13.8	13.8	48	-1.7	-0.2	48	5 1.6	2.3	48	-0.3	-0.2
49	9 1.5	24.8	54	-3.3	-0.2	49	6 11.8	13.6	54	-1.9	-0.2	49	5 1.3	2.1	54	-0.4	-0.2
50	8 57.9	24.6				50	6 9.8	13.4				50	5 1.0	1.9			
51	8 54.3	24.4	6	-0.3	0.0	51	6 7.8	13.2	6	-0.2	0.0	51	5 0.7	1.7	6	0.0	0.0
52	8 50.8	24.2	12	-0.7	0.0	52	6 5.8	13.0	12	-0.4	0.0	52	5 0.4	1.5	12	0.0	0.0
53	8 47.3	24.1	18	-1.0	-0.1	53	6 3.9	12.9	18	-0.6	-0.1	53	5 0.2	1.4	18	-0.1	-0.1
54	8 43.8	23.9	24	-1.4	-0.1	54	6 2.0	12.7	24	-0.8	-0.1	54	5 0.0	1.2	24	-0.1	-0.1
55	8 40.3	23.7	30	-1.7	-0.1	55	6 0.1	12.5	30	-1.0	-0.1	55	4 59.8	1.0	30	-0.1	-0.1
56	8 36.9	23.5	36	-2.1	-0.1	56	5 58.3	12.3	36	-1.1	-0.1	56	4 59.7	0.8	36	-0.1	-0.1
57	8 33.5	23.3	42	-2.4	-0.1	57	5 56.5	12.1	42	-1.3	-0.1	57	4 59.7	0.6	42	-0.1	-0.1
58	8 30.1	23.2	48	-2.8	-0.1	58	5 54.7	11.9	48	-1.5	-0.2	58	4 59.6	0.4	48	-0.2	-0.2
59	8 26.7	23.0	54	-3.1	-0.2	59	5 52.9	11.7	54	-1.7	-0.2	59	4 59.6	0.2	54	-0.2	-0.2
m Std. wkl.	Höhe	Azimut	Δt	Δh	ΔA	m Std. wkl.	Höhe	Azimut	Δt	Δh	ΔA	m Std. wkl.	Höhe	Azimut	Δt	Δh	ΔA
	9. Stunde						10. Stunde						11. Stunde				

	1920-1925	1925-1930	1930-1935		1920-1925	1925-1930	1930-1935		1920-1925	1925-1930	1930-1935
Δh	+ 0.9	+ 1.8	+ 2.6	Δh	+ 0.9	+ 1.8	+ 2.8	Δh	+ 0.9	+ 1.9	+ 2.8
ΔA	—	—	—	ΔA	—	—	—	ΔA	—	—	—

α Cygni
(Deneb)
α Cephei

Ursae minoris
(Nordstern)

55°N

a Cygni (Deneb)

55°N

Std. wkl. m.	1. Stunde					Std. wkl. m.	2. Stunde				
	Höhe	Azimut	Δt	Δh	ΔA		Höhe	Azimut	Δt	Δh	ΔA
0	76° 9.2	130° 1	sek			0	68° 30.0	105° 2	sek		
1	76 2.6	129.5	6	-0.7	-0.1	1	68 21.7	104.9	6	-0.8	0° 0
2	75 55.9	128.9	12	-1.4	-0.1	2	68 13.4	104.6	12	-1.7	-0.1
3	75 49.2	128.4	18	-2.0	-0.2	3	68 5.1	104.3	18	-2.5	-0.1
4	75 42.4	127.8	24	-2.7	-0.2	4	67 56.7	104.0	24	-3.3	-0.1
5	75 35.6	127.2	30	-3.4	-0.3	5	67 48.4	103.7	30	-4.2	-0.1
6	75 28.7	126.7	36	-4.1	-0.4	6	67 40.0	103.4	36	-5.0	-0.2
7	75 21.8	126.2	42	-4.8	-0.4	7	67 31.6	103.1	42	-5.8	-0.2
8	75 14.9	125.6	48	-5.4	-0.5	8	67 23.2	102.9	48	-6.7	-0.2
9	75 7.9	125.1	54	-6.1	-0.5	9	67 14.8	102.6	54	-7.5	-0.3
10	75 0.8	124.6				10	67 6.4	102.3			
11	74 53.7	124.1	6	-0.7	0.0	11	66 58.0	102.0	6	-0.8	0.0
12	74 46.6	123.6	12	-1.5	-0.1	12	66 49.6	101.7	12	-1.7	-0.1
13	74 39.4	123.2	18	-2.2	-0.1	13	66 41.2	101.5	18	-2.5	-0.1
14	74 32.2	122.7	24	-2.9	-0.2	14	66 32.8	101.2	24	-3.4	-0.1
15	74 24.9	122.2	30	-3.6	-0.3	15	66 24.4	100.9	30	-4.2	-0.1
16	74 17.6	121.7	36	-4.4	-0.3	16	66 15.9	100.6	36	-5.1	-0.2
17	74 10.3	121.2	42	-5.1	-0.3	17	66 7.5	100.4	42	-5.9	-0.2
18	74 2.9	120.8	48	-5.8	-0.4	18	65 59.0	100.1	48	-6.8	-0.2
19	73 55.5	120.3	54	-6.6	-0.4	19	65 50.5	99.9	54	-7.6	-0.3
20	73 48.0	119.8				20	65 41.9	99.6			
21	73 40.5	119.4	6	-0.8	0.0	21	65 33.4	99.3	6	-0.8	0.0
22	73 33.0	119.0	12	-1.5	-0.1	22	65 24.9	99.1	12	-1.7	-0.1
23	73 25.5	118.5	18	-2.3	-0.1	23	65 16.4	98.8	18	-2.5	-0.1
24	73 17.9	118.1	24	-3.0	-0.2	24	65 7.9	98.6	24	-3.4	-0.1
25	73 10.3	117.7	30	-3.8	-0.2	25	64 59.4	98.3	30	-4.2	-0.1
26	73 2.7	117.3	36	-4.6	-0.3	26	64 50.9	98.1	36	-5.1	-0.2
27	72 55.1	116.9	42	-5.3	-0.3	27	64 42.4	97.8	42	-5.9	-0.2
28	72 47.4	116.4	48	-6.1	-0.4	28	64 33.9	97.6	48	-6.8	-0.2
29	72 39.6	116.0	54	-6.8	-0.4	29	64 25.4	97.3	54	-7.7	-0.3
30	72 31.8	115.6				30	64 16.8	97.1			
31	72 24.1	115.2	6	-0.8	0.0	31	64 8.3	96.9	6	-0.8	0.0
32	72 16.3	114.8	12	-1.6	-0.1	32	63 59.7	96.6	12	-1.7	0.0
33	72 8.5	114.5	18	-2.4	-0.1	33	63 51.2	96.4	18	-2.5	-0.1
34	72 0.6	114.1	24	-3.2	-0.2	34	63 42.6	96.1	24	-3.4	-0.1
35	71 52.8	113.7	30	-3.9	-0.2	35	63 34.1	95.9	30	-4.2	-0.1
36	71 44.9	113.3	36	-4.7	-0.2	36	63 25.5	95.7	36	-5.1	-0.1
37	71 37.0	112.9	42	-5.5	-0.3	37	63 17.0	95.5	42	-5.9	-0.1
38	71 29.0	112.6	48	-6.3	-0.3	38	63 8.4	95.2	48	-6.8	-0.2
39	71 21.1	112.2	54	-7.1	-0.4	39	62 59.9	95.0	54	-7.6	-0.2
40	71 13.1	111.8				40	62 51.3	94.8			
41	71 5.1	111.5	6	-0.8	0.0	41	62 42.8	94.6	6	-0.9	0.0
42	70 57.1	111.1	12	-1.6	-0.1	42	62 34.2	94.4	12	-1.7	0.0
43	70 49.1	110.8	18	-2.4	-0.1	43	62 25.6	94.1	18	-2.6	-0.1
44	70 41.0	110.4	24	-3.2	-0.1	44	62 17.0	93.9	24	-3.4	-0.1
45	70 33.0	110.1	30	-4.0	-0.1	45	62 8.4	93.7	30	-4.3	-0.1
46	70 24.9	109.8	36	-4.9	-0.2	46	61 59.8	93.5	36	-5.2	-0.1
47	70 16.8	109.4	42	-5.7	-0.2	47	61 51.2	93.3	42	-6.0	-0.1
48	70 8.7	109.1	48	-6.5	-0.2	48	61 42.6	93.0	48	-6.9	-0.2
49	70 0.6	108.7	54	-7.3	-0.3	49	61 34.0	92.8	54	-7.7	-0.2
50	69 52.4	108.4				50	61 25.4	92.6			
51	69 44.1	108.1	6	-0.8	0.0	51	61 16.8	92.4	6	-0.9	0.0
52	69 35.9	107.8	12	-1.6	-0.1	52	61 8.2	92.2	12	-1.7	0.0
53	69 27.7	107.4	18	-2.5	-0.1	53	60 59.6	91.9	18	-2.6	-0.1
54	69 19.5	107.1	24	-3.3	-0.1	54	60 51.0	91.7	24	-3.4	-0.1
55	69 11.3	106.8	30	-4.1	-0.1	55	60 42.4	91.5	30	-4.3	-0.1
56	69 3.0	106.5	36	-4.9	-0.2	56	60 33.8	91.3	36	-5.2	-0.1
57	68 54.8	106.2	42	-5.7	-0.2	57	60 25.2	91.1	42	-6.0	-0.1
58	68 46.5	105.8	48	-6.6	-0.2	58	60 16.6	90.9	48	-6.9	-0.2
59	68 38.3	105.5	54	-7.4	-0.3	59	60 8.0	90.7	54	-7.7	-0.2
m Std. wkl.	Höhe	Azimut	Δt	Δh	ΔA	m Std. wkl.	Höhe	Azimut	Δt	Δh	ΔA
	1. Stunde						2. Stunde				

	1920-1925	1925-1930	1930-1935		1920-1925	1925-1930	1930-1935
Δh	+0.7	+1.5	+2.2	Δh	+0.6	+1.3	+0.9
ΔA	—	-0.1	-0.1	ΔA	—	-0.1	-0.1

55°N

α Cygni (Deneb)

