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LIBRARY OF THE ASTRONOMICAL SOCIETY OF THE PACIFIC

HELIOMETER OBSERVATIONS

FOR

DETERMINATION OF STELLAR PARALLAX

MADE AT THE

ROYAL OBSERVATORY, CAPE OF GOOD HOPE, Royal obser

ВҰ

DAVID GILL, LL.D. (ABERD. AND EDIN.), F.R.S., HON. F.R.S., EDIN., &C.,

HER MAJESTY'S ASTRONOMER AT THE CAPE.

Published by order of the Lords Commissioners of the Admiralty, in obedience to Her Majesty's Command.



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ASTRONOBIICAL SOCIETY

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gift of astr. Soc. of Pacific

ASTRONOMY DEPT.

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INTRODUCTION.

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Soon after I had the honour of being appointed Her Majesty's Astronomer at the Cape, in 1879, I directed the attention of the Lords Commissioners of the Admiralty to the fact that no adequate equipment for refined extra meridian observations existed at the Observatory. Before making further official proposals to remedy this defect I had the good fortune to procure, by private purchase, the Heliometer which I had used at Dun Echt, and in connexion with the expedition of Lord Lindsay (now the Earl of Crawford and Balcarres) to the Island of Mauritius in 1874, when I observed with it the opposition of the minor planet Juno,* and which I afterwards employed by Lord Lindsay's kind permission, in the Royal Astronomical Society's expedition to the Island of Ascension to observe the opposition of Mars in 1877.[†]

The instrument as employed at Mauritius and Ascension is fully described in the Dun Echt publications, Vol. II. For use at the Cape I could not obtain the original equatoreal mounting, and therefore ordered a new stand for the Heliometer tube and cradle from Sir H. Grubb of Dublin, taking advantage of the opportunity thus offered to have some alterations made on the instrument which previous experience had proved to be desirable. These alterations were chiefly in connexion with the slow motion of the tube in position-angle. In the original instrument the quick motion in position-angle was accomplished by turning a rod, which carried a pinion which acted on a wheel of which the Heliometer tube formed the axis. Slow motion was given by rotating this rod very slowly by means of a toothed wheel acted on by a tangent screw, but the effect was to create a certain amount of torsion of the rod before any rotation of the tube took place, so that there was wanting that immediate and precise response to the observer's action which is essential for easy and accurate measurement. I therefore planned the following arrangement. .

At the end of the cradle next to the observer, there is fitted on the tube (or rather on one of the collars attached to the tube)

† Memoirs of the R.A.S., vol. xlvi., pp. 1-172.

o 12309. Wt. 1124.

^{*} Dun Echt publications, vol. ii.

a ratchet wheel with square cut teeth. This wheel is so fitted as to turn smoothly on the collar, but, when the observer so desires, it can be clamped firmly to the tube by a handle coming down to the eye-end. A steel screw with a square-cut thread (such as Grubb uses for the driving screws of his Equatoreals) acts on the teeth of this wheel, whilst the pivots of this screw rest in bushes in a frame attached to the cradle. The screw is turned by bevel wheels acted on by a handle coming down to the eye-end. When the observer turns the handle the wheel slowly rotates; and, if the tube is clamped to the wheel, a smooth easy rotation is communicated to the tube. This slow motion as well as the Equatoreal mounting, and the driving clock were admirably constructed by Sir. H. Grubb and the instrument was in every respect efficient, stable, and convenient.

During a visit to some of the principal European observatories. before my departure for the Cape, I met Mr. W. L. Elkin, a student under Professor Winnecke, who was then engaged in preparing his "Inaugural Dissertation" for the Degree of Doctor of Philosophy at the University of Strasburg. The subject he had selected was the orbit and parallax of a Centauri and he applied to me for any observations of a Centauri as a double star, or any unpublished meridian observations of $\alpha \beta$ Centauri which I might find on the records of the Cape Observatory.* In the course of conversation I informed Mr. Elkin of my purchase of the Heliometer, and of the purposes to which I intended to apply it. He expressed much interest in my programme and his keen desire to take part in such work, It was finally arranged that, on the completion of his curriculum and on the arrival of the Heliometer, Dr. Elkin should come to the Cape and share my labours.

The Heliometer reached the Cape in the end of December 1880 (the Lords Commissioners of the Admiralty having defrayed the cost of transport), and I proceeded at once to erect it in an old observatory which had been built by Sir Thomas Maclear in 1847, to cover a small telescope by Dollond. This observatory is described in *Mem.* R.A.S., vol. xx., pp. 31-34. I had duly completed the necessary alterations of the building, and the adjustments of the instrument when Dr. Elkin arrived at the Cape, on 1881, January 31. The following month was spent in preliminary experiments, in the selection of stars of comparison, and in the preparation of a programme.

^{*} These observations I supplied soon after my arrival at the Cape, and they are incorporated in his Dissertation "*Ueber die Parallaxe von a Centauri.*" Karlsruhe, 1880.

This settled, I was on the point of leaving for Durban and Aden to carry out the longitude operations connecting these places with the Cape, when I was suddenly recalled to England on urgent private affairs. I made new arrangements for the longitude work, so that when I returned to the Cape on 1881, June 30, I was enabled to take up the programme of the Heliometer observations at an earlier date than I originally intended. Dr. Elkin occupied my house in my absence, and remained as my guest, and as a member of my family circle until the completion of our programme. He sailed from the Cape on 1883, May 16. His work from first to last was a labour of love.

The results of the observations contained in this volume have been published in the Memoirs of the Royal Astronomical Society, vol. xlviii.; but in connexion with such work it is usual and desirable to publish sufficient details of the original observations to enable other Astronomers to verify the subsequent computations.

In the selection of comparison stars the conditions aimed at were :---

- 1. Symmetrical situation with respect to the star whose parallax is to be determined, that is to say, nearly at equal distances from it, and different in position-angle nearly 180°. As far as possible these position-angles should nearly coincide with the position-angle of the major axis of the parallactic ellipse, but when several pairs of comparison stars are employed this condition cannot of course be fulfilled.
- 2. Both comparison stars should be nearly of equal magnitude.
- 3. They should be stars having little or no proper motion.

The following are the positions of the comparison stars as determined with the Cape Transit Circle, and the adopted position-angle and distance from the principal star; the other existing observations reduced to the same equinox will be found in the *Mem.* R.A.S., *loc. cit.*