55°N

Std. wkl. m.	3. Stunde					Std. wkl. m.	4. Stunde					Std. wkl. m.	5. Stunde				
	Höhe	Azimut	Δt	Δh	ΔA		Höhe	Azimut	Δt	Δh	ΔA		Höhe	Azimut	Δt	Δh	ΔA
0	59°59'.4	90°5	sek			0	51°26'.2	79°3	sek			0	43°9'.7	69°5	sek		
1	59 50.8	90.3	6	-0.9	0°0	1	51 17.7	79.1	6	-0.8	0°0	1	43 1.7	69.3	6	-0.8	0°0
2	59 42.2	90.1	12	-1.7	0.0	2	51 9.3	78.9	12	-1.7	0.0	2	42 53.7	69.2	12	-1.6	0.0
3	59 33.6	89.9	18	-2.6	-0.1	3	51 0.8	78.8	18	-2.5	0.0	3	42 45.6	69.0	18	-2.4	0.0
4	59 25.0	89.7	24	-3.4	-0.1	4	50 52.4	78.6	24	-3.4	-0.1	4	42 37.6	68.9	24	-3.2	-0.1
5	59 16.4	89.4	30	-4.3	-0.1	5	50 43.9	78.4	30	-4.2	-0.1	5	42 29.6	68.7	30	-4.0	-0.1
6	59 7.8	89.2	36	-5.2	-0.1	6	50 35.5	78.2	36	-5.1	-0.1	6	42 21.6	68.5	36	-4.8	-0.1
7	58 59.2	89.0	42	-6.0	-0.1	7	50 27.1	78.1	42	-5.9	-0.1	7	42 13.6	68.4	42	-5.6	-0.1
8	58 50.6	88.8	48	-6.9	-0.2	8	50 18.7	77.9	48	-6.8	-0.1	8	42 5.6	68.2	48	-6.4	-0.1
9	58 42.0	88.6	54	-7.7	-0.2	9	50 10.3	77.8	54	-7.6	-0.1	9	41 57.6	68.1	54	-7.2	-0.1
10	58 33.4	88.4				10	50 1.9	77.6				10	41 49.6	67.9			
11	58 24.8	88.2	6	-0.9	0.0	11	49 53.5	77.4	6	-0.8	0.0	11	41 41.6	67.7	6	-0.8	0.0
12	58 16.2	88.0	12	-1.7	0.0	12	49 45.1	77.2	12	-1.7	0.0	12	41 33.7	67.6	12	-1.6	0.0
13	58 7.6	87.8	18	-2.6	-0.1	13	49 36.7	77.1	18	-2.5	0.0	13	41 25.7	67.4	18	-2.4	0.0
14	57 59.0	87.6	24	-3.4	-0.1	14	49 28.3	76.9	24	-3.3	-0.1	14	41 17.8	67.3	24	-3.2	-0.1
15	57 50.4	87.4	30	-4.3	-0.1	15	49 19.9	76.7	30	-4.2	-0.1	15	41 9.8	67.1	30	-4.0	-0.1
16	57 41.8	87.2	36	-5.2	-0.1	16	49 11.5	76.5	36	-5.0	-0.1	16	41 1.9	67.0	36	-4.8	-0.1
17	57 33.2	87.0	42	-6.0	-0.1	17	49 3.1	76.4	42	-5.8	-0.1	17	40 54.0	66.8	42	-5.6	-0.1
18	57 24.6	86.9	48	-6.9	-0.2	18	48 54.8	76.2	48	-6.7	-0.1	18	40 46.1	66.7	48	-6.4	-0.1
19	57 16.0	86.7	54	-7.7	-0.2	19	48 46.5	76.1	54	-7.5	-0.1	19	40 38.2	66.5	54	-7.2	-0.1
20	57 7.4	86.5				20	48 38.2	75.9				20	40 30.3	66.4			
21	56 58.8	86.3	6	-0.9	0.0	21	48 29.8	75.7	6	-0.8	0.0	21	40 22.4	66.2	6	-0.8	0.0
22	56 50.2	86.1	12	-1.7	0.0	22	48 21.5	75.6	12	-1.7	0.0	22	40 14.6	66.1	12	-1.6	0.0
23	56 41.7	85.9	18	-2.6	-0.1	23	48 13.1	75.4	18	-2.5	0.0	23	40 6.7	65.9	18	-2.4	0.0
24	56 33.1	85.7	24	-3.4	-0.1	24	48 4.8	75.3	24	-3.3	-0.1	24	39 58.9	65.8	24	-3.2	-0.1
25	56 24.5	85.5	30	-4.3	-0.1	25	47 56.5	75.1	30	-4.2	-0.1	25	39 51.0	65.6	30	-4.0	-0.1
26	56 15.9	85.3	36	-5.2	-0.1	26	47 48.2	74.9	36	-5.0	-0.1	26	39 43.2	65.4	36	-4.7	-0.1
27	56 7.3	85.1	42	-6.0	-0.1	27	47 39.9	74.8	42	-5.8	-0.1	27	39 35.4	65.3	42	-5.5	-0.1
28	55 58.8	85.0	48	-6.9	-0.2	28	47 31.6	74.6	48	-6.7	-0.1	28	39 27.6	65.1	48	-6.3	-0.1
29	55 50.2	84.8	54	-7.7	-0.2	29	47 23.3	74.5	54	-7.5	-0.1	29	39 19.8	65.0	54	-7.1	-0.1
30	55 41.6	84.6				30	47 15.0	74.3				30	39 12.0	64.8			
31	55 33.0	84.4	6	-0.9	0.0	31	47 6.7	74.1	6	-0.8	0.0	31	39 4.2	64.6	6	-0.8	0.0
32	55 24.5	84.2	12	-1.7	0.0	32	46 58.5	74.0	12	-1.6	0.0	32	38 56.4	64.5	12	-1.5	0.0
33	55 15.9	84.1	18	-2.6	-0.1	33	46 50.2	73.8	18	-2.5	0.0	33	38 48.6	64.3	18	-2.3	0.0
34	55 7.4	83.9	24	-3.4	-0.1	34	46 41.9	73.7	24	-3.3	-0.1	34	38 40.9	64.2	24	-3.1	-0.1
35	54 58.8	83.7	30	-4.3	-0.1	35	46 33.6	73.5	30	-4.1	-0.1	35	38 33.1	64.0	30	-3.8	-0.1
36	54 50.3	83.5	36	-5.2	-0.1	36	46 25.4	73.3	36	-4.9	-0.1	36	38 25.4	63.9	36	-4.6	-0.1
37	54 41.7	83.3	42	-6.0	-0.1	37	46 17.1	73.2	42	-5.8	-0.1	37	38 17.7	63.7	42	-5.4	-0.1
38	54 33.2	83.2	48	-6.9	-0.2	38	46 8.9	73.0	48	-6.6	-0.1	38	38 10.0	63.6	48	-6.2	-0.1
39	54 24.6	83.0	54	-7.7	-0.2	39	46 0.7	72.9	54	-7.4	-0.1	39	38 2.3	63.4	54	-6.9	-0.1
40	54 16.1	82.8				40	45 52.5	72.7				40	37 54.7	63.3			
41	54 7.5	82.6	6	-0.8	0.0	41	45 44.3	72.5	6	-0.8	0.0	41	37 47.0	63.1	6	-0.8	0.0
42	53 59.0	82.4	12	-1.7	0.0	42	45 36.1	72.4	12	-1.6	0.0	42	37 39.3	63.0	12	-1.5	0.0
43	53 50.5	82.3	18	-2.5	-0.1	43	45 27.9	72.2	18	-2.5	0.0	43	37 31.6	62.8	18	-2.3	0.0
44	53 42.0	82.1	24	-3.4	-0.1	44	45 19.7	72.1	24	-3.3	-0.1	44	37 24.0	62.7	24	-3.0	-0.1
45	53 33.5	81.9	30	-4.2	-0.1	45	45 11.5	71.9	30	-4.1	-0.1	45	37 16.3	62.5	30	-3.8	-0.1
46	53 25.0	81.7	36	-5.1	-0.1	46	45 3.3	71.7	36	-4.9	-0.1	46	37 8.7	62.3	36	-4.6	-0.1
47	53 16.5	81.5	42	-5.9	-0.1	47	44 55.1	71.6	42	-5.7	-0.1	47	37 1.1	62.2	42	-5.3	-0.1
48	53 8.0	81.4	48	-6.8	-0.2	48	44 47.0	71.4	48	-6.6	-0.1	48	36 53.5	62.0	48	-6.1	-0.1
49	52 59.5	81.2	54	-7.6	-0.2	49	44 38.8	71.3	54	-7.4	-0.1	49	36 45.9	61.9	54	-6.8	-0.1
50	52 51.0	81.0				50	44 30.7	71.1				50	36 38.3	61.7			
51	52 42.5	80.8	6	-0.8	0.0	51	44 22.6	70.9	6	-0.8	0.0	51	36 30.7	61.5	6	-0.7	0.0
52	52 34.0	80.6	12	-1.7	0.0	52	44 14.5	70.8	12	-1.6	0.0	52	36 23.2	61.4	12	-1.5	0.0
53	52 25.5	80.5	18	-2.5	-0.1	53	44 6.3	70.6	18	-2.4	0.0	53	36 15.6	61.2	18	-2.2	0.0
54	52 17.0	80.3	24	-3.4	-0.1	54	43 58.2	70.5	24	-3.2	-0.1	54	36 8.1	61.1	24	-3.0	-0.1
55	52 8.5	80.1	30	-4.2	-0.1	55	43 50.1	70.3	30	-4.0	-0.1	55	36 0.6	60.9	30	-3.7	-0.1
56	52 0.0	79.9	36	-5.1	-0.1	56	43 42.0	70.1	36	-4.9	-0.1	56	35 53.1	60.8	36	-4.5	-0.1
57	51 51.5	79.8	42	-5.9	-0.1	57	43 33.9	70.0	42	-5.7	-0.1	57	35 45.6	60.6	42	-5.2	-0.1
58	51 43.1	79.6	48	-6.8	-0.2	58	43 25.8	69.7	48	-6.5	-0.1	58	35 38.1	60.5	48	-6.0	-0.1
59	51 34.6	79.5	54	-7.6	-0.2	59	43 17.7	69.5	54	-7.3	-0.1	59	35 30.6	60.3	54	-6.7	-0.1

m Std. wkl.	3. Stunde					m Std. wkl.	4. Stunde					m Std. wkl.	5. Stunde				
	Höhe	Azimut	Δt	Δh	ΔA		Höhe	Azimut	Δt	Δh	ΔA		Höhe	Azimut	Δt	Δh	ΔA
	1920-1925	1925-1930	1930-1935				1920-1925	1925-1930	1930-1935				1920-1925	1925-1930	1930-1935		
Δh	+ 0'.6	+ 1'.2	+ 1'.9	Δh	+ 0'.7	+ 1'.3	+ 2'.0	Δh	+ 0'.7	+ 1'.4	+ 2'.1	Δh	+ 0'.7	+ 1'.4	+ 2'.1		
ΔA	—	—	- 0'.1	ΔA	—	—	- 0'.1	ΔA	—	—	—	ΔA	—	—	—		

α Cygni
(Deneb)
α Cephei

Ursae minoris
(Nordstern)

55°N

 α Cygni (Deneb)

55°N

Std- wkl. m.	6. Stunde					Std- wkl. m.	7. Stunde					Std- wkl. m.	8. Stunde				
	Höhe	Azimet	Δt	Δh	ΔA		Höhe	Azimet	Δt	Δh	ΔA		Höhe	Azimet	Δt	Δh	ΔA
0	35° 23.1	60° 2	sek			0	28° 18.0	50° 9	sek			0	22° 6.1	41° 4	sek		
1	35 15.6	60.1	6	-0.7	0.0	1	28 11.3	50.7	6	-0.7	0.0	1	22 0.4	41.2	6	-0.6	0.0
2	35 8.2	59.9	12	-1.5	0.0	2	28 4.7	50.6	12	-1.3	0.0	2	21 54.7	41.1	12	-1.1	0.0
3	35 0.7	59.8	18	-2.2	0.0	3	27 58.0	50.4	18	-2.0	0.0	3	21 49.0	40.9	18	-1.7	0.0
4	34 53.3	59.6	24	-3.0	-0.1	4	27 51.4	50.3	24	-2.6	-0.1	4	21 43.4	40.8	24	-2.2	-0.1
5	34 45.9	59.5	30	-3.7	-0.1	5	27 44.8	50.1	30	-3.3	-0.1	5	21 37.8	40.6	30	-2.8	-0.1
6	34 38.5	59.3	36	-4.4	-0.1	6	27 38.2	49.9	36	-4.0	-0.1	6	21 32.2	40.4	36	-3.4	-0.1
7	34 31.1	59.2	42	-5.2	-0.1	7	27 31.6	49.8	42	-4.6	-0.1	7	21 26.6	40.3	42	-3.9	-0.1
8	34 23.8	59.0	48	-5.9	-0.1	8	27 25.0	49.6	48	-5.3	-0.1	8	21 21.1	40.1	48	-4.5	-0.1
9	34 16.4	58.9	54	-6.7	-0.1	9	27 18.4	49.5	54	-5.9	-0.1	9	21 15.6	40.0	54	-5.0	-0.1
10	34 9.1	58.7				10	27 11.9	49.3				10	21 10.1	39.8			
11	34 1.7	58.5	6	-0.7	0.0	11	27 5.4	49.2	6	-0.6	0.0	11	21 4.6	39.6	6	-0.5	0.0
12	33 54.4	58.4	12	-1.5	0.0	12	26 58.9	49.0	12	-1.3	0.0	12	20 59.1	39.5	12	-1.1	0.0
13	33 47.1	58.2	18	-2.2	0.0	13	26 52.4	48.9	18	-1.9	0.0	13	20 53.6	39.3	18	-1.6	0.0
14	33 39.8	58.1	24	-2.9	-0.1	14	26 45.9	48.7	24	-2.6	-0.1	14	20 48.2	39.2	24	-2.2	-0.1
15	33 32.5	57.9	30	-3.6	-0.1	15	26 39.4	48.6	30	-3.2	-0.1	15	20 42.8	39.0	30	-2.7	-0.1
16	33 25.2	57.7	36	-4.4	-0.1	16	26 33.0	48.4	36	-3.9	-0.1	16	20 37.4	38.8	36	-3.2	-0.1
17	33 17.9	57.6	42	-5.1	-0.1	17	26 26.6	48.3	42	-4.5	-0.1	17	20 32.0	38.7	42	-3.8	-0.1
18	33 10.6	57.4	48	-5.8	-0.1	18	26 20.2	48.1	48	-5.2	-0.1	18	20 26.6	38.5	48	-4.3	-0.1
19	33 3.3	57.3	54	-6.6	-0.1	19	26 13.8	48.0	54	-5.8	-0.1	19	20 21.2	38.4	54	-4.9	-0.1
20	32 56.1	57.1				20	26 7.4	47.8				20	20 15.9	38.2			
21	32 48.9	57.0	6	-0.7	0.0	21	26 1.0	47.6	6	-0.6	0.0	21	20 10.6	38.0	6	-0.5	0.0
22	32 41.7	56.8	12	-1.4	0.0	22	25 54.7	47.5	12	-1.3	0.0	22	20 5.3	37.9	12	-1.0	0.0
23	32 34.5	56.7	18	-2.1	0.0	23	25 48.3	47.3	18	-1.9	0.0	23	20 0.0	37.7	18	-1.6	0.0
24	32 27.3	56.5	24	-2.9	-0.1	24	25 42.0	47.2	24	-2.5	-0.1	24	19 54.8	37.6	24	-2.1	-0.1
25	32 20.1	56.4	30	-3.6	-0.1	25	25 35.7	47.0	30	-3.1	-0.1	25	19 49.6	37.4	30	-2.6	-0.1
26	32 13.0	56.2	36	-4.3	-0.1	26	25 29.4	46.8	36	-3.8	-0.1	26	19 44.4	37.2	36	-3.1	-0.1
27	32 5.9	56.1	42	-5.0	-0.1	27	25 23.1	46.7	42	-4.4	-0.1	27	19 39.2	37.0	42	-3.6	-0.1
28	31 58.8	55.9	48	-5.7	-0.1	28	25 16.9	46.5	48	-5.0	-0.1	28	19 34.0	36.9	48	-4.2	-0.1
29	31 51.7	55.8	54	-6.4	-0.1	29	25 10.8	46.4	54	-5.7	-0.1	29	19 28.9	36.7	54	-4.7	-0.1
30	31 44.7	55.6				30	25 4.6	46.2				30	19 23.8	36.5			
31	31 37.6	55.4	6	-0.7	0.0	31	24 58.4	46.0	6	-0.6	0.0	31	19 18.7	36.3	6	-0.5	0.0
32	31 30.5	55.3	12	-1.4	0.0	32	24 52.2	45.9	12	-1.2	0.0	32	19 13.6	36.2	12	-1.0	0.0
33	31 23.4	55.1	18	-2.1	0.0	33	24 46.0	45.7	18	-1.8	0.0	33	19 8.5	36.0	18	-1.5	0.0
34	31 16.4	55.0	24	-2.8	-0.1	34	24 39.9	45.6	24	-2.4	-0.1	34	19 3.5	35.9	24	-2.0	-0.1
35	31 9.3	54.8	30	-3.5	-0.1	35	24 33.7	45.4	30	-3.0	-0.1	35	18 58.5	35.7	30	-2.5	-0.1
36	31 2.3	54.6	36	-4.2	-0.1	36	24 27.6	45.2	36	-3.7	-0.1	36	18 53.5	35.5	36	-3.0	-0.1
37	30 55.3	54.5	42	-4.9	-0.1	37	24 21.5	45.1	42	-4.3	-0.1	37	18 48.5	35.4	42	-3.5	-0.1
38	30 48.3	54.3	48	-5.6	-0.1	38	24 15.4	44.9	48	-4.9	-0.1	38	18 43.5	35.2	48	-4.0	-0.1
39	30 41.3	54.2	54	-6.3	-0.1	39	24 9.3	44.8	54	-5.5	-0.1	39	18 38.5	35.1	54	-4.5	-0.1
40	30 34.3	54.0				40	24 3.3	44.6				40	18 33.6	34.9			
41	30 27.3	53.9	6	-0.7	0.0	41	23 57.3	44.4	6	-0.6	0.0	41	18 28.7	34.7	6	-0.5	0.0
42	30 20.4	53.7	12	-1.4	0.0	42	23 51.3	44.3	12	-1.2	0.0	42	18 23.8	34.6	12	-1.0	0.0
43	30 13.5	53.6	18	-2.1	0.0	43	23 45.3	44.1	18	-1.8	0.0	43	18 18.9	34.4	18	-1.4	0.0
44	30 6.6	53.4	24	-2.8	-0.1	44	23 39.3	44.0	24	-2.4	-0.1	44	18 14.1	34.3	24	-1.9	-0.1
45	29 59.7	53.3	30	-3.5	-0.1	45	23 33.3	43.8	30	-3.0	-0.1	45	18 9.3	34.1	30	-2.4	-0.1
46	29 52.8	53.1	36	-4.1	-0.1	46	23 27.4	43.6	36	-3.6	-0.1	46	18 4.5	33.9	36	-2.9	-0.1
47	29 45.9	53.0	42	-4.8	-0.1	47	23 21.4	43.5	42	-4.2	-0.1	47	17 59.7	33.7	42	-3.4	-0.1
48	29 39.1	52.8	48	-5.5	-0.1	48	23 15.5	43.3	48	-4.8	-0.1	48	17 54.9	33.6	48	-3.8	-0.1
49	29 32.2	52.7	54	-6.2	-0.1	49	23 9.6	43.2	54	-5.4	-0.1	49	17 50.2	33.4	54	-4.3	-0.1
50	29 25.4	52.5				50	23 3.8	43.0				50	17 45.5	33.2			
51	29 18.6	52.3	6	-0.7	0.0	51	22 57.9	42.8	6	-0.6	0.0	51	17 40.8	33.0	6	-0.5	0.0
52	29 11.8	52.2	12	-1.3	0.0	52	22 52.1	42.7	12	-1.2	0.0	52	17 36.1	32.9	12	-0.9	0.0
53	29 5.0	52.0	18	-2.0	0.0	53	22 46.3	42.5	18	-1.7	0.0	53	17 31.4	32.7	18	-1.4	0.0
54	28 58.2	51.9	24	-2.7	-0.1	54	22 40.5	42.4	24	-2.3	-0.1	54	17 26.8	32.6	24	-1.8	-0.1
55	28 51.4	51.7	30	-3.4	-0.1	55	22 34.7	42.2	30	-2.9	-0.1	55	17 22.2	32.4	30	-2.3	-0.1
56	28 44.7	51.5	36	-4.0	-0.1	56	22 28.9	41.0	36	-3.5	-0.1	56	17 17.6	32.2	36	-2.8	-0.1
57	28 38.0	51.4	42	-4.7	-0.1	57	22 23.1	41.9	42	-4.1	-0.1	57	17 13.0	32.0	42	-3.2	-0.1
58	28 31.3	51.2	48	-5.4	-0.1	58	22 17.4	41.7	48	-4.6	-0.1	58	17 8.5	31.9	48	-3.7	-0.1
59	28 24.6	51.1	54	-6.1	-0.1	59	22 11.7	41.6	54	-5.2	-0.1	59	17 3.9	31.7	54	-4.1	-0.1
m Std- wkl.	Höhe	Azimet	Δt	Δh	ΔA	m Std- wkl.	Höhe	Azimet	Δt	Δh	ΔA	m Std- wkl.	Höhe	Azimet	Δt	Δh	ΔA
	6. Stunde						7. Stunde						8. Stunde				
Δh	+ 0.8	+ 1.6	+ 2.3			Δh	+ 0.8	+ 1.7	+ 2.5			Δh	+ 0.9	+ 1.8	+ 2.7		
ΔA	—	—	—			ΔA	—	—	—			ΔA	—	—	—		

 α 1917 = 20^b 38^m 37^s Jährliche Änderung + 2^s 0

55°N

 α Cygni (Deneb)

55°N

Std- wkl. m.	9. Stunde					Std- wkl. m.	10. Stunde					Std- wkl. m.	11. Stunde				
	Höhe	Azimet	Δt	Δh	ΔA		Höhe	Azimet	Δt	Δh	ΔA		Höhe	Azimet	Δt	Δh	ΔA
0	16°59'.5	31°5	sek			0	13°9'.8	21°3	sek			0	10°47'.3	10°7	sek		
1	16 55.0	31.3	6	-0.4	0°0	1	13 6.8	21.1	6	-0.3	0°0	1	10 45.8	10.5	6	-0.1	0°0
2	16 50.5	31.2	12	-0.9	0.0	2	13 3.7	21.0	12	-0.6	0.0	2	10 44.3	10.4	12	-0.3	0.0
3	16 46.0	31.0	18	-1.3	0.0	3	13 0.6	20.8	18	-0.9	-0.1	3	10 42.7	10.2	18	-0.4	-0.1
4	16 41.6	30.9	24	-1.8	-0.1	4	12 57.6	20.7	24	-1.2	-0.1	4	10 41.2	10.0	24	-0.6	-0.1
5	16 37.2	30.7	30	-2.2	-0.1	5	12 54.6	20.5	30	-1.5	-0.1	5	10 39.7	9.9	30	-0.7	-0.1
6	16 32.9	30.5	36	-2.6	-0.1	6	12 51.6	20.3	36	-1.8	-0.1	6	10 38.3	9.7	36	-0.9	-0.1
7	16 28.6	30.4	42	-3.1	-0.1	7	12 48.6	20.1	42	-2.1	-0.1	7	10 36.8	9.5	42	-1.0	-0.1
8	16 24.2	30.2	48	-3.5	-0.1	8	12 45.6	20.0	48	-2.4	-0.1	8	10 35.4	9.4	48	-1.2	-0.1
9	16 19.9	30.1	54	-4.0	-0.1	9	12 42.7	19.8	54	-2.7	-0.2	9	10 34.0	9.2	54	-1.3	-0.2
10	16 15.6	29.9				10	12 39.8	19.6				10	10 32.7	9.0			
11	16 11.3	29.7	6	-0.4	0.0	11	12 36.9	19.4	6	-0.3	0.0	11	10 31.4	8.8	6	-0.1	0.0
12	16 7.0	29.6	12	-0.8	0.0	12	12 34.1	19.2	12	-0.6	0.0	12	10 30.1	8.6	12	-0.2	0.0
13	16 2.8	29.4	18	-1.3	-0.1	13	12 31.3	19.1	18	-0.8	-0.1	13	10 28.8	8.5	18	-0.4	-0.1
14	15 58.6	29.3	24	-1.7	-0.1	14	12 28.5	18.9	24	-1.1	-0.1	14	10 27.6	8.3	24	-0.5	-0.1
15	15 54.4	29.1	30	-2.1	-0.1	15	12 25.7	18.7	30	-1.4	-0.1	15	10 26.3	8.1	30	-0.6	-0.1
16	15 50.2	28.9	36	-2.5	-0.1	16	12 23.0	18.5	36	-1.7	-0.1	16	10 25.1	7.9	36	-0.7	-0.1
17	15 46.1	28.7	42	-2.9	-0.1	17	12 20.3	18.3	42	-2.0	-0.1	17	10 23.9	7.7	42	-0.8	-0.1
18	15 42.0	28.6	48	-3.4	-0.1	18	12 17.6	18.2	48	-2.2	-0.1	18	10 22.8	7.6	48	-1.0	-0.1
19	15 37.9	28.4	54	-3.8	-0.2	19	12 14.9	18.0	54	-2.5	-0.2	19	10 21.7	7.4	54	-1.1	-0.2
20	15 33.8	28.2				20	12 12.2	17.8				20	10 20.6	7.2			
21	15 29.7	28.0	6	-0.4	0.0	21	12 9.6	17.6	6	-0.2	0.0	21	10 19.6	7.0	6	-0.1	0.0
22	15 25.7	27.9	12	-0.8	0.0	22	12 7.0	17.5	12	-0.5	0.0	22	10 18.6	6.8	12	-0.2	0.0
23	15 21.7	27.7	18	-1.2	-0.1	23	12 4.4	17.3	18	-0.7	-0.1	23	10 17.6	6.7	18	-0.3	-0.1
24	15 17.7	27.6	24	-1.6	-0.1	24	12 1.9	17.2	24	-1.0	-0.1	24	10 16.6	6.5	24	-0.4	-0.1
25	15 13.7	27.4	30	-2.0	-0.1	25	11 59.4	17.0	30	-1.2	-0.1	25	10 15.6	6.3	30	-0.4	-0.1
26	15 9.8	27.2	36	-2.4	-0.1	26	11 56.9	16.8	36	-1.5	-0.1	26	10 14.7	6.1	36	-0.5	-0.1
27	15 5.9	27.0	42	-2.8	-0.1	27	11 54.4	16.6	42	-1.7	-0.1	27	10 13.8	5.9	42	-0.6	-0.1
28	15 2.0	26.9	48	-3.2	-0.1	28	11 52.0	16.5	48	-2.0	-0.1	28	10 12.9	5.8	48	-0.7	-0.1
29	14 58.1	26.7	54	-3.6	-0.2	29	11 49.6	16.3	54	-2.2	-0.2	29	10 12.1	5.6	54	-0.8	-0.2
30	14 54.3	26.5				30	11 47.2	16.1				30	10 11.3	5.4			
31	14 50.5	26.3	6	-0.4	0.0	31	11 44.8	15.9	6	-0.2	0.0	31	10 10.5	5.2	6	-0.1	0.0
32	14 46.7	26.2	12	-0.7	0.0	32	11 42.5	15.7	12	-0.5	0.0	32	10 9.7	5.0	12	-0.1	0.0
33	14 42.9	26.0	18	-1.1	-0.1	33	11 40.2	15.6	18	-0.7	-0.1	33	10 9.0	4.9	18	-0.2	-0.1
34	14 39.2	25.9	24	-1.5	-0.1	34	11 37.9	15.4	24	-0.9	-0.1	34	10 8.3	4.7	24	-0.3	-0.1
35	14 35.4	25.7	30	-1.8	-0.1	35	11 35.6	15.2	30	-1.1	-0.1	35	10 7.6	4.5	30	-0.3	-0.1
36	14 31.7	25.5	36	-2.2	-0.1	36	11 33.4	15.0	36	-1.4	-0.1	36	10 6.9	4.3	36	-0.4	-0.1
37	14 28.0	25.3	42	-2.6	-0.1	37	11 31.2	14.8	42	-1.6	-0.1	37	10 6.3	4.1	42	-0.5	-0.1
38	14 24.4	25.2	48	-3.0	-0.1	38	11 29.0	14.7	48	-1.8	-0.1	38	10 5.7	4.0	48	-0.6	-0.1
39	14 20.7	25.0	54	-3.3	-0.2	39	11 26.8	14.5	54	-2.1	-0.2	39	10 5.1	3.8	54	-0.6	-0.2
40	14 17.1	24.8				40	11 24.6	14.3				40	10 4.5	3.6			
41	14 13.5	24.6	6	-0.3	0.0	41	11 22.5	14.1	6	-0.2	0.0	41	10 4.0	3.4	6	0.0	0.0
42	14 10.0	24.4	12	-0.7	0.0	42	11 20.4	13.9	12	-0.4	0.0	42	10 3.5	3.2	12	-0.1	0.0
43	14 6.4	24.3	18	-1.0	-0.1	43	11 18.4	13.8	18	-0.6	-0.1	43	10 3.0	3.1	18	-0.1	-0.1
44	14 2.9	24.1	24	-1.4	-0.1	44	11 16.4	13.6	24	-0.8	-0.1	44	10 2.6	2.9	24	-0.2	-0.1
45	13 59.4	23.9	30	-1.7	-0.1	45	11 14.4	13.4	30	-1.0	-0.1	45	10 2.2	2.7	30	-0.2	-0.1
46	13 55.9	23.7	36	-2.1	-0.1	46	11 12.4	13.2	36	-1.2	-0.1	46	10 1.8	2.5	36	-0.2	-0.1
47	13 52.4	23.5	42	-2.4	-0.1	47	11 10.4	13.0	42	-1.4	-0.1	47	10 1.4	2.3	42	-0.3	-0.1
48	13 49.0	23.4	48	-2.8	-0.1	48	11 8.5	12.9	48	-1.6	-0.1	48	10 1.0	2.2	48	-0.3	-0.1
49	13 45.6	23.2	54	-3.1	-0.2	49	11 6.6	12.7	54	-1.8	-0.2	49	10 0.7	2.0	54	-0.4	-0.2
50	13 42.2	23.0				50	11 4.7	12.5				50	10 0.5	1.8			
51	13 38.8	22.8	6	-0.3	0.0	51	11 2.8	12.3	6	-0.2	0.0	51	10 0.2	1.6	6	0.0	0.0
52	13 35.5	22.7	12	-0.7	0.0	52	11 1.0	12.1	12	-0.4	0.0	52	10 0.0	1.4	12	0.0	0.0
53	13 32.2	22.5	18	-1.0	-0.1	53	10 59.2	12.0	18	-0.5	-0.1	53	9 59.8	1.3	18	-0.1	-0.1
54	13 29.0	22.4	24	-1.3	-0.1	54	10 57.5	11.8	24	-0.7	-0.1	54	9 59.6	1.1	24	-0.1	-0.1
55	13 25.7	22.2	30	-1.6	-0.1	55	10 55.7	11.6	30	-0.9	-0.1	55	9 59.4	0.9	30	-0.1	-0.1
56	13 22.5	22.0	36	-2.0	-0.1	56	10 54.0	11.4	36	-1.1	-0.1	56	9 59.3	0.7	36	-0.1	-0.1
57	13 19.3	21.8	42	-2.3	-0.1	57	10 52.3	11.2	42	-1.3	-0.1	57	9 59.3	0.5	42	-0.1	-0.1
58	13 16.1	21.7	48	-2.6	-0.1	58	10 50.6	11.1	48	-1.4	-0.1	58	9 59.2	0.4	48	-0.2	-0.1
59	13 12.9	21.5	54	-3.0	-0.2	59	10 48.9	10.9	54	-1.6	-0.2	59	9 59.2	0.2	54	-0.2	-0.2
Std- wkl. m.	Höhe	Azimet	Δt	Δh	ΔA	Std- wkl. m.	Höhe	Azimet	Δt	Δh	ΔA	Std- wkl. m.	Höhe	Azimet	Δt	Δh	ΔA
9. Stunde					10. Stunde					11. Stunde							