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- A complete observation consists of the following processes :---
 - 1. The Position Circle is set to the required position-angle and the segments separated in distance the requisite amount.
 - 2. The axis of the tube is directed, by means of the Hour and Declination Circles, to the middle point between the stars to be observed, when the images of the two stars are seen together in the field of view.
- 3. The observer, by slow motion in position-angle and distance. now brings the images to near contact, especially adjusting the distance as nearly as possible. This latter adjustment cannot be accurately made by superposing the images; the best practical method is to first place the images of the two stars so that, while the discs are nearly in contact, the line joining their centres shall be at right angles to the direction of measurement. The estimation of this condition is facilitated in two ways: 1st, the images formed by semi-lenses are not circles but ellipses. and when the definition is good and the stars are sufficiently bright, the most accurate plan is to make the major axes of the two ellipses coincident. The accuracy of this estimation is greatly enhanced by immediate and frequent interchange of the two images by use of the slow motion in position-angle. The symmetrical emergence of the elliptical discs from behind each other in alternate opposite directions forms the most refined method of "pointing" known to astronomers. When the images are very faint or ill-defined, the power of estimating distances in this way is not available, because the major axis of the ellipse cannot be precisely distinguished. To provide for this, four flat intersecting wires were inserted, in the common focus of the object glass and eve-piece, forming a square, in the centre of the field, two sides of the square are parallel to the direction of motion in distance, and two at right angles to this direction. The observer takes the latter pair of wires as his guides, and by motion of the "distance-handle" adjusts the position angle of the artificial close double star parallel to the direction of these wires. This observation is analogous to that in which an observer with a parallelwire micrometer adjusts the wires parallel to the line joining the centres of the double star whose position angle he is measuring, but with this difference, that the latter moves the position-angle of his micrometer till the

wires are parallel to the stars under observation, whilst the Heliometer observer changes the apparent positionangle of the artificial double star by motions of his "distance-handle" until the line joining the components is parallel to his guiding wires. Immediately "crossing through" (*i.e.*, exchanging the relative positions of the two stars), he verifies his former observation, and, if he finds it confirmed, proceeds to read the scales. The eye is very sensitive to the symmetrical crossing of the stars and readily detects any apparent change of parallelism in the guiding wires as such error in the first pointing is doubled after "crossing through."

The accuracy in pointing by either of these methods is greatly enhanced when the two images are precisely similar, hence the great attention paid to the construction of the screens employed to equalize the images. These screens were constructed of one, two, and three thicknesses of wire gauze of different mesh, and by careful selection and trial little difficulty was found in procuring satisfactory equalization of the images; the light of Sirius, for example, being reduced to such perfect equality with that of the comparison stars α and β (7th magnitude) that it was impossible to distinguish the image of Sirius from that of the comparison stars, either by the difference of brilliancy or by the appearance of the disc, when both were viewed near the centre of the square. If the images of the comparison stars differed in magnitude the screen was, as a rule, adjusted so as to reduce the brilliancy of the principal star to the mean brightness of the comparison stars.

When the observer has completed a "pointing" in the manner described, he reads the scales as already mentioned.

The "scales" are of silver, attached to the two slides which carry the halves of the object-glass and are divided into 150 divisions figured at each tenth division. The microscope views both scales at once and (approximately) when the readings of the scale are identical the optical centres of the segments are in coincidence. If this condition could always be realised, the difference of the readings of the two scales would give directly the distance measured in terms of the scale.

In practice it is of course necessary to find accurately the difference of the readings when the optical centres are in coincidence; this difference is termed the "Index-error."

Two turns of the micrometer-screw correspond very nearly with one division of the scale. An account of the investigation of the division-errors of the scales is given in Dun Echt publications, Vol. II., pp. 11-51.

As the object throughout the following series of observations was to determine not the absolute distance of the primary star from its comparison stars but the change of these distances as produced by proper motion and parallax, the same divisions were employed throughout the whole of the observations of the same distance, and no corrections for division-error have been applied except for determining the Runs.

In reading the scales a pointer marks the centre of the field of view of the microscope, and the division preceding and following the pointer is read on each scale.

The segments and screen are reversed after each observation, a second pointing is made, and the scales again read.

The instrument is then set for the position-angle and distance of the second comparison star and directed by the circles to the middle point for the new pair, a pointing made, the scales read, the segments and screen reversed, the stars again pointed and the scales read.

Thus the distance of each of the two opposite comparison stars is measured once in each of the two opposite positions of the segments, and so also the effect of Index-error is eliminated. But such an observation is not complete, because it is nonsymmetrical—a progressive change in the relative temperatures of different parts of the instrument may, as a matter of fact frequently does, create a change of scale-value which can only be eliminated by arranging the observations in symmetrical order. Therefore the same observations are repeated in the reverse order, that is to say, if the first pair be made in the order a b, the second pair would be in the order b a. The instrument having been reversed 180° in position-angle similar observations are made in the order a b b a. To complete the symmetry of the work, care was taken on the following night of observation to arrange the order b a a b.

The following is a copy of the form in which the observations were entered with the original record as entered by the observer.*

* No. 2 has been selected because there is a misprint in No. 1, vide list of errata.

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The times entered are those of the Sidereal Chronometer employed. In the block of "Readings the left-hand column gives the reading of the scale division on the further side of the pointer from the micrometer head, the webs approach the head with increased readings of the head.

The middle column gives the division which is read on the side of the pointer next the micrometer head, and the righthand column the micrometer reading on the named division.

The scale readings increase as the micrometer readings decrease; therefore, if we refer the scale readings to the zero of the micrometer, it is clear that were there no index-error, no error of Run, and no error of the micrometer-screw, the true reading for scale A. would be 105 divisions = 210 revolutions + 1 · 600 revolutions. But if we suppose for the moment that the division-errors are insensible, the error of Run on scale A. is $\cdot 603 - \cdot 600 = +0 \cdot 003$ rev. over two revolutions, or $+ \cdot 0015$ per revolution; because if the pointings were exact, and there were no division-error, both readings should agree or rather should differ exactly 2 rev. But since there are accidental errors of pointing in reading the micrometer scales, it is better to deduce the Run from all the scale readings made in the same complete observation, and this is accordingly done. In the example in question we have the following differences in order:—

Scale	e A.	Corr. for Screw-error.*	Scale B.	Corr. for Screw-error.
	all .			
, non	r	r	The state of the s	r
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-	.010	100.	.000	.001
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+	·015	.005	- ·001	*002
+	.017	.002	003	.002
+	.013	.001	.000	+ .001
Sum +	.101	+ .010	+ .056	+ .012

* The corrections for screw-error result from a very thorough investigation of the screw made independently by Gill and Elkin, the two results being in close agreement :--

where n is the reading of the screw-head, and n the number of revolutions from 0.00.

The sum of the 16 apparent Runs	r
over two revolutions is thus -	+0.101] Scale A
Correction for screw-error -	+0.019
Sum of 16 apparent Runs over	olus
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64) + 0.193

Mean correction for Run - +0.0030 per rev.

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Date and Finte -

 $B \rightarrow A \mid \text{Diff.}$

Having thus determined the correction for Run for one revolution, the corresponding correction is to be applied to the readings. These corrections might be applied only to the reading of the division next the micrometer-head, but in this way some accuracy would be lost. It is more exact to suppose that our point of reference is the middle point between the two divisions, and to shift our reference point in imagination, one revolution farther from the micrometer-head. The reduction is then precisely the same as if we used only one division and a known Run, except that the mean of the readings of the two scales is entered instead of the reading of only one.

Tables were prepared which give the correction for screwerror applicable to the mean of the readings of the two scales with the argument "lower reading."

2.560

27.457 227.738

: 97 * C+1 -

The computation of the distances is then effected as follows :----Where the sign of B-A refers only to the sign of the correction for index-error.