	1920-1925	1925-1930	1930-1935		1920-1925	1925-1930	1930-1935		1920-1925	1925-1930	1930-1935
Δh	+ 1.0	+ 2.0	+ 2.9	Δh	+ 1.0	+ 2.0	+ 3.1	Δh	+ 1.0	+ 2.1	+ 3.2
ΔA	—	—	—	ΔA	—	—	—	ΔA	—	—	—

 α 1917 = 20^h 38^m 37^s Jährliche Änderung + 2^s 0

77

 α CepheiUrsae minoris
(Nordstern)

55°N

α Cephei

55°N

Std. wkl. m.	1. Stunde					Std. wkl. m.	2. Stunde				
	Höhe	Azimet	Δt	Δh	ΔA		Höhe	Azimet	Δt	Δh	ΔA
0	79° 23.9	41.1	sek			0	72° 59.3	52.9	sek		
1	79 18.3	41.5	6	-0.6	0.0	1	72 52.5	53.0	6	-0.7	
2	79 12.6	41.8	12	-1.2	+0.1	2	72 45.6	53.0	12	-1.4	
3	79 6.8	42.2	18	-1.7	+0.1	3	72 38.7	53.1	18	-2.1	
4	79 1.1	42.5	24	-2.3	+0.1	4	72 31.8	53.1	24	-2.8	
5	78 55.3	42.9	30	-2.9	+0.2	5	72 24.9	53.2	30	-3.5	
6	78 49.4	43.2	36	-3.5	+0.2	6	72 18.0	53.3	36	-4.1	
7	78 43.5	43.5	42	-4.1	+0.2	7	72 11.1	53.3	42	-4.8	
8	78 37.6	43.9	48	-4.6	+0.3	8	72 4.2	53.4	48	-5.5	
9	78 31.6	44.2	54	-5.2	+0.3	9	71 57.3	53.4	54	-6.2	
10	78 25.6	44.5				10	71 50.4	53.5			
11	78 19.6	44.8	6	-0.6	0.0	11	71 43.5	53.5	6	-0.7	
12	78 13.6	45.1	12	-1.2	0.0	12	71 36.6	53.6	12	-1.4	
13	78 7.5	45.3	18	-1.9	+0.1	13	71 29.7	53.6	18	-2.1	
14	78 1.3	45.6	24	-2.5	+0.1	14	71 22.8	53.7	24	-2.8	
15	77 55.2	45.9	30	-3.1	+0.1	15	71 15.9	53.7	30	-3.5	
16	77 49.0	46.1	36	-3.7	+0.1	16	71 8.9	53.8	36	-4.2	
17	77 42.8	46.4	42	-4.3	+0.2	17	71 2.0	53.8	42	-4.9	
18	77 36.6	46.6	48	-5.0	+0.2	18	70 55.0	53.9	48	-5.6	
19	77 30.3	46.9	54	-5.6	+0.2	19	70 48.1	53.9	54	-6.3	
20	77 24.1	47.1				20	70 41.2	54.0			
21	77 17.8	47.3	6	-0.6	0.0	21	70 34.3	54.0	6	-0.7	
22	77 11.4	47.5	12	-1.3	0.0	22	70 27.3	54.0	12	-1.4	
23	77 5.1	47.8	18	-1.9	+0.1	23	70 20.3	54.1	18	-2.1	
24	76 58.8	48.0	24	-2.6	+0.1	24	70 13.3	54.1	24	-2.8	
25	76 52.4	48.2	30	-3.2	+0.1	25	70 6.4	54.1	30	-3.5	
26	76 46.0	48.4	36	-3.8	+0.1	26	69 59.4	54.2	36	-4.2	
27	76 39.6	48.6	42	-4.5	+0.1	27	69 52.4	54.2	42	-4.9	
28	76 33.1	48.8	48	-5.1	+0.2	28	69 45.5	54.2	48	-5.6	
29	76 26.6	49.0	54	-5.8	+0.2	29	69 38.5	54.3	54	-6.3	
30	76 20.1	49.2				30	69 31.5	54.3			
31	76 13.6	49.4	6	-0.7	0.0	31	69 24.5	54.3	6	-0.7	
32	76 7.2	49.5	12	-1.3	0.0	32	69 17.5	54.3	12	-1.4	
33	76 0.7	49.7	18	-2.0	+0.1	33	69 10.5	54.3	18	-2.1	
34	75 54.1	49.8	24	-2.6	+0.1	34	69 3.5	54.3	24	-2.8	
35	75 47.5	50.0	30	-3.3	+0.1	35	68 56.5	54.3	30	-3.5	
36	75 40.9	50.2	36	-4.0	+0.1	36	68 49.6	54.4	36	-4.2	
37	75 34.3	50.3	42	-4.6	+0.1	37	68 42.6	54.4	42	-4.9	
38	75 27.6	50.5	48	-5.3	+0.2	38	68 35.6	54.4	48	-5.6	
39	75 21.0	50.6	54	-5.9	+0.2	39	68 28.6	54.4	54	-6.3	
40	75 14.4	50.8				40	68 21.7	54.4			
41	75 7.8	50.9	6	-0.7		41	68 14.7	54.4	6	-0.7	
42	75 1.1	51.0	12	-1.3		42	68 7.7	54.4	12	-1.4	
43	74 54.4	51.2	18	-2.0		43	68 0.7	54.4	18	-2.1	
44	74 47.8	51.3	24	-2.7		44	67 53.7	54.4	24	-2.8	
45	74 41.1	51.4	30	-3.3		45	67 46.7	54.4	30	-3.5	
46	74 34.3	51.5	36	-4.0		46	67 39.7	54.4	36	-4.2	
47	74 27.6	51.6	42	-4.7		47	67 32.7	54.4	42	-4.9	
48	74 20.8	51.8	48	-5.4		48	67 25.7	54.4	48	-5.6	
49	74 14.1	51.9	54	-6.0		49	67 18.7	54.4	54	-6.3	
50	74 7.3	52.0				50	67 11.7	54.4			
51	74 0.5	52.1	6	-0.7		51	67 4.7	54.4	6	-0.7	
52	73 53.8	52.2	12	-1.4		52	66 57.8	54.4	12	-1.4	
53	73 47.0	52.3	18	-2.0		53	66 50.8	54.4	18	-2.1	
54	73 40.2	52.4	24	-2.7		54	66 43.8	54.4	24	-2.8	
55	73 33.4	52.5	30	-3.4		55	66 36.8	54.4	30	-3.5	
56	73 26.6	52.6	36	-4.1		56	66 29.9	54.4	36	-4.2	
57	73 19.8	52.7	42	-4.8		57	66 22.9	54.4	42	-4.9	
58	73 12.9	52.7	48	-5.4		58	66 15.9	54.3	48	-5.6	
59	73 6.1	52.8	54	-6.1		59	66 8.9	54.3	54	-6.3	
n Std. wkl.	Höhe	Azimet	Δt	Δh	ΔA	m Std. wkl.	Höhe	Azimet	Δt	Δh	ΔA
	1. Stunde						2. Stunde				

	1920-1925	1925-1930	1930-1935		1920-1925	1925-1930	1930-1935
Δh	-0.4	-0.9	-1.3	Δh	-0.1	-0.2	-0.3
ΔA	-0.1	-0.2	-0.3	ΔA	-0.1	-0.1	-0.2

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Std- wkl. m.	3. Stunde					Std- wkl. m.	4. Stunde					Std- wkl. m.	5. Stunde				
	Höhe	Azimit	Δt	Δh	ΔA		Höhe	Azimit	Δt	Δh	ΔA		Höhe	Azimit	Δt	Δh	ΔA
0	66° 1'9	54° 3	sek			0	59° 8'5	51° 9	sek		0	52° 33'6	47° 8	sek			
1	65 54.9	54.3	6	-0.7		1	59 1.7	51.8	6	-0.7	1	52 27.2	47.7	6	-0.6		
2	65 48.0	54.3	12	-1.4		2	58 55.0	51.8	12	-1.3	2	52 20.8	47.6	12	-1.3		
3	65 41.0	54.2	18	-2.1		3	58 48.2	51.7	18	-2.0	3	52 14.4	47.6	18	-1.9		
4	65 34.0	54.2	24	-2.8		4	58 41.5	51.7	24	-2.7	4	52 8.1	47.5	24	-2.5		
5	65 27.0	54.2	30	-3.5		5	58 34.7	51.6	30	-3.3	5	52 1.8	47.4	30	-3.2		
6	65 20.0	54.2	36	-4.2		6	58 28.0	51.5	36	-4.0	6	51 55.5	47.3	36	-3.8		
7	65 13.0	54.2	42	-4.9		7	58 21.2	51.5	42	-4.7	7	51 49.2	47.2	42	-4.4		
8	65 6.1	54.1	48	-5.6		8	58 14.5	51.4	48	-5.4	8	51 42.9	47.2	48	-5.1		
9	64 59.1	54.1	54	-6.3		9	58 7.7	51.4	54	-6.0	9	51 36.6	47.1	54	-5.7		
10	64 52.2	54.1				10	58 1.0	51.3			10	51 30.3	47.0				
11	64 45.2	54.1	6	-0.7		11	57 54.3	51.2	6	-0.7	11	51 24.0	46.9	6	-0.6		
12	64 38.3	54.0	12	-1.4		12	57 47.6	51.2	12	-1.3	12	51 17.7	46.8	12	-1.2		
13	64 31.3	54.0	18	-2.1		13	57 40.9	51.1	18	-2.0	13	51 11.4	46.8	18	-1.9		
14	64 24.4	54.0	24	-2.8		14	57 34.2	51.1	24	-2.7	14	51 5.1	46.7	24	-2.5		
15	64 17.4	54.0	30	-3.5		15	57 27.6	51.0	30	-3.3	15	50 58.9	46.6	30	-3.1		
16	64 10.5	53.9	36	-4.2		16	57 21.0	50.9	36	-4.0	16	50 52.7	46.5	36	-3.7		
17	64 3.5	53.9	42	-4.9		17	57 14.3	50.9	42	-4.7	17	50 46.4	46.4	42	-4.4		
18	63 56.6	53.9	48	-5.6		18	57 7.6	50.8	48	-5.4	18	50 40.2	46.4	48	-5.0		
19	63 49.7	53.8	54	-6.3		19	57 0.9	50.8	54	-6.0	19	50 34.0	46.3	54	-5.6		
20	63 42.8	53.8				20	56 54.3	50.7			20	50 27.8	46.2				
21	63 35.8	53.8	6	-0.7		21	56 47.6	50.6	6	-0.7	21	50 21.6	46.1	6	-0.6		
22	63 28.9	53.7	12	-1.4		22	56 41.0	50.6	12	-1.3	22	50 15.4	46.0	12	-1.2		
23	63 22.0	53.7	18	-2.1		23	56 34.3	50.5	18	-2.0	23	50 9.2	46.0	18	-1.8		
24	63 15.1	53.6	24	-2.8		24	56 27.7	50.5	24	-2.7	24	50 3.1	45.9	24	-2.5		
25	63 8.2	53.6	30	-3.5		25	56 21.0	50.4	30	-3.3	25	49 56.9	45.8	30	-3.1		
26	63 1.2	53.6	36	-4.2		26	56 14.4	50.3	36	-4.0	26	49 50.8	45.7	36	-3.7		
27	62 54.3	53.5	42	-4.9		27	56 7.8	50.2	42	-4.7	27	49 44.6	45.6	42	-4.3		
28	62 47.4	53.5	48	-5.6		28	56 1.2	50.2	48	-5.4	28	49 38.5	45.5	48	-4.9		
29	62 40.5	53.4	54	-6.3		29	55 54.6	50.1	54	-6.0	29	49 32.4	45.4	54	-5.5		
30	62 33.7	53.4				30	55 48.1	50.0			30	49 26.3	45.3				
31	62 26.8	53.4	6	-0.7		31	55 41.5	49.9	6	-0.7	31	49 20.2	45.2	6	-0.6		
32	62 19.9	53.3	12	-1.4		32	55 34.9	49.9	12	-1.3	32	49 14.1	45.1	12	-1.2		
33	62 13.0	53.3	18	-2.1		33	55 28.3	49.8	18	-2.0	33	49 8.0	45.1	18	-1.8		
34	62 6.1	53.2	24	-2.8		34	55 21.8	49.8	24	-2.6	34	49 1.9	45.0	24	-2.4		
35	61 59.2	53.2	30	-3.5		35	55 15.2	49.7	30	-3.3	35	48 55.8	44.9	30	-3.0		
36	61 52.3	53.2	36	-4.1		36	55 8.7	49.6	36	-3.9	36	48 49.8	44.8	36	-3.6		
37	61 45.4	53.1	42	-4.8		37	55 2.1	49.5	42	-4.6	37	48 43.7	44.7	42	-4.2		
38	61 38.5	53.1	48	-5.5		38	54 55.6	49.4	48	-5.2	38	48 37.7	44.6	48	-4.8		
39	61 31.6	53.0	54	-6.2		39	54 49.0	49.4	54	-5.9	39	48 31.6	44.5	54	-5.4		
40	61 24.8	53.0				40	54 42.5	49.3			40	48 25.6	44.4				
41	61 17.9	52.9	6	-0.7		41	54 36.0	49.2	6	-0.6	41	48 19.6	44.3	6	-0.6		
42	61 11.1	52.9	12	-1.4		42	54 29.5	49.2	12	-1.3	42	48 13.6	44.2	12	-1.2		
43	61 4.2	52.8	18	-2.1		43	54 23.0	49.1	18	-1.9	43	48 7.6	44.2	18	-1.8		
44	60 57.4	52.8	24	-2.8		44	54 16.5	49.1	24	-2.6	44	48 1.6	44.1	24	-2.4		
45	60 50.6	52.7	30	-3.5		45	54 10.0	49.0	30	-3.2	45	47 55.7	44.0	30	-3.0		
46	60 43.8	52.7	36	-4.1		46	54 3.5	48.9	36	-3.9	46	47 49.8	43.9	36	-3.6		
47	60 36.9	52.6	42	-4.8		47	53 57.0	48.8	42	-4.5	47	47 43.8	43.8	42	-4.2		
48	60 30.1	52.6	48	-5.5		48	53 50.5	48.8	48	-5.2	48	47 37.9	43.8	48	-4.8		
49	60 23.2	52.5	54	-6.2		49	53 44.0	48.7	54	-5.8	49	47 31.9	43.7	54	-5.4		
50	60 16.4	52.5				50	53 37.6	48.6			50	47 26.0	43.6				
51	60 9.6	52.4	6	-0.7		51	53 31.1	48.5	6	-0.6	51	47 20.1	43.5	6	-0.6		
52	60 2.8	52.4	12	-1.4		52	53 24.7	48.4	12	-1.3	52	47 14.2	43.4	12	-1.2		
53	59 56.0	52.3	18	-2.0		53	53 18.2	48.4	18	-1.9	53	47 8.3	43.3	18	-1.8		
54	59 49.2	52.2	24	-2.7		54	53 11.8	48.3	24	-2.6	54	47 2.4	43.2	24	-2.4		
55	59 42.4	52.2	30	-3.4		55	53 5.4	48.2	30	-3.2	55	46 56.5	43.1	30	-3.0		
56	59 35.6	52.1	36	-4.1		56	52 59.0	48.1	36	-3.8	56	46 50.6	43.0	36	-3.5		
57	59 28.8	52.1	42	-4.8		57	52 52.6	48.0	42	-4.5	57	46 44.7	42.9	42	-4.1		
58	59 22.0	52.0	48	-5.4		58	52 46.2	48.0	48	-5.1	58	46 38.9	42.8	48	-4.7		
59	59 15.2	52.0	54	-6.1		59	52 39.8	47.9	54	-5.8	59	46 33.1	42.7	54	-5.3		
m Std- wkl.	Höhe	Azimit	Δt	Δh	ΔA	m Std- wkl.	Höhe	Azimit	Δt	Δh	ΔA	m Std- wkl.	Höhe	Azimit	Δt	Δh	ΔA
	3. Stunde						4. Stunde						5. Stunde				

	1920-1925	1925-1930	1930-1935		1920-1925	1925-1930	1930-1935		1920-1925	1925-1930	1930-1935
Δh	+0.2	+0.4	+0.6	Δh	+0.4	+0.8	+1.2	Δh	+0.6	+1.1	+1.7
ΔA	-0.1	-0.1	-0.2	ΔA	—	-0.1	-0.1	ΔA	—	-0.1	-0.1

 α CepheiUrsae minoris
(Nordstern)

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Std. wkl. m.	6. Stunde					Std. wkl. m.	7. Stunde					Std. wkl. m.	8. Stunde				
	Höhe	Azimet	Δt	Δh	ΔA		Höhe	Azimet	Δt	Δh	ΔA		Höhe	Azimet	Δt	Δh	ΔA
0	46° 27' 4	42° 6	sek			0	40° 58' 3	36° 6	sek			0	36° 14' 7	30° 0	sek		
1	46 21.5	42.5	6	-0.6		1	40 53.2	36.5	6	-0.5		1	36 10.4	29.9	6	-0.4	
2	46 15.7	42.4	12	-1.2		2	40 48.1	36.4	12	-1.0		2	36 6.1	29.8	12	-0.8	
3	46 9.9	42.3	18	-1.7		3	40 43.0	36.3	18	-1.5		3	36 1.8	29.7	18	-1.3	
4	46 4.1	42.2	24	-2.3		4	40 37.9	36.2	24	-2.0		4	35 57.6	29.6	24	-1.7	
5	45 58.3	42.1	30	-2.9		5	40 32.8	36.1	30	-2.5		5	35 53.3	29.5	30	-2.1	
6	45 52.6	42.0	36	-3.5		6	40 27.8	36.0	36	-3.0		6	35 49.1	29.4	36	-2.5	
7	45 46.8	41.9	42	-4.1		7	40 22.7	35.9	42	-3.5		7	35 44.9	29.3	42	-2.9	
8	45 41.1	41.8	48	-4.6		8	40 17.7	35.7	48	-4.0		8	35 40.7	29.1	48	-3.4	
9	45 35.3	41.7	54	-5.2		9	40 12.7	35.6	54	-4.5		9	35 36.5	29.0	54	-3.8	
10	45 29.6	41.6				10	40 7.7	35.5				10	35 32.3	28.9			
11	45 23.9	41.5	6	-0.6		11	40 2.7	35.4	6	-0.5		11	35 28.2	28.8	6	-0.4	
12	45 18.2	41.4	12	-1.1		12	39 57.7	35.3	12	-1.0		12	35 24.1	28.7	12	-0.8	
13	45 12.5	41.3	18	-1.7		13	39 52.7	35.2	18	-1.5		13	35 20.0	28.5	18	-1.2	
14	45 6.8	41.2	24	-2.3		14	39 47.8	35.1	24	-2.0		14	35 15.9	28.4	24	-1.6	
15	45 1.1	41.2	30	-2.8		15	39 42.8	35.0	30	-2.5		15	35 11.9	28.3	30	-2.0	
16	44 55.5	41.1	36	-3.4		16	39 37.9	34.9	36	-3.0		16	35 7.8	28.2	36	-2.5	
17	44 49.8	41.0	42	-4.0		17	39 33.0	34.8	42	-3.5		17	35 3.7	28.1	42	-2.9	
18	44 44.2	40.9	48	-4.6		18	39 28.1	34.7	48	-4.0		18	34 59.7	27.9	48	-3.3	
19	44 38.6	40.8	54	-5.1		19	39 23.2	34.6	54	-4.5		19	34 55.6	27.8	54	-3.7	
20	44 33.0	40.7				20	39 18.3	34.5				20	34 51.6	27.7			
21	44 27.4	40.6	6	-0.6		21	39 13.4	34.4	6	-0.5		21	34 47.6	27.6	6	-0.4	
22	44 21.8	40.5	12	-1.1		22	39 8.6	34.3	12	-1.0		22	34 43.7	27.5	12	-0.8	
23	44 16.2	40.4	18	-1.7		23	39 3.7	34.2	18	-1.4		23	34 39.7	27.4	18	-1.2	
24	44 10.7	40.3	24	-2.2		24	38 58.9	34.1	24	-1.9		24	34 35.8	27.3	24	-1.6	
25	44 5.1	40.2	30	-2.8		25	38 54.1	34.0	30	-2.4		25	34 31.8	27.2	30	-2.0	
26	43 59.6	40.1	36	-3.4		26	38 49.3	33.9	36	-2.9		26	34 27.9	27.1	36	-2.3	
27	43 54.0	40.0	42	-3.9		27	38 44.5	33.8	42	-3.4		27	34 24.0	27.0	42	-2.7	
28	43 48.5	39.9	48	-4.5		28	38 39.7	33.6	48	-3.8		28	34 20.1	26.8	48	-3.1	
29	43 43.0	39.8	54	-5.0		29	38 35.0	33.5	54	-4.3		29	34 16.2	26.7	54	-3.5	
30	43 37.6	39.7				30	38 30.3	33.4				30	34 12.4	26.6			
31	43 32.1	39.6	6	-0.5		31	38 25.6	33.3	6	-0.5		31	34 8.5	26.5	6	-0.4	
32	43 26.6	39.5	12	-1.1		32	38 20.9	33.2	12	-0.9		32	34 4.7	26.4	12	-0.8	
33	43 21.1	39.4	18	-1.6		33	38 16.2	33.1	18	-1.4		33	34 0.9	26.2	18	-1.1	
34	43 15.7	39.3	24	-2.2		34	38 11.5	33.0	24	-1.9		34	33 57.1	26.1	24	-1.5	
35	43 10.2	39.2	30	-2.7		35	38 6.8	32.9	30	-2.3		35	33 53.3	26.0	30	-1.9	
36	43 4.8	39.1	36	-3.3		36	38 2.2	32.8	36	-2.8		36	33 49.6	25.9	36	-2.3	
37	42 59.4	39.0	42	-3.8		37	37 57.5	32.7	42	-3.4		37	33 45.8	25.8	42	-2.7	
38	42 54.0	38.9	48	-4.4		38	37 52.9	32.6	48	-3.7		38	33 42.1	25.7	48	-3.0	
39	42 48.6	38.8	54	-4.9		39	37 48.3	32.4	54	-4.2		39	33 38.4	25.5	54	-3.4	
40	42 43.2	38.7				40	37 43.7	32.3				40	33 34.7	25.4			
41	42 37.8	38.6	6	-0.5		41	37 39.1	32.2	6	-0.4		41	33 31.0	25.3	6	-0.4	
42	42 32.5	38.5	12	-1.1		42	37 34.5	32.1	12	-0.9		42	33 27.3	25.2	12	-0.7	
43	42 27.1	38.4	18	-1.6		43	37 29.9	32.0	18	-1.3		43	33 23.7	25.0	18	-1.1	
44	42 21.8	38.3	24	-2.1		44	37 25.4	31.9	24	-1.8		44	33 20.1	24.9	24	-1.4	
45	42 16.6	38.2	30	-2.6		45	37 20.8	31.8	30	-2.2		45	33 16.5	24.8	30	-1.8	
46	42 11.3	38.1	36	-3.2		46	37 16.3	31.7	36	-2.7		46	33 12.9	24.7	36	-2.2	
47	42 6.0	38.0	42	-3.7		47	37 11.8	31.6	42	-3.1		47	33 9.3	24.6	42	-2.5	
48	42 0.7	37.9	48	-4.2		48	37 7.3	31.4	48	-3.6		48	33 5.7	24.4	48	-2.9	
49	41 55.4	37.8	54	-4.8		49	37 2.9	31.3	54	-4.0		49	33 2.1	24.3	54	-3.2	
50	41 50.2	37.7				50	36 58.5	31.2				50	32 58.6	24.2			
51	41 44.9	37.6	6	-0.5		51	36 54.0	31.1	6	-0.4		51	32 55.1	24.1	6	-0.3	
52	41 39.7	37.5	12	-1.0		52	36 49.6	31.0	12	-0.9		52	32 51.6	24.0	12	-0.7	
53	41 34.5	37.4	18	-1.6		53	36 45.2	30.8	18	-1.3		53	32 48.1	23.8	18	-1.0	
54	41 29.3	37.3	24	-2.1		54	36 40.8	30.7	24	-1.8		54	32 44.7	23.7	24	-1.4	
55	41 24.1	37.2	30	-2.6		55	36 36.4	30.6	30	-2.2		55	32 41.2	23.6	30	-1.7	
56	41 18.9	37.1	36	-3.1		56	36 32.0	30.5	36	-2.6		56	32 37.8	23.5	36	-2.0	
57	41 13.7	37.0	42	-3.6		57	36 27.6	30.4	42	-3.1		57	32 34.4	23.4	42	-2.4	
58	41 8.5	36.9	48	-4.2		58	36 23.3	30.2	48	-3.5		58	32 31.1	23.2	48	-2.7	
59	41 3.3	36.8	54	-4.7		59	36 19.0	30.1	54	-4.0		59	32 27.7	23.1	54	-3.1	
m Std. wkl.	Höhe	Azimet	Δt	Δh	ΔA	m Std. wkl.	Höhe	Azimet	Δt	Δh	ΔA	m Std. wkl.	Höhe	Azimet	Δt	Δh	ΔA
	6. Stunde						7. Stunde						8. Stunde				