Computation of Corrected

Name and Group -	Cittings	anorradate o	is onne tro mu	a, Centauri	
Date and Time	1881, July 6. 15•4•1				
Scale	A	B	A	B	
Follg. Div. × 2	210'	92.	90.	210*	
Mean Screw Reading -	+ 1.602	+ 1.876	+ 2.305	+ 2.480	
Run	+ 4	+ 4 6	+ I + 7	+ 2 + 7	
Sum	211.611	03.886			
1 1):4		95 000	92 513	212.489	
B-A Refn.	<u> </u>				
Distance	237.974				
Name and Group -	COLECTION 1	and beauan	w thus dete	a2 Centauri	
Date and Time	15 16 5 10 91 12 12				
Scale	Α	В	A	B	
Follg. Div. × 2	76.	226.	226.	78.	
Mean Screw Reading -	+ 1.221	+ 1.502	+ 0.780	+ 0.968	
Run	+ 4	+ 5	+ 2	+ 4	
Sum	77:257	227.500	226.787	78:075	
L TS'O	Pro controla da		/-/	10 915	
B-A Refn.	- 130 147	· 252 · 812	298°064 89		
Distance	odd to bea	odd to bestan briefen of the			
Name and Group -	and average	h	m of the second se	a2 Centauri	
Name and Group - Date and Time	there edd h	h 1 15•5	m 4•3	a ₂ Centauri	
Name and Group - Date and Time Scale	A	h 1 15•5. B	m 4•3 A	a ₂ Centauri B	
Name and Group - Date and Time Scale Follg. Div. × 2	A 210'	h 1 15•5. B	m 4·3 A 90°	a ₂ Centauri B 210	
Name and Group - Date and Time Scale Follg. Div. × 2 Mean Screw Reading - Screw-error	A 210° + 1°747 + 5		$ \begin{array}{c} m \\ 4^{\cdot 3} \\ \hline 4^{\cdot 3} \\ 4^{\cdot$	α ₂ Centauri B 210 + 3.089	
Name and Group - Date and Time - Scale - - Follg. Div. × 2 - Mean Screw Reading - Screw-error - Run -	A 210° + 1°747 + 5 + 5		$ \begin{array}{c} m \\ 4 \cdot 3 \\ \hline 4 \cdot 3 \\ \hline 4 \cdot 3 \\ 4 \cdot 3 \\ 4 \cdot 3 \\ 4 \cdot 3 \\ 4 \cdot 2 \cdot 896 \\ 4 \cdot 3 \\ 4 \cdot 3 \\ 4 \cdot 9 \\ \end{array} $	$\begin{array}{c} a_2 \text{ Centauri} \\ B \\ \hline 210^{\circ} \\ + 3^{\circ} 089 \\ + 2 \\ + 9 \end{array}$	
Name and Group-Date and Time-Scale-Follg. Div. × 2-Mean Screw Reading-Screw-error-Run-Sum-	A 210° + 1°747 + 5 + 5 211°757		$ \begin{array}{c} m \\ 4 \cdot 3 \\ A \\ 90^{\circ} \\ + 2 \cdot 896 \\ + 3 \\ + 9 \\ 92 \cdot 908 \\ \end{array} $	$ \begin{array}{r} a_2 \text{ Centauri} \\ B \\ 210^{\cdot} \\ + 3^{\cdot} 0^{8} \\ + 2 \\ + 9 \\ 213^{\cdot} 100 \\ \end{array} $	
Name and Group - Date and Time - Scale - - Follg. Div. × 2 - Mean Screw Reading - Screw-error - Run - Sum - D A Diff.	A 210° + 1°747 + 5 211°757 - 117	h + 1 15 + 5 B 92 + 2 + 0 94 + 2 4 94 + 6 94 + 6 94 + 042 715	$ \begin{array}{c} m \\ 4 \cdot 3 \\ A \\ 90 \cdot \\ + 2 \cdot 896 \\ + 3 \\ + 9 \\ 92 \cdot 908 \\ \hline 237 \\ \end{array} $	$\begin{array}{c} a_{2} \text{ Centauri} \\ B \\ \hline 210^{\circ} \\ + 3^{\circ} 089 \\ + 2 \\ + 9 \\ \hline 213^{\circ} 100 \\ \hline 207 \end{array}$	
Name and Group - Date and Time - Scale - - Follg. Div. × 2 - Mean Screw Reading - Screw-error - Run - - Sum - - B-A Diff. - Refn. - -	A 210° + 1°747 + 5 + 5 211°757 - 117 120	$ \begin{array}{r} h \\ 15 \cdot 5. \\ B \\ 92. \\ + 2 \cdot 034 \\ + 2 \\ + 6 \\ 94. 042 \\ 715 \\ 192 \\ \end{array} $	$ \begin{array}{c} m \\ 4 \cdot 3 \\ \hline A \\ 90^{\circ} \\ + 2 \cdot 896 \\ + 3 \\ + 9 \\ 92 \cdot 908 \\ \hline 237 \\ \end{array} $	$\begin{array}{r} a_{2} \text{ Centauri} \\ \hline \\ B \\ 210^{\circ} \\ + 3^{\circ} 089 \\ + 2 \\ + 9 \\ \hline 213^{\circ} 100 \\ \hline \\ 907 \\ 67 \end{array}$	
Name and Group-Date and Time-Scale-Follg. Div. $\times 2$ -Mean Screw Reading-Screw-error-Run-Sum-B-ADiffRefnDistance-	A 210° + 1°747 + 5 211°757 - 117 120	h 1 1 15.5 B 92. + 2.034 + 2 + 6 94.042 715 192	$ \begin{array}{c} m \\ 4 \cdot 3 \\ A \\ 90^{\circ} \\ + 2^{\circ} 896 \\ + 3 \\ + 9 \\ 92^{\circ} 908 \\ 237 \\ 237^{\circ} \end{array} $	a ₂ Centauri B 210° + 3°089 + 2 + 9 213°100 '907 67 974	
Name and Group-Date and Time-Scale-Follg. Div. $\times 2$ -Mean Serew Reading-Screw-error-RunSumB-ADiffDistance	A 210° + 1°747 + 5 + 5 211°757 - 117 120	h + 1 15 + 5 B 92 + 2 + 034 + 2 + 6 94 + 042 715 192 b = m	$ \begin{array}{c} m \\ 4 \cdot 3 \\ A \\ 90^{\circ} \\ + 2^{\circ} 896 \\ + 3 \\ + 9 \\ 92^{\circ} 908 \\ \hline 237 \\ 237^{\circ} \end{array} $	α ₂ Centauri B 210° + 3°089 + 2 + 9 213°100 °907 67 974 α ₂ Centauri	
Name and Group - Date and Time - Scale - - Follg. Div. × 2 - Mean Screw Reading - Screw-error - Run - - Sum - - B-A Diff. - Distance - - Name and Group - - Date and Time - -	A 210° + 1°747 + 5 + 5 211°757 - 117 120	$ \begin{array}{r} h \\ 15 \cdot 5. \\ B \\ 92. \\ + 2 \cdot 034 \\ + 2 \\ + 6 \\ 94. 042 \\ 715 \\ 192 \\ h m \\ 16. 6. 8 \\ \end{array} $	$ \begin{array}{c} m \\ 4 \cdot 3 \\ \hline A \\ 90^{\circ} \\ + 2 \cdot 896 \\ + 3 \\ + 9 \\ 92 \cdot 908 \\ \hline 237 \\ 237^{\circ} \end{array} $	α ₂ Centauri B 210 [.] + 3 [.] 089 + 2 + 9 213 [.] 100 [.] 907 67 974 α ₂ Centauri	
Name and Group-Date and Time-Scale-Follg. Div. $\times 2$ -Mean Serew Reading-Screw-error-RunSumB-ADiffDistanceName and Group-Date and Time-Scale	A 210. + 1.747 + 5 211.757 - 117 120	h m r5.5 B 92. + 2.034 + 2 + 6 94.042 715 192 h m r6.6.5 B	$ \begin{array}{c} m \\ 4 \cdot 3 \\ A \\ 90^{\circ} \\ + 2 \cdot 896 \\ + 3 \\ + 9 \\ 92 \cdot 908 \\ \hline 237 \\ 237 \\ 237 \\ \end{array} $	α ₂ Centauri B 210° + 3°089 + 2 + 9 213°100 °907 67 974 α ₂ Centauri B	
Name and Group-Date and Time-Scale-Follg. Div. $\times 2$ -Mean Screw Reading-Screw-error-Run-Sum-B-ADiff.RefnDistance-Name and Group-Date and Time-Scale	A 210' + 1'747 + 5 + 5 211'757 - 117 + 120 A 76' A	h m r5.5 B 92. + 2.034 + 2 94.042 715 192 h m r6.6.5 B 226. 2	$ \begin{array}{c} m \\ 4 \cdot 3 \\ \hline A \\ 90^{\circ} \\ + 2 \cdot 896 \\ + 3 \\ + 9 \\ 92 \cdot 908 \\ 237 \\ 237^{\circ} \\ 237^{\circ} \\ \hline 237^{\circ} \\ \hline 237^{\circ} \\ \hline 226^{\circ} \\ \end{array} $	α ₂ Centauri B 210° + 3°089 + 2 + 9 213°100 °907 67 974 α ₂ Centauri B 78°	
Name and Group-Date and Time-Scale-Follg. Div. $\times 2$ -Mean Screw Reading-Screw-error-RunSumB-ADiff.RefnDistance-Name and Group-Date and Time-ScaleFollg. Div. $\times 2$ -Mean Screw Reading-Screw-error-	A 210' + 1'747 + 5 + 5 211'757 - 117 + 120 A 76' + 1'452 + 1 4	h m r5.5 B 92. + 2.034 + 2 94.042 715 192 h m r6.6.5 B 226. + 1.718 + 5 5	$ \begin{array}{c} $	$ \begin{array}{r} a_{2} \text{ Centauri} \\ B \\ 210^{\circ} \\ + 3^{\circ} 089 \\ + 2 \\ + 9 \\ 213^{\circ} 100 \\ \hline \\ 907 \\ 67 \\ 974 \\ a_{2} \text{ Centauri} \\ \hline \\ B \\ \hline \\ 78^{\circ} \\ + 1^{\circ} 211 \\ + 2 \\ \end{array} $	
Name and Group - Date and Time - Scale - - Scale - - Follg. Div. × 2 - Mean Screw Reading - Screw-error - Run - Sum - B-A Diff. Distance - Name and Group - Date and Time - Scale - Follg. Div. × 2 - Mean Screw Reading - Screw-error - Follg. Div. × 2 - Mean Screw Reading - Screw-error - Run - - -	A 210° + 1°747 + 5 211°757 - 117 120 A 76° + 1°452 + 4	h m 15.5 B 92. + 2.034 + 2 94.042 715 192 h m 16.6.5 B 226. + 1.718 + 5 + 5	$ \begin{array}{r} $	$\begin{array}{r} a_{2} \text{ Centauri} \\ \hline \\ B \\ 210^{\circ} \\ + 3^{\circ} 089 \\ + 2 \\ + 9 \\ 213^{\circ} 100 \\ \hline \\ 907 \\ 67 \\ 974 \\ a_{2} \text{ Centauri} \\ \hline \\ B \\ \hline \\ 78^{\circ} \\ + 1^{\circ} 211 \\ + 2 \\ + 4 \\ \end{array}$	
Name and Group-Date and Time-Scale-Follg. Div. $\times 2$ -Mean Screw Reading-Screw-error-RunSumB-ADiffDistanceName and Group-Date and Time-ScaleFollg. Div. $\times 2$ -Mean Screw Reading-Screw-error-RunSum-	A 210' + 1'747 + 5 211'757 - 117 120 A 76' + 1'452 + 1 + 4 77'457	h m 15.5 B 92. + 2.034 + 2 94.042 715 192 h m 16.6.5 B 226. + 1.718 + 5 + 5 227.728	$ \begin{array}{c} $	$a_{2} \text{ Centauri}$ B 210° $+ 3^{\circ}089$ $+ 2$ $+ 9$ $213^{\cdot}100$ 907 67 974 $a_{2} \text{ Centauri}$ B 78° $+ 1^{\circ}211$ $+ 2$ $+ 4$ $79^{\circ}217$	
Name and Group - Date and Time - Scale - - Follg. Div. × 2 - Mean Screw Reading - Screw-error - Run - Sum - B-A Diff. Diff. - Distance - Name and Group - Date and Time - Scale - Follg. Div. × 2 - Mean Screw Reading - Screw-error - Sun - Distance - Scale - Scale - Screw-error - Sun - Sum - Sum -	A 210' + 1'747 + 5 211'757 - 117 120 A 76' + 1'452 + 1 + 4 77'457 -	h m 15.5 B 92. + 2.034 + 2 + 6 94.042 715 192 h m 16.6.5 B 226. + 1.718 + 5 227.728	$ \begin{array}{c} $	$a_{2} \text{ Centauri}$ B 210° $+ 3^{\circ}089$ $+ 2$ $+ 9$ $213^{\circ}100$ $\cdot 907$ 67 974 $a_{2} \text{ Centauri}$ B 78° $+ 1^{\circ}211$ $+ 2$ $+ 4$ $79^{\circ}217$ 9662	
Name and Group - Date and Time - Scale - - Scale - - Follg. Div. × 2 - Mean Screw Reading - Screw-error - Run - Sum - B-A Diff. Distance - Name and Group - Date and Time - Scale - - - Bend Diff. - - Bend Diff. - -	A 210' + 1'747 + 5 211'757 - 117 120 A 76' + 1'452 + 1 + 4 77'457 - 150 147'	$\begin{array}{r} h & n \\ 15^{\circ} 5. \\ B \\ 92^{\circ} \\ + & 2^{\circ} 034 \\ + & 2 \\ + & 6 \\ 94^{\circ} 042 \\ \hline 715 \\ 192 \\ \hline 715 \\ 192 \\ \hline \\ 8 \\ 226^{\circ} \\ + & 1^{\circ} 718 \\ + & 5 \\ 226^{\circ} \\ + & 1^{\circ} 718 \\ + & 5 \\ 227^{\circ} 728 \\ \hline \\ 227^{\circ} 728 \\ \hline \end{array}$	$ \begin{array}{r} $	$a_{2} \text{ Centauri}$ B 210° $+ 3^{\circ}089$ $+ 2$ $+ 9$ $213^{\cdot}100$ $\cdot 907$ 67 974 $a_{2} \text{ Centauri}$ B 78° $+ 1^{\circ}211$ $+ 2$ $+ 4$ $79^{\circ}217$ $\cdot 063$ 85	