	1920-1925	1925-1930	1930-1935		1920-1925	1925-1930	1930-1935		1920-1925	1925-1930	1930-1935
Δh	+ 0.8	+ 1.6	+ 2.4	Δh	+ 0.9	+ 1.8	+ 2.7	Δh	+ 1.0	+ 2.1	+ 3.2
ΔA	—	—	- 0.1	ΔA	—	—	- 0.1	ΔA	—	—	—

 α 1917 - 21^b 16^m 36^s Jährliche Änderung + 1^s 4

55°N

α Cephei

55°N

Std. wkl. m.	9. Stunde					Std. wkl. m.	10. Stunde					Std. wkl. m.	11. Stunde				
	Höhe	Azimit	Δt	Δh	ΔA		Höhe	Azimit	Δt	Δh	ΔA		Höhe	Azimit	Δt	Δh	ΔA
0	32°24.3	23.0	sek			0	29°34.0	15.05	sek			0	27°49.4	7.08	sek		
1	32 20.7	22.9	6	-0.3		1	29 31.7	15.4	6	-0.2		1	27 48.2	7.7	6	-0.1	
2	32 17.6	22.8	12	-0.7		2	29 29.5	15.3	12	-0.4		2	27 47.1	7.6	12	-0.2	
3	32 14.3	22.6	18	-1.0		3	29 27.2	15.1	18	-0.7		3	27 46.0	7.4	18	-0.3	
4	32 11.0	22.5	24	-1.3		4	29 25.0	15.0	24	-0.9		4	27 44.9	7.3	24	-0.4	
5	32 7.7	22.4	30	-1.6		5	29 22.8	14.9	30	-1.1		5	27 43.8	7.2	30	-0.5	
6	32 4.5	22.3	36	-2.0		6	29 20.6	14.8	36	-1.3		6	27 42.8	7.1	36	-0.7	
7	32 1.2	22.2	42	-2.3		7	29 18.4	14.7	42	-1.5		7	27 41.7	6.9	42	-0.8	
8	31 58.0	22.0	48	-2.6		8	29 16.2	14.5	48	-1.8		8	27 40.7	6.8	48	-0.9	
9	31 54.8	21.9	54	-3.0		9	29 14.0	14.4	54	-2.0		9	27 39.7	6.6	54	-1.0	
10	31 51.6	21.8				10	29 11.9	14.3				10	27 38.7	6.5			
11	31 48.4	21.7	6	-0.3		11	29 9.8	14.2	6	-0.2		11	27 37.7	6.4	6	-0.1	
12	31 45.2	21.6	12	-0.6		12	29 7.7	14.1	12	-0.4		12	27 36.7	6.3	12	-0.2	
13	31 42.0	21.4	18	-0.9		13	29 5.6	13.9	18	-0.6		13	27 35.8	6.1	18	-0.3	
14	31 38.9	21.3	24	-1.2		14	29 3.6	13.8	24	-0.8		14	27 34.9	6.0	24	-0.4	
15	31 35.8	21.2	30	-1.5		15	29 1.5	13.7	30	-1.0		15	27 34.0	5.9	30	-0.5	
16	31 32.7	21.1	36	-1.9		16	28 59.5	13.6	36	-1.2		16	27 33.1	5.8	36	-0.5	
17	31 29.6	20.9	42	-2.2		17	28 57.5	13.4	42	-1.4		17	27 32.2	5.6	42	-0.6	
18	31 26.6	20.8	48	-2.5		18	28 55.5	13.3	48	-1.6		18	27 31.4	5.5	48	-0.7	
19	31 23.5	20.6	54	-2.8		19	28 53.5	13.1	54	-1.8		19	27 30.6	5.3	54	-0.8	
20	31 20.5	20.5				20	28 51.6	13.0				20	27 29.8	5.2			
21	31 17.5	20.4	6	-0.3		21	28 49.7	12.9	6	-0.2		21	27 29.0	5.1	6	-0.1	
22	31 14.5	20.3	12	-0.6		22	28 47.8	12.8	12	-0.4		22	27 28.3	5.0	12	-0.1	
23	31 11.5	20.1	18	-0.9		23	28 45.9	12.6	18	-0.5		23	27 27.5	4.8	18	-0.2	
24	31 8.5	20.0	24	-1.2		24	28 44.0	12.5	24	-0.7		24	27 26.8	4.7	24	-0.3	
25	31 5.6	19.9	30	-1.5		25	28 42.1	12.4	30	-0.9		25	27 26.1	4.6	30	-0.3	
26	31 2.7	19.8	36	-1.7		26	28 40.3	12.3	36	-1.1		26	27 25.5	4.5	36	-0.4	
27	30 59.8	19.7	42	-2.0		27	28 38.5	12.1	42	-1.3		27	27 24.8	4.3	42	-0.5	
28	30 56.9	19.5	48	-2.3		28	28 36.7	12.0	48	-1.4		28	27 24.2	4.2	48	-0.6	
29	30 54.1	19.4	54	-2.6		29	28 34.9	11.8	54	-1.6		29	27 23.6	4.0	54	-0.6	
30	30 51.3	19.3				30	28 33.2	11.7				30	27 23.0	3.9			
31	30 48.4	19.2	6	-0.3		31	28 31.4	11.6	6	-0.2		31	27 22.4	3.8	6	0.0	
32	30 45.6	19.1	12	-0.6		32	28 29.7	11.5	12	-0.3		32	27 21.8	3.7	12	-0.1	
33	30 42.8	18.9	18	-0.8		33	28 28.0	11.3	18	-0.5		33	27 21.3	3.5	18	-0.1	
34	30 40.0	18.8	24	-1.1		34	28 26.3	11.2	24	-0.7		34	27 20.8	3.4	24	-0.2	
35	30 37.2	18.7	30	-1.4		35	28 24.6	11.1	30	-0.8		35	27 20.3	3.3	30	-0.2	
36	30 34.5	18.6	36	-1.7		36	28 23.0	11.0	36	-1.0		36	27 19.8	3.2	36	-0.3	
37	30 31.8	18.5	42	-2.0		37	28 21.4	10.8	42	-1.2		37	27 19.3	3.0	42	-0.3	
38	30 29.1	18.3	48	-2.2		38	28 19.8	10.7	48	-1.4		38	27 18.9	2.9	48	-0.4	
39	30 26.4	18.2	54	-2.5		39	28 18.2	10.5	54	-1.5		39	27 18.4	2.7	54	-0.4	
40	30 23.7	18.1				40	28 16.6	10.4				40	27 18.0	2.6			
41	30 21.0	18.0	6	-0.3		41	28 15.1	10.3	6	-0.1		41	27 17.6	2.5	6	0.0	
42	30 18.4	17.9	12	-0.5		42	28 13.6	10.2	12	-0.3		42	27 17.3	2.4	12	-0.1	
43	30 15.8	17.7	18	-0.8		43	28 12.1	10.1	18	-0.4		43	27 16.9	2.2	18	-0.1	
44	30 13.2	17.6	24	-1.0		44	28 10.6	9.9	24	-0.6		44	27 16.6	2.1	24	-0.1	
45	30 10.6	17.5	30	-1.3		45	28 9.1	9.8	30	-0.7		45	27 16.3	2.0	30	-0.1	
46	30 8.0	17.4	36	-1.6		46	28 7.7	9.7	36	-0.9		46	27 16.0	1.9	36	-0.2	
47	30 5.4	17.2	42	-1.8		47	28 6.2	9.5	42	-1.0		47	27 15.7	1.8	42	-0.2	
48	30 2.9	17.1	48	-2.1		48	28 4.8	9.4	48	-1.2		48	27 15.5	1.6	48	-0.2	
49	30 0.4	16.9	54	-2.3		49	28 3.4	9.2	54	-1.3		49	27 15.3	1.4	54	-0.3	
50	29 57.9	16.8				50	28 2.0	9.1				50	27 15.1	1.3			
51	29 55.4	16.7	6	-0.2		51	28 0.6	9.0	6	-0.1		51	27 14.9	1.2	6	0.0	
52	29 53.0	16.6	12	-0.5		52	27 59.3	8.9	12	-0.3		52	27 14.7	1.1	12	0.0	
53	29 50.5	16.4	18	-0.7		53	27 58.0	8.7	18	-0.4		53	27 14.6	0.9	18	0.0	
54	29 48.1	16.3	24	-1.0		54	27 56.7	8.6	24	-0.5		54	27 14.5	0.8	24	0.0	
55	29 45.7	16.2	30	-1.2		55	27 55.4	8.5	30	-0.6		55	27 14.4	0.7	30	-0.1	
56	29 43.3	16.1	36	-1.4		56	27 54.2	8.4	36	-0.8		56	27 14.3	0.6	36	-0.1	
57	29 40.9	15.9	42	-1.7		57	27 52.9	8.2	42	-0.9		57	27 14.2	0.4	42	-0.1	
58	29 38.6	15.8	48	-1.9		58	27 51.7	8.1	48	-1.0		58	27 14.2	0.3	48	-0.1	
59	29 36.2	15.6	54	-2.2		59	27 50.5	7.9	54	-1.2		59	27 14.1	0.1	54	-0.1	

m Std. wkl.	9. Stunde					m Std. wkl.	10. Stunde					m Std. wkl.	11. Stunde				
	Höhe	Azimit	Δt	Δh	ΔA		Höhe	Azimit	Δt	Δh	ΔA		Höhe	Azimit	Δt	Δh	ΔA
Δh	+ 1.1	+ 2.3	+ 3.5			Δh	+ 1.2	+ 2.4	+ 3.6			Δh	+ 1.2	+ 2.5	+ 3.7		
ΔA	—	—	—			ΔA	—	—	—			ΔA	—	—	—		

α 1917 = 21^b 16^m 36^s Jährliche Änderung + 1.4

55°N

α Ursae minoris (Nordstern)

55°N

Std. wkl. m.	0. Stunde		Std. wkl. m.	1. Stunde		Std. wkl. m.	2. Stunde		Std. wkl. m.	3. Stunde.		
	Höhe	Azimet		Höhe	Azimet		Höhe	Azimet		Höhe	Azimet	
0	56° 8.1	0° 0	0	56° 5.7	0° 5	0	55° 58.7	1° 0	0	55° 47.6	1° 4	
1	56 8.1	0 0	1	56 5.6	0 5	1	55 58.5	1 0	1	55 47.4	1 4	
2	56 8.1	0 0	2	56 5.5	0 5	2	55 58.4	1 0	2	55 47.2	1 4	
3	56 8.1	0 0	3	56 5.5	0 5	3	55 58.2	1 0	3	55 47.0	1 4	
4	56 8.1	0 0	4	56 5.4	0 6	4	55 58.1	1 0	4	55 46.8	1 5	
5	56 8.1	0 0	5	56 5.3	0 6	5	55 58.0	1 1	5	55 46.6	1 5	
6	56 8.1	0 0	6	56 5.2	0 6	6	55 57.8	1 1	6	55 46.4	1 5	
7	56 8.1	0 0	7	56 5.1	0 6	7	55 57.6	1 1	7	55 46.1	1 5	
8	56 8.1	0 1	8	56 5.0	0 6	8	55 57.5	1 1	8	55 45.9	1 5	
9	56 8.1	0 1	9	56 4.9	0 6	9	55 57.3	1 1	9	55 45.7	1 5	
10	56 8.1	0 1	10	56 4.8	0 6	10	55 57.2	1 1	10	55 45.5	1 5	
11	56 8.0	0 1	11	56 4.7	0 6	11	55 57.0	1 1	11	55 45.2	1 5	
12	56 8.0	0 1	12	56 4.6	0 6	12	55 56.8	1 1	12	55 45.0	1 5	
13	56 8.0	0 1	13	56 4.5	0 6	13	55 56.7	1 1	13	55 44.8	1 5	
14	56 8.0	0 1	14	56 4.4	0 6	14	55 56.5	1 1	14	55 44.6	1 5	
15	56 7.9	0 1	15	56 4.4	0 6	15	55 56.3	1 1	15	55 44.3	1 5	
16	56 7.9	0 1	16	56 4.3	0 7	16	55 56.2	1 1	16	55 44.1	1 5	
17	56 7.9	0 1	17	56 4.2	0 7	17	55 56.0	1 1	17	55 43.9	1 5	
18	56 7.9	0 1	18	56 4.1	0 7	18	55 55.8	1 1	18	55 43.7	1 5	
19	56 7.8	0 1	19	56 4.0	0 7	19	55 55.7	1 1	19	55 43.4	1 5	
20	56 7.8	0 2	20	56 3.9	0 7	20	55 55.5	1 2	20	55 43.2	1 6	
21	56 7.8	0 2	21	56 3.8	0 7	21	55 55.3	1 2	21	55 43.0	1 6	
22	56 7.8	0 2	22	56 3.7	0 7	22	55 55.2	1 2	22	55 42.8	1 6	
23	56 7.7	0 2	23	56 3.5	0 7	23	55 55.0	1 2	23	55 42.5	1 6	
24	56 7.7	0 2	24	56 3.4	0 7	24	55 54.8	1 2	24	55 42.3	1 6	
25	56 7.7	0 2	25	56 3.3	0 7	25	55 54.6	1 2	25	55 42.1	1 6	
26	56 7.7	0 2	26	56 3.2	0 7	26	55 54.4	1 2	26	55 41.8	1 6	
27	56 7.6	0 2	27	56 3.1	0 7	27	55 54.2	1 2	27	55 41.5	1 6	
28	56 7.6	0 2	28	56 3.0	0 8	28	55 54.0	1 2	28	55 41.3	1 6	
29	56 7.6	0 2	29	56 2.9	0 8	29	55 53.8	1 2	29	55 41.1	1 6	
30	56 7.5	0 2	30	56 2.8	0 8	30	55 53.7	1 2	30	55 40.9	1 6	
31	56 7.5	0 2	31	56 2.7	0 8	31	55 53.5	1 2	31	55 40.6	1 6	
32	56 7.4	0 3	32	56 2.5	0 8	32	55 53.3	1 2	32	55 40.4	1 6	
33	56 7.4	0 3	33	56 2.4	0 8	33	55 53.1	1 2	33	55 40.2	1 6	
34	56 7.3	0 3	34	56 2.3	0 8	34	55 52.9	1 2	34	55 39.9	1 6	
35	56 7.3	0 3	35	56 2.1	0 8	35	55 52.7	1 2	35	55 39.6	1 6	
36	56 7.2	0 3	36	56 2.0	0 8	36	55 52.5	1 3	36	55 39.4	1 6	
37	56 7.2	0 3	37	56 1.9	0 8	37	55 52.3	1 3	37	55 39.2	1 6	
38	56 7.1	0 3	38	56 1.8	0 8	38	55 52.2	1 3	38	55 38.9	1 6	
39	56 7.1	0 3	39	56 1.6	0 8	39	55 52.0	1 3	39	55 38.6	1 6	
40	56 7.0	0 4	40	56 1.5	0 9	40	55 51.8	1 3	40	55 38.4	1 7	
41	56 7.0	0 4	41	56 1.4	0 9	41	55 51.6	1 3	41	55 38.2	1 7	
42	56 6.9	0 4	42	56 1.3	0 9	42	55 51.4	1 3	42	55 37.9	1 7	
43	56 6.9	0 4	43	56 1.1	0 9	43	55 51.2	1 3	43	55 37.6	1 7	
44	56 6.8	0 4	44	56 1.0	0 9	44	55 51.0	1 3	44	55 37.4	1 7	
45	56 6.8	0 4	45	56 0.9	0 9	45	55 50.8	1 3	45	55 37.2	1 7	
46	56 6.7	0 4	46	56 0.8	0 9	46	55 50.6	1 3	46	55 36.9	1 7	
47	56 6.7	0 4	47	56 0.6	0 9	47	55 50.4	1 3	47	55 36.6	1 7	
48	56 6.6	0 4	48	56 0.5	0 9	48	55 50.2	1 4	48	55 36.4	1 7	
49	56 6.6	0 4	49	56 0.3	0 9	49	55 50.0	1 4	49	55 36.2	1 7	
50	56 6.5	0 4	50	56 0.2	0 9	50	55 49.8	1 4	50	55 35.9	1 7	
51	56 6.4	0 4	51	56 0.0	0 9	51	55 49.6	1 4	51	55 35.6	1 7	
52	56 6.3	0 5	52	55 59.9	1 0	52	55 49.4	1 4	52	55 35.4	1 7	
53	56 6.2	0 5	53	55 59.8	1 0	53	55 49.2	1 4	53	55 35.2	1 7	
54	56 6.2	0 5	54	55 59.6	1 0	54	55 49.0	1 4	54	55 34.9	1 7	
55	56 6.1	0 5	55	55 59.4	1 0	55	55 48.7	1 4	55	55 34.6	1 7	
56	56 6.0	0 5	56	55 59.3	1 0	56	55 48.5	1 4	56	55 34.4	1 7	
57	56 5.9	0 5	57	55 59.2	1 0	57	55 48.3	1 4	57	55 34.2	1 7	
58	56 5.8	0 5	58	55 59.0	1 0	58	55 48.1	1 4	58	55 33.9	1 7	
59	56 5.8	0 5	59	55 58.8	1 0	59	55 47.8	1 4	59	55 33.6	1 7	
m Std. wkl.	Höhe	Azimet	m Std. wkl.	Höhe	Azimet	m Std. wkl.	Höhe	Azimet	m Std. wkl.	Höhe	Azimet	
	0. Stunde			1. Stunde			2. Stunde			3. Stunde		
Δh	1920-1925 -1.5	1925-1930 -3.0	1930-1935 -4.5	1920-1925 -1.4	1925-1930 -2.8	1930-1935 -4.3	1920-1925 -1.2	1925-1930 -2.4	1930-1935 -3.6	1920-1925 -0.9	1925-1930 -1.8	1930-1935 -2.7
ΔA	—	—	—	—	—	—	—	—	—	—	-0.1	-0.1

55°N

α Ursae minoris (Nordstern)