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Scale and Screw Readings.

		and the second	2.					
15.44.3								
A	B	A down A	B					
90.	210*	210.	92.					
+ 2.628	+ 2.807	+ 2.020	+ 2.339					
+ 3 + 8	+ 4 + 8	+ 6	+ 7					
92.639	212.810	212.058	94:346					
- 120'180 237'892								
117:712 69								
duationly to	ation which with the	nder odd yll 237	961 and the second					
and a.	h	massanto towa onta	2.					
or refraction.	15.3	o· 3	mus tuil memide					
Α	В	Λ	B					
226.	78.	76.	226.					
+ 0.789 + 5	+ 0.992 + 3	+ 1.725	+ 2.007					
+ 2	+ 3	+ 5	+ 6					
226.796	78.998	77.735	228.015					
- 147	· 798 · 280	298.078						
or the hoyal	snomell out a	298	· 166					
and h	And Loose Long	itinite dos relations	2.					
unit of	h 1 16·3	n bebulence ed 8.o	repeated here. T					
A	В	A	В					
90*	210.	210'	92.					
90° + 2.562 + 3	210° + 2°745 + 4	210° + 2°040 + 2	92° + 2°287 + I					
90° + 2.562 + 3 + 8	210° + 2°745 + 4 + 8	210° + 2^{\circ}040 + 2 + 6	92. + 2.287 + 1 + 7					
$ \begin{array}{r} 90^{\circ} \\ + 2^{\circ} 562 \\ + 3 \\ + 8 \\ 92^{\circ} 573 \\ \end{array} $	210° + 2°745 + 4 + 8 212°757	210° + 2°040 + 2 + 6 212°048	$ \begin{array}{r} 92^{\circ} \\ + 2^{\circ}2^{8}7 \\ + 1 \\ + 7 \\ 94^{\circ}295 \\ 94^{\circ}295 \\ \end{array} $					
$ \begin{array}{r} 90^{\circ} \\ + 2^{\circ} 562 \\ + 3 \\ + 8 \\ 92^{\circ} 573^{\circ} \\ \hline - 120 \\ 117 \end{array} $	210° + 2°745 + 4 + 8 212°757 * 184 * 753	$ \begin{array}{r} 210^{\circ} \\ + 2^{\circ} 040 \\ + 2 \\ + 6 \\ \hline 212^{\circ} 048 \\ \hline 237 \\ \end{array} $	$\begin{array}{c} 92^{\circ} \\ + 2^{\circ}287 \\ + 7 \\ + 7 \\ \hline 94^{\circ}295 \\ 937 \\ 66 \end{array}$					
$ \begin{array}{r} 90^{\circ} \\ + 2^{\circ}562 \\ + 3 \\ + 8 \\ 92^{\circ}573^{\circ} \\ - 120 \\ 117 \\ $	210° + 2°745 + 4 + 8 212°757 *184 *753	210° + 2°040 + 2 + 6 212°048 237	$92. + 2.287 + 1 + 7 = 94.295$ $937 = 66 = 66$ $\cdot 003 = 66 = 66$					
$ \begin{array}{r} 90^{\circ} \\ + 2^{\circ}562 \\ + 3 \\ + 8 \\ 92^{\circ}573^{\circ} \\ \hline - 120 \\ 117 \\ and a. \end{array} $	210° + 2°745 + 4 + 8 212°757 *184 *753	210° + 2°040 + 2 + 6 212°048 237 238	92° + 2°287 + 1 + 7 94°295 °937 66 °003 2.					
and a.	210° + 2°745 + 4 + 8 212°757 * 184 * 753	210° + 2°040 + 2 + 6 212°048 237 238 1° m 5°24°0	92. + 2.287 + 1 + 7 94.295 .937 66 .003 2.					
$ \begin{array}{r} 90^{\circ} \\ + 2^{\circ} 562 \\ + 3 \\ + 8 \\ 92^{\circ} 573^{\circ} \\ - 120 \\ 117 \\ and a. \\ \end{array} $	210° + 2°745 + 8 212°757 *184 *753 H 16 B	210° + 2°040 + 2 + 6 212°048 237 238 1 m 5°24°0 A	$ \begin{array}{r} $					
$ \begin{array}{r} $	210° + 2°745 + 4 + 8 212°757 * 184 * 753 * 184 * 753	$ \begin{array}{r} 210^{\circ} \\ + 2^{\circ}040 \\ + 2 \\ + 6 \\ 212^{\circ}048 \\ 237 \\ 237 \\ 238 \\ 1 m \\ 5^{\circ}24^{\circ}0 \\ \overline{A} \\ 76^{\circ} \\ 76^{\circ} \\ 76^{\circ} $	$ \begin{array}{r} $					
$ \begin{array}{r} $	$ \begin{array}{r} $	$ \begin{array}{r} 210^{\circ} \\ + 2^{\circ}040 \\ + 2 \\ + 6 \\ \hline 212^{\circ}048 \\ \hline 237 \\ \hline 238 \\ \hline 1 m \\ 5^{\circ}24^{\circ}0 \\ \hline A \\ \hline 76^{\circ} \\ + 1^{\circ}534 \\ + 3 \\ \end{array} $	92. + 2.287 + 1 + 7 - 94.295 - 94.295 - 937 - 66					
$ \begin{array}{r} $	$ \begin{array}{r} 210^{\circ} \\ + 2^{\circ}745 \\ + 8 \\ 212^{\circ}757 \\ \cdot 184 \\ \cdot 753 \\ \hline I84 \\ \cdot 753 \\ I84 \\ I64 \\ $	$ \begin{array}{r} 210' \\ + 2'040 \\ + 2 \\ + 6 \\ \hline 212'048 \\ \hline 237 \\ \hline 238 \\ \hline 1 \\ 5'24'0 \\ \hline A \\ \hline 76' \\ + 1'534 \\ + 5 \\ \hline \end{array} $	$ \begin{array}{r} $					
$ \begin{array}{r} $	$ \begin{array}{r} 210^{\circ} \\ + 2^{\circ}745 \\ + 4 \\ + 8 \\ 212^{\circ}757 \\ \cdot 184 \\ \cdot 753 \\ \hline 184 \\ \cdot 753 \\ 78^{\circ} \\ 4 \\ 78^{\circ} \\ 4 \\ + 3 \\ 78^{\circ} 882 \\ + 4 \\ 78^{\circ} 889 \\ 78^{\circ} 889 \\ \hline $	$ \begin{array}{r} 210^{\circ} \\ + 2^{\circ}040 \\ + 2 \\ + 6 \\ \hline 212^{\circ}048 \\ \hline 237 \\ \hline 238 \\ \hline 1 m \\ 5^{\circ}24^{\circ}0 \\ \hline A \\ \hline 76^{\circ} \\ + 1^{\circ}534 \\ + 3 \\ \hline 77^{\circ}542 \\ \hline \end{array} $	$\begin{array}{r} 92^{\circ} \\ + 2^{\circ}287 \\ + 1 \\ + 7 \\ \hline 94^{\circ}295 \\ \hline 937 \\ 66 \\ \hline 003 \\ \hline 2. \\ \hline \\ B \\ \hline 226^{\circ} \\ + 1^{\circ}814 \\ + 4 \\ + 5 \\ \hline 227^{\circ}823 \\ \end{array}$					
$ \begin{array}{r} $	$ \begin{array}{r} 210^{\circ} \\ + 2^{\circ}745 \\ + 4 \\ + 8 \\ 212^{\circ}757 \\ \cdot 184 \\ \cdot 753 \\ \hline I84 \\ \cdot 753 \\ I184 \\ I10 \\ I$	$ \begin{array}{r} 210' \\ + 2'040 \\ + 2 \\ + 6 \\ 212'048 \\ 237 \\ 238 \\ 1 m \\ 5'24'0 \\ \hline A \\ 76' \\ + 1'534 \\ + 3 \\ + 5 \\ 77'542 \\ 298 \\ 298 $	$ \begin{array}{r} $					
$ \begin{array}{r} $	$ \begin{array}{r} 210^{\circ} \\ + 2^{\circ}745 \\ + 8 \\ 212^{\circ}757 \\ \frac{1184}{753} \\ \hline 184 \\ \cdot753 \\ \hline 184 \\ 753 \\ 753 \\ \hline 184 \\ 753 \\ 753 \\ 753 \\ 753 \\ 753 \\ 753 \\ 78^{\circ} \\ + 0^{\circ} 882 \\ + 4 \\ 78^{\circ} 882 \\ + 4 \\ 78^{\circ} 883 \\ 78^{\circ} 838 \\ 78^{ \circ} 83 \\ $	$ \begin{array}{r} 210' \\ + 2'040 \\ + 2 \\ + 6 \\ \end{array} $ 212'048 237 238 1 m 5'24'0 A 76' + 1'534 \\ + 3 \\ + 5 \\ 77'542 298	$ \begin{array}{r} $					

The correction for chronometer error on July 6, derived from comparison with the transit-clock, was +5.8 m. which applied to the mean of each pair of chronometer times of observation gives the sidereal time for each pair of pointings as printed in the results.

The refraction is computed, having regard to the readings of the meteorological instruments, for each of these epochs; and being applied the result is the true observed distance free from index-error. The mean of four such determinations of each pair constitutes a complete observation for parallax. The reader who may desire to verify the refraction corrections has only to take the sum of the two distances marked r, the difference between this sum and the column marked R is the refraction. The figures in the column marked R give the distance in semirevolutions of the micrometer-screw. In computing the effect of proper motion and aberration, and in the deduction of the parallaxes, a semi-revolution (R) of the micrometer-screw has been taken :—

$$R = 12'' \cdot 865$$
.

The mean results of these observations and all details of their subsequent discussion are given in the Memoirs of the Royal Astronomical Society, vol. xlviii., and need not, therefore, be repeated here. The concluded results are :-----

Star.		Observer.	Parallax.	Probable Error.	Magnitude of Comparison Stars.
	+				1 - 18
22 Centauri -	-	Gill and Elkin -	+0.12	70.0I	7.6
Sirius -	-	>> >> -	+ .38	IO.	7.5
eIndi	-	33 33 -	+ '22	.03	71
Lacaille, 9352	-	Gill	+ .28	.02	7.6
o Eridani -			+ .166	.018	6.4
8 Centauri -	-		018	.010	7
Tucanae -	-	Elkin	+ .06	.010	71
e Eridani -	-		+ '14	.020	6.4
Canopus -	-	» – –	+ :03	•030	8

On the publication of these results (*loc. cit.*), I submitted to the Lords Commissioners of the Admiralty a proposal to acquire a new Heliometer, of seven inches aperture, for the observatory to continue the work on stellar parallax thus begun, and to determine the Solar Parallax by observations of Minor Planets. Their Lordships responded favourably to this appeal. The instrument was ordered from Messrs. Repsold and Söhne of Hamburg in 1884, was completed early in 1887, slightly modified in a few details after inspection by me in Hamburg, and was erected, and at work at the Cape before the end of the same year. This instrument has in every respect fulfilled the high expectations which I had formed of its powers, and the results already obtained, and which will shortly be published, will, I trust, be found to have amply justified the liberality of the Lords Commissioners of the Admiralty.

DAVID GILL.

Royal Observatory, Cape of Good Hope, 1893, January 13.



HELIOMETER OBSERVATIONS.

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HELIOMETER OBSERVATIONS FOR STELLAR PARALLAX.

1881, July 5. a, Centauri. в a h m R h m R 150.274 147.790 147.820 150.271 298.153 120.186 51.0 117.716 15 33.7 15 237 971 120.167 237.969 298.091 6.6 16 24.2 16 117.733 150.264 147.814 298.164 16 38.5 120.178 16 56.0 237.976 117.729 147.823 150.271 298.182 17 22'1 8.9 120.185 117.716 237.970 17 in Bar. 30.42. Ther. 49.8. Run + 2'4. Steadiness 3. Images 2-3. a₂ Centauri. 1881, July 6. B α h m 15 16.5 15 30.3 16 6.8 h m R 147.812 150.252 298.153 4'1 117.725 120.176 15 237.974 15 44·3 15 54·3 117.712 147.798 150.280 298.166 120.180 237.961 120.192 117.715 237.974 147.792 298.148 16 38.0 120.184 147.812 150.281 117.753 238.003 ł 16 24.0 298.177 in Ther. 58.5. Bar. 30.25. Run + 3.0. Images 2-3. Steadiness 2-3. 1881, July 6. 02 Eridani. β α h m R h \mathbf{m} 242·214 487·545 244·797 487·534 244.659 250.966 253.466 505.080 23 50.3 0 2.7 0 19.1 253.549 251.043 505.125 0 37.9 242.346 in Bar. 30'22. Ther. 54.2. Run + 5.0. Images 3-4. Steadiness 3-4. 1881, July 7. a, Centauri. β α h m R \mathbf{h} m r 238.020 147.812 298.195 120.210 117.741 3.6 1 50. 299 17 19.7 17 298.206 17 59.5 18 31.6 117.743 120.210 147.830 238.027 18 10.2 150.278 1 50.248 120.188 147.808 298.159 117.735 238.008 18 21.3 147.752 298.160 19 51.0 117.691 120.154 237.989 4.4 150.196 20 in Ther. 56.5. Run + 3'1. Images 3. Steadiness 3. Bar. 30.30.

MR. GILL'S OBSERVATIONS.

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	Lacaille 9352.		1881, October 6.				
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	в 342°668 342°709	h m 1 50°1 2 11°0	r 266·409 263·901 263·845 266·367	в 530 [•] 515 530 [•] 432			
β	∞ ₂ Centauri.		1881, October 7. a				
h m r r 19 39.1 117.683 120.190 20 8.3 120.187 117.691 20 15.7 117.687 120.166 20 43.2 120.154 117.652 in Bar. 30.25.	E 238.004 238.045 238.032 238.039 Ther.	h m 19 49·1 19 59·0 20 22·6 20 34·6 58°0.	r r 150°165 147°674 147°691 150°158 150°143 147°679 147°642 150°114 Run + 3°0.	E 298.022 298.050 298.072 298.038			
		1997 - 19 19	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1				
B	Siri	ius.	1881, Oet	ober 8.			
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	E 282.080 282.046 282.059 282.086 Ther.	h m 5 1.4 5 18.4 5 54.9 6 4.2 50°5.	$\begin{bmatrix} \mathbf{r} & \mathbf{r} \\ 144, 422 & 141, 915 \\ 141, 928 & 144, 408 \\ 144, 401 & 141, 891 \\ 141, 931 & 144, 406 \end{bmatrix}$ Run + 3.0.	E 286.419 286.418 286.375 286.420			
- Indi 1881 October 10							
β		15 6	α				
h m r r o 20°3 101°389 103°890 o 52°4 103°906 101°397 o 59°2 101°393 103°860 I 25°5 103°887 101°378	E 205 · 353 205 · 386 205 · 338 205 · 362	h m o 33.8 o 43.8 1 7.4 1 16.4	r r 84.097 81.602 81.595 84.072 84.078 81.580 81.580 84.069	в 165·767 165·738 165·736 165·731			
Bar. 30.32.	Ther.	49 [°] 7•	Run + 4.1.				
See in section of the	<i>a</i> .						
a	α ₂ Centauri.		1881, October 12. β				
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	R 298.041 298.001 298.021 298.084	h m 20 16.4 20 27.1 21 4.0 21 14.5	r r 117.678 120.164 120.139 117.691 117.681 120.112 120.102 117.626	R 238.022 238.029 238.080 238.048			
Bar. 30.25.	Ther.	59:3.	Run + 2.7.				