55°N

Std. wkl. m.	4. Stunde		Std. wkl. m.	5. Stunde		Std. wkl. m.	6. Stunde		Std. wkl. m.	7. Stunde	
	Höhe	Azimut		Höhe	Azimut		Höhe	Azimut		Höhe	Azimut
0	55°33.4	1.7	0	55°16.7	1.9	0	54°59.0	2.0	0	54°41.5	1.9
1	55 33.1	1.7	1	55 16.4	1.9	1	54 58.7	2.0	1	54 41.2	1.9
2	55 32.9	1.7	2	55 16.1	1.9	2	54 58.4	2.0	2	54 40.9	1.9
3	55 32.6	1.7	3	55 15.9	1.9	3	54 58.1	2.0	3	54 40.7	1.9
4	55 32.3	1.8	4	55 15.6	1.9	4	54 57.8	2.0	4	54 40.4	1.9
5	55 32.0	1.8	5	55 15.3	1.9	5	54 57.5	2.0	5	54 40.1	1.9
6	55 31.8	1.8	6	55 15.0	1.9	6	54 57.2	2.0	6	54 39.8	1.9
7	55 31.5	1.8	7	55 14.7	1.9	7	54 57.0	2.0	7	54 39.5	1.9
8	55 31.2	1.8	8	55 14.4	1.9	8	54 56.7	2.0	8	54 39.2	1.9
9	55 30.9	1.8	9	55 14.1	1.9	9	54 56.4	2.0	9	54 38.9	1.9
10	55 30.6	1.8	10	55 13.8	1.9	10	54 56.1	2.0	10	54 38.6	1.9
11	55 30.4	1.8	11	55 13.5	1.9	11	54 55.8	2.0	11	54 38.4	1.9
12	55 30.1	1.8	12	55 13.2	2.0	12	54 55.5	2.0	12	54 38.1	1.9
13	55 29.8	1.8	13	55 12.9	2.0	13	54 55.2	2.0	13	54 37.8	1.9
14	55 29.6	1.8	14	55 12.6	2.0	14	54 54.9	2.0	14	54 37.5	1.9
15	55 29.4	1.8	15	55 12.3	2.0	15	54 54.6	2.0	15	54 37.3	1.9
16	55 29.1	1.8	16	55 12.0	2.0	16	54 54.3	2.0	16	54 37.0	1.8
17	55 28.8	1.8	17	55 11.7	2.0	17	54 54.0	2.0	17	54 36.7	1.8
18	55 28.6	1.8	18	55 11.5	2.0	18	54 53.7	2.0	18	54 36.4	1.8
19	55 28.3	1.8	19	55 11.2	2.0	19	54 53.4	2.0	19	54 36.2	1.8
20	55 28.0	1.8	20	55 10.9	2.0	20	54 53.1	2.0	20	54 35.9	1.8
21	55 27.7	1.8	21	55 10.6	2.0	21	54 52.8	2.0	21	54 35.6	1.8
22	55 27.5	1.8	22	55 10.3	2.0	22	54 52.5	2.0	22	54 35.3	1.8
23	55 27.2	1.8	23	55 10.0	2.0	23	54 52.2	2.0	23	54 35.1	1.8
24	55 26.9	1.8	24	55 9.7	2.0	24	54 51.9	2.0	24	54 34.8	1.8
25	55 26.6	1.8	25	55 9.4	2.0	25	54 51.6	2.0	25	54 34.5	1.8
26	55 26.4	1.8	26	55 9.1	2.0	26	54 51.3	2.0	26	54 34.2	1.8
27	55 26.1	1.8	27	55 8.8	2.0	27	54 51.0	2.0	27	54 34.0	1.8
28	55 25.8	1.8	28	55 8.5	2.0	28	54 50.7	2.0	28	54 33.7	1.8
29	55 25.5	1.8	29	55 8.2	2.0	29	54 50.4	2.0	29	54 33.4	1.8
30	55 25.3	1.8	30	55 7.9	2.0	30	54 50.1	2.0	30	54 33.1	1.8
31	55 25.0	1.8	31	55 7.6	2.0	31	54 49.9	2.0	31	54 32.9	1.8
32	55 24.7	1.9	32	55 7.3	2.0	32	54 49.6	2.0	32	54 32.6	1.8
33	55 24.4	1.9	33	55 7.0	2.0	33	54 49.3	2.0	33	54 32.3	1.8
34	55 24.2	1.9	34	55 6.7	2.0	34	54 49.0	2.0	34	54 32.0	1.8
35	55 23.9	1.9	35	55 6.5	2.0	35	54 48.7	2.0	35	54 31.8	1.8
36	55 23.6	1.9	36	55 6.2	2.0	36	54 48.4	2.0	36	54 31.5	1.8
37	55 23.3	1.9	37	55 5.9	2.0	37	54 48.1	2.0	37	54 31.2	1.8
38	55 23.0	1.9	38	55 5.6	2.0	38	54 47.8	2.0	38	54 30.9	1.8
39	55 22.7	1.9	39	55 5.3	2.0	39	54 47.5	2.0	39	54 30.7	1.8
40	55 22.4	1.9	40	55 5.0	2.0	40	54 47.2	1.9	40	54 30.4	1.8
41	55 22.1	1.9	41	55 4.7	2.0	41	54 46.9	1.9	41	54 30.1	1.8
42	55 21.9	1.9	42	55 4.4	2.0	42	54 46.6	1.9	42	54 29.9	1.8
43	55 21.6	1.9	43	55 4.1	2.0	43	54 46.4	1.9	43	54 29.7	1.8
44	55 21.3	1.9	44	55 3.8	2.0	44	54 46.1	1.9	44	54 29.4	1.8
45	55 21.0	1.9	45	55 3.5	2.0	45	54 45.8	1.9	45	54 29.1	1.8
46	55 20.8	1.9	46	55 3.2	2.0	46	54 45.5	1.9	46	54 28.8	1.8
47	55 20.5	1.9	47	55 2.9	2.0	47	54 45.2	1.9	47	54 28.6	1.8
48	55 20.2	1.9	48	55 2.6	2.0	48	54 44.9	1.9	48	54 28.3	1.8
49	55 19.9	1.9	49	55 2.3	2.0	49	54 44.6	1.9	49	54 28.0	1.8
50	55 19.6	1.9	50	55 2.0	2.0	50	54 44.3	1.9	50	54 27.8	1.8
51	55 19.3	1.9	51	55 1.7	2.0	51	54 44.1	1.9	51	54 27.6	1.8
52	55 19.0	1.9	52	55 1.4	2.0	52	54 43.8	1.9	52	54 27.3	1.7
53	55 18.7	1.9	53	55 1.1	2.0	53	54 43.5	1.9	53	54 27.0	1.7
54	55 18.5	1.9	54	55 0.8	2.0	54	54 43.2	1.9	54	54 26.8	1.7
55	55 18.2	1.9	55	55 0.5	2.0	55	54 42.9	1.9	55	54 26.6	1.7
56	55 17.9	1.9	56	55 0.2	2.0	56	54 42.6	1.9	56	54 26.3	1.7
57	55 17.6	1.9	57	54 59.9	2.0	57	54 42.3	1.9	57	54 26.0	1.7
58	55 17.3	1.9	58	54 59.6	2.0	58	54 42.0	1.9	58	54 25.8	1.7
59	55 17.0	1.9	59	54 59.3	2.0	59	54 41.8	1.9	59	54 25.6	1.7
$\frac{m}{Std.}$ wkl.	Höhe	Azimut	$\frac{m}{Std.}$ wkl.	Höhe	Azimut	$\frac{m}{Std.}$ wkl.	Höhe	Azimut	$\frac{m}{Std.}$ wkl.	Höhe	Azimut
	4. Stunde			5. Stunde			6. Stunde			7. Stunde	

	1920-1925-	1925-1930-	1930-1935		1920-1925-	1925-1930-	1930-1935		1920-1925-	1925-1930-	1930-1935		1920-1925-	1925-1930-	1930-1935
Δh	-0.6	-1.1	-1.7		-0.2	-0.3	-0.5		+0.2	+0.5	+0.7		+0.6	+1.2	+1.9
ΔA	—	-0.1	-0.1		—	-0.1	-0.1		—	-0.1	-0.1		—	-0.1	-0.1

55°N

α Ursae minoris (Nordstern)

55°N

Std-wkl. m.	8. Stunde		Std-wkl. m.	9. Stunde		Std-wkl. m.	10. Stunde		Std-wkl. m.	11. Stunde	
	Höhe	Azimit		Höhe	Azimit		Höhe	Azimit		Höhe	Azimit
0	54° 25.2	1° 7	0	54° 11.4	1° 4	0	54° 0.8	1° 0	0	53° 54.2	0° 5
1	54 24.9	1.7	1	54 11.2	1.4	1	54 0.6	1.0	1	53 54.1	0.5
2	54 24.7	1.7	2	54 11.0	1.4	2	54 0.5	0.9	2	53 54.0	0.5
3	54 24.5	1.7	3	54 10.8	1.4	3	54 0.3	0.9	3	53 53.9	0.5
4	54 24.2	1.7	4	54 10.6	1.4	4	54 0.2	0.9	4	53 53.9	0.5
5	54 23.9	1.7	5	54 10.4	1.3	5	54 0.1	0.9	5	53 53.8	0.5
6	54 23.7	1.7	6	54 10.2	1.3	6	54 0.0	0.9	6	53 53.7	0.4
7	54 23.5	1.7	7	54 10.0	1.3	7	53 59.8	0.9	7	53 53.6	0.4
8	54 23.2	1.6	8	54 9.8	1.3	8	53 59.7	0.9	8	53 53.6	0.4
9	54 22.9	1.6	9	54 9.6	1.3	9	53 59.5	0.9	9	53 53.5	0.4
10	54 22.7	1.6	10	54 9.4	1.3	10	53 59.4	0.9	10	53 53.5	0.4
11	54 22.5	1.6	11	54 9.2	1.3	11	53 59.3	0.9	11	53 53.4	0.4
12	54 22.2	1.6	12	54 9.0	1.3	12	53 59.1	0.9	12	53 53.3	0.4
13	54 22.0	1.6	13	54 8.8	1.3	13	53 58.9	0.9	13	53 53.2	0.4
14	54 21.7	1.6	14	54 8.6	1.3	14	53 58.8	0.9	14	53 53.2	0.4
15	54 21.5	1.6	15	54 8.4	1.3	15	53 58.8	0.9	15	53 53.1	0.4
16	54 21.3	1.6	16	54 8.2	1.3	16	53 58.6	0.8	16	53 53.1	0.4
17	54 21.0	1.6	17	54 8.0	1.3	17	53 58.5	0.8	17	53 53.0	0.4
18	54 20.8	1.6	18	54 7.8	1.3	18	53 58.3	0.8	18	53 53.0	0.3
19	54 20.6	1.6	19	54 7.6	1.3	19	53 58.2	0.8	19	53 52.9	0.3
20	54 20.3	1.6	20	54 7.4	1.2	20	53 58.1	0.8	20	53 52.9	0.3
21	54 20.1	1.6	21	54 7.2	1.2	21	53 58.0	0.8	21	53 52.8	0.3
22	54 19.8	1.6	22	54 7.0	1.2	22	53 57.8	0.8	22	53 52.8	0.3
23	54 19.6	1.6	23	54 6.9	1.2	23	53 57.7	0.8	23	53 52.7	0.3
24	54 19.4	1.6	24	54 6.7	1.2	24	53 57.6	0.8	24	53 52.7	0.3
25	54 19.1	1.6	25	54 6.5	1.2	25	53 57.5	0.8	25	53 52.6	0.3
26	54 18.9	1.6	26	54 6.3	1.2	26	53 57.4	0.8	26	53 52.6	0.3
27	54 18.7	1.6	27	54 6.2	1.2	27	53 57.3	0.8	27	53 52.5	0.3
28	54 18.4	1.6	28	54 6.0	1.2	28	53 57.2	0.8	28	53 52.5	0.3
29	54 18.2	1.6	29	54 5.8	1.2	29	53 57.0	0.7	29	53 52.5	0.3
30	54 18.0	1.6	30	54 5.6	1.2	30	53 56.9	0.7	30	53 52.4	0.2
31	54 17.7	1.6	31	54 5.5	1.2	31	53 56.8	0.7	31	53 52.4	0.2
32	54 17.5	1.5	32	54 5.3	1.2	32	53 56.7	0.7	32	53 52.4	0.2
33	54 17.3	1.5	33	54 5.1	1.2	33	53 56.6	0.7	33	53 52.4	0.2
34	54 17.1	1.5	34	54 4.9	1.1	34	53 56.5	0.7	34	53 52.4	0.2
35	54 16.8	1.5	35	54 4.8	1.1	35	53 56.4	0.7	35	53 52.3	0.2
36	54 16.6	1.5	36	54 4.6	1.1	36	53 56.3	0.7	36	53 52.3	0.2
37	54 16.4	1.5	37	54 4.4	1.1	37	53 56.2	0.7	37	53 52.3	0.2
38	54 16.1	1.5	38	54 4.2	1.1	38	53 56.1	0.7	38	53 52.3	0.2
39	54 15.9	1.5	39	54 4.1	1.1	39	53 56.0	0.7	39	53 52.2	0.2
40	54 15.7	1.5	40	54 3.9	1.1	40	53 55.9	0.7	40	53 52.2	0.2
41	54 15.5	1.5	41	54 3.7	1.1	41	53 55.8	0.7	41	53 52.2	0.2
42	54 15.2	1.5	42	54 3.5	1.1	42	53 55.7	0.6	42	53 52.2	0.1
43	54 15.0	1.5	43	54 3.4	1.1	43	53 55.6	0.6	43	53 52.1	0.1
44	54 14.8	1.5	44	54 3.2	1.1	44	53 55.5	0.6	44	53 52.1	0.1
45	54 14.6	1.5	45	54 3.0	1.1	45	53 55.4	0.6	45	53 52.1	0.1
46	54 14.4	1.5	46	54 2.9	1.1	46	53 55.3	0.6	46	53 52.1	0.1
47	54 14.1	1.5	47	54 2.7	1.1	47	53 55.2	0.6	47	53 52.0	0.1
48	54 13.9	1.5	48	54 2.6	1.1	48	53 55.1	0.6	48	53 52.0	0.1
49	54 13.7	1.5	49	54 2.4	1.0	49	53 55.0	0.6	49	53 52.0	0.1
50	54 13.4	1.5	50	54 2.3	1.0	50	53 54.9	0.6	50	53 52.0	0.1
51	54 13.2	1.5	51	54 2.1	1.0	51	53 54.9	0.6	51	53 51.9	0.1
52	54 13.0	1.4	52	54 2.0	1.0	52	53 54.8	0.6	52	53 51.9	0.1
53	54 12.8	1.4	53	54 1.8	1.0	53	53 54.7	0.6	53	53 51.9	0.1
54	54 12.6	1.4	54	54 1.7	1.0	54	53 54.6	0.5	54	53 51.9	0.0
55	54 12.4	1.4	55	54 1.5	1.0	55	53 54.6	0.5	55	53 51.9	0.0
56	54 12.2	1.4	56	54 1.4	1.0	56	53 54.5	0.5	56	53 51.9	0.0
57	54 12.0	1.4	57	54 1.2	1.0	57	53 54.4	0.5	57	53 51.9	0.0
58	54 11.8	1.4	58	54 1.1	1.0	58	53 54.3	0.5	58	53 51.9	0.0
59	54 11.6	1.4	59	54 0.9	1.0	59	53 54.3	0.5	59	53 51.9	0.0
m Std-wkl.	Höhe	Azimit	m Std-wkl.	Höhe	Azimit	m Std-wkl.	Höhe	Azimit	m Std-wkl.	Höhe	Azimit
	8. Stunde			9. Stunde			10. Stunde			11. Stunde	

	1920-1925	1925-1930	1930-1935		1920-1925	1925-1930	1930-1935		1920-1925	1925-1930	1930-1935		1920-1925	1925-1930	1930-1935
Δh	+1.0	+1.9	+2.9	Δh	+1.2	+2.5	+3.7	Δh	+1.4	+2.9	+4.3	Δh	+1.5	+3.0	+4.6
ΔA	—	-0.1	-0.1	ΔA	—	—	—	ΔA	—	—	—	ΔA	—	—	—

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