в

	Lacaille 9352.		1881, November 3.					
α	1		β					
$ \begin{array}{c ccccc} h & m & r & r \\ 1 & 33^{\circ}7 & 263^{\circ}906 & 266^{\circ}407 \\ 2 & 1^{\circ}6 & 266^{\circ}397 & 263^{\circ}904 \\ 2 & 11^{\circ}4 & 263^{\circ}878 & 266^{\circ}443 \\ 2 & 37^{\circ}6 & 266^{\circ}420 & 263^{\circ}893 \\ & & & &$	B 530.504 530.510 530.537 530.553 5. Run -	h m 1 42°1 1 52°3 2 21°4 2 30°3 + 4°4• I	r 172.495 170.026 172.529 170.018 mages 2.	r 170°044 172°525 170°046 172°490 Steading	R 342.660 342.678 342.713 342.652 288 2.			
a state of the second sec	Sirius.		1881, November 3.					
β	1.1			a				
h m r r 2 54.3 139.713 142.212 3 21.2 142.229 137.707 3 29.1 139.726 142.210 3 56.4 142.214 139.727 in Bar. 30.10.	E 282.004 282.015 282.015 282.020 Ther.	h m 3 4.0 3 12.5 3 37.4 3 46.9 59.5.	r 144.396 141.901 144.407 141.903 Run +	r 141.898 144.419 141.912 144.378 2.7.	E 286·386 286·411 286·406 286·367			
- And alore a la sin a sa anna			Second and	- Change - Carrier				
and a strange strange strange	Lacail	le 9352.	188	31, Nover	nber 5.			
β	1.1		0	6				
h m r r 1 46.9 172.505 170.010	R 342.638	h m 1 55.8	r 263 [.] 904	266·383	R 530°492			
2 20'8 170'019 172'468 2 20'2 172'400 170'025	342.625	2 11.6	266.360	263.890	530.465			
3 1.2 169.990 172.466	342.620	2 53.1	266.400	263.893	530'549			
Bar. 30 ^{•0} 2. Ther. 60 [°] 0. Run + 4 ^{•8} .								
	Sir	Sirius.		1881, November 5.				
α			f.	3				
h m r r 3 18·2 144·395 141·888	286·372	h m 3 26.2	r 139.724	r 142.208	R 282.011			
3 44.0 141.916 144.390	286.391	3 35.4	142.198	139.744	282.031			
4 20.8 141.866 144.393	286.341	4 11.0	142.232	139.725	282.035			
Bar. 30'02.	Ther.	58°8.	Run +	2.6.				
we do a la companya da series	ε Indi. 1881, November 10.							
a h		h	F					
23 34·3 84·115 81·620	165.789	23 43.7	101.415	103.895	205.375			
0 4.0 81.023 84.080 0 11.7 84.102 81.621	165.785	²³ 55 [•] 1 0 22 [•] 4	103.800	101.399	205.332			
0 46.5 81.635 84.074	165.779	0 34'2	103.892	101.398	205.366			
Bar. 30'03. Ther. 51'3. Run + 3'0.								



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в 2





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	β Centauri. *			1882, May 9.	
h m 10 41°6 10 49°9 Bar. 30°29. Ther. 56°0.	r 35`801 38`080 . Run -	r 38`078 35`811 + 4`5. I	в 73°915 73°926 mages 1.	Steadiness 1.	
Lacaille 9352.				1882, May 9.	
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	B 342.278 342.301 342.304 342.285 Run +	h m 18 28.5 18 41.0 19 10.5 19 21.3 4.5. Ima	r 264.007 266.358 264.063 266.382 ages 1-2.	r B 266.316 530.727 264.050 530.722 266.372 530.726 264.074 530.726 530.726 530.726 530.726 530.726 530.726	
	α ₂ Centauri.			1882, May 9.	
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	B 238.088 238.034 238.074 238.055 Run +	h m 19 58°3 20 8°3 20 34°3 20 43°6 2°6. In	r 147 ^{.7} 37 150 ^{.017} 147 ^{.699} 149 ^{.994} mages 2.	r B 150°016 297°953 147°714 297°950 149°999 297°978 147°696 297°999 Steadiness 2-3.	
The second second	Sirius.			1882, May 18.	
$\begin{array}{c cccc} & & & & & & & & & & & & & & & & & $	R 286·394 286·377 286·389 286·375 Run +	h m 9 50°9 9 59°6 10 19°5 10 30°8 3°0. Ima	r 142.132 139.807 142.091 139.786 ages 2-3.	r E 139.823 282.105 142.092 282.060 139.796 282.072 142.099 282.087 Steadiness 2-3.	
	α_2 Centauri.		1882, May 18.		
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	R 238.056 238.107 238.063 238.108 5. Run	h m 19 11·3 19 21·9 19 51·4 20 6·1 + 2·2.	r 147.740 150.040 147.696 150.019 Images 2.	r 150.039 147.721 150.030 147.699 297.920 297.913 297.919 297.938 297.938 Steadiness 3.	

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D




















al	α_2 Centauri.	1882, August 5. β ¹
h m r r 17 19'3 232'349 234'786 18 13'1 234'760 232'300 in	m h m 467·334 17 35·1 467·320 17 55·0	$\begin{array}{c cccccc} r & r & r & \\ 213.690 & 211.228 & \\ 211.239 & 213.691 & \\ 425.136 & \\ 425.136 & \\ \end{array}$
Bar. 30. 27. Ther. 48.0.	Run + 2'5. Ima	ges 2–3. Steadiness 3.
gl	α ₂ Centauri.	1882, August 7.
h m. r r 17 31.3 18 17.5 18 24.8 18 51.8 Bar. 30.29. Ther. 55.0.	R h m 424.853 17 51'3 424.853 18 5'7 424.887 18 32'9 424.909 18 42'7 Run + 3'5. Image	$\begin{array}{c c c c c c c c c c c c c c c c c c c $
	Sirius.	1882, August 7.
a		β
h m r r 1 52.8 141.945 144.349 2 34.2 144.352 141.947 2 44.3 141.945 144.332 3 13.8 144.341 141.981	E h m 286'419 2 3'7 286'402 2 17'1 286'377 2 54'2 286'415 3 5'0	r r 282.027 142.153 139.792 282.027 139.770 142.184 282.036 142.163 139.769 282.013 139.789 142.145 282.015
in Bar. 30.24. Ther. 48°0.	Run + 3·4. Imag	es 2–3. Steadiness 2–3.
al	a ₂ Centauri.	1882, August 11. β^1
h m r r 17 11.6 234.599 232.212 17 54.6 232.211 234.572 18 8.9 234.604 232.130 18 48.9 234.604 232.130 18 48.9 232.191 234.512	B h m 467.002 17 28.9 28.9 467.024 17 43.9 24.66 466.991 18 21.6 24.66 467.011 18 38.1 24.66	r r R 211.141 213.547 424.869 213.552 211.160 424.906 211.117 213.521 424.870 213.542 211.122 424.916
Bar. 30'24. Ther. 52°.	3. Run + 2.8. In	ages 2. Steadiness 2.
α Longo Z. La γ	e Indi.	J882, August 11. β
h m r r 1 40'4 84'129 81'811 2 26'1 81'759 84'130	B h m 166.031 1 54.7 2 9.2 166.004 2 37.9	r r k 101·215 103·680 205·008 103·649 101·284 205·057 103·623 101·267 205·038
3 3'0 84'140 81'732 in Bar. 30'10.	Ther. $53^{\circ}5$.	Run + 5.0.











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SE THE LAVE BERRY	Lacaille	9352.	1885	2, Novem	ber 27.
β	-		a		
$\begin{array}{c ccccc} h & m & r & r \\ 1 & 25^{\circ}9 \\ 2 & 0^{\circ}3 \\ 2 & 6^{\circ}7 \\ 2 & 40^{\circ}3 \\ \end{array} \begin{array}{c ccccc} r & r \\ 172^{\circ}233 & 169^{\circ}794 \\ 169^{\circ}761 & 172^{\circ}232 \\ 172^{\circ}232 & 169^{\circ}764 \\ 169^{\circ}757 & 172^{\circ}211 \\ \end{array}$	B 342°143 342°122 342°127 342°117	h m 1 37.0 1 51.0 2 18.4 2 28.4	r 264 [•] 217 266 [•] 682 264 [•] 199 266 [•] 621	r 266.661 264.223 266.645 264.165	R 531.069 531.106 531.064 531.014
Bar. (30.04). Ther. 62.	5. Run -	+ 5°2. 1	mages 2.	Steadine	ess 2-3.
β	Siri	ius.	188	2, Novem	ber 27.
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Run +	h m 3 14·1 3 25·0 3 49·9 3 57·1 2·5. Im	r 141°942 144°386 141°949 144°411 ages 2-3.	r 144.380 141.961 144.405 141.948 Steadin	R 286.412 286.435 286.439 286.443 ess 2-3.
Self-metrowyo /2. 1981	an Astron	Tilline The			
β	Lacaille	9352.	1882	2, Novem 2	ber 28.
h m 1 40'8 2 18'4 2 25'7 2 57'8 h m 169'791 172'197 172'197 172'241 169'763 172'242 169'763 172'224 172'233 169'784 172'197 169'791 172'197 169'791 172'197 169'791 172'197 169'791 172'197 169'791 172'197 169'791 172'24 169'791 172'24 169'763 172'24 172'	. R 342.112 342.153 342.126 342.177	h m 1 57·3 2 6·8 2 36·7 2 45·9	r 266.689 264.196 266.664 264.203	r 264·200 266·652 264·194 266·668	B 531.092 531.058 531.093 531.115
Bar. (30.07). Ther. 64.8.	Run +	5°2. In	nages 2-3.	Steadir	ness 2-3.
			11		
The addition of the	Sin	rius.	188	2, Novem	ber 28.
a			1	3	
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	E 286.437 286.443 286.425 286.434 Run +	h m 3 22°5 3 29°8 3 51°0 4 0°1 3°9. Im	r 142°185 139°732 142°183 139°722 ages 2-3.	r 139 [.] 746 142 [.] 171 139 [.] 727 142 [.] 185 Steadin	R 282.010 281.981 281.988 281.984 ess 2-3.
the second states and	With the state	(and the state of		- Andrew	- thereby
Attraction and	Lacail	le 9352.	188	2, Novem	ber 29.
α			F	3	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	R 531.020 531.045 531.096 531.138	h m 1 36.6 1 45.6 2 9.8 2 19.0	r 172·264 169·755 172·234 169·743	r 169 [•] 787 172 [•] 187 169 [•] 831 172 [•] 215	B 342.170 342.064 342.198 342.094
Bar. 30'1	3. Ther.	65.0. R	un + 5.8.		

	~			1.91	
and some set that in	Sirius	•	188	2, Decer	nber 3.
β			a		
h m r r 2 37'3 139'721 142'180	R 1 281.080	1 m	r 144.388	r 141.054	R 286.730
3 4.9 142.186 139.713	281.978	2 55.7	141.934	144.402	286.430
3 13.8 139.717 142.180 3 40.2 142.184 130.746	281.976	3 23.0	144.395	141.952	286.430
in When Good	D	, J- / T	1 95-	Gt 1'	100
Dar. 30°22. 11er. 00°0	. Run + 3.6). Ima	iges 1−2.	Steadin	less 2.
				50 420	Sale and
Contraction of the Contract	Lacaille 9	352.	188	2, Decen	nber 4.
β			a		
h m r r 1 38.0 160.754 172.227	R h	m	r 266.647	r 264.100	B 521.028
2 7.0 172.213 169.757	342'103	57.5	264.184	266.641	531.032
2 12.4 169.741 172.206	342.083	21.8	266.637	264.164	531.027
in 0	342 007 1 2	- 33 1] -	204 153	200 051 1	531 041
Bar. (30.23). Ther. (58.7)	. Run + 5.	o. Im	ages 1-2.	Steadi	ness 1-2.
And the second second second		- Charles			and the second party of
A Participant for P. 1	Sirius.	1000	188	2, Decen	aber 4.
a	• [*		β	4	
h m r r	R h	m	r	r	E .
2 50.9 141.938 144.384 3 25.9 144.406 141.934	280.410	18.2	142.145	139.709	281.933
3 30.7 141.919 144.394	286.401	38.9	142.185	139.701	281.965
3 52 9 144 408 141 951 in	280.445	3 40.5	139.712	142.175	281.900
Bar. 30.23. Ther. 58.7.	Run + 2.7.	Imag	es 1-2.	Steadines	SS I-2.
		31		-	
and the second second second	Lacaille 9	352.	188	2, Decen	aber 9.
α	-lestinge	6	β	- phi	
h m r r	R	h m (r	r '	R
2 4.2 264.243 266.670	531.117	2 12.3	172.237	169.734	342.102
2 42.0 264.141 266.659	531.037	2 51.5	172.219	169.701	342.070
3 12.3 266.685 264.159	531.117	3 1.0	169.716	172.222	342.099
Bar. 29.93. Ther. 70°5.	Run + 6.1	. Imag	ges 2-3.	Steadin	ess 2-3.
	Lacaille 9	352.	1882	, Decem	ber 13.
β		4	a		
h m r r	E I	n m j	r	r	R
2 9.1 172.211 169.692 2 26.2 160.725 172.171	342.038	2 22.0	266.671	264.186	531.003
2 54.8 172.199 169.733	342.093	3 6.7	264.143	266.656	531.075
3 29.9 169.711 172.185	342.089	3 18.3	266.676	204.105	531.134
Bar. 30'28. Ther. 57'o.	Run + 6.5.	Imag	ges 2-3.	Steadine	ss 2-3.
		2.00	A		





















AT THE SET	Lacaille 9352	2. 18 α	883, May 19.		
h m r r 19 31.4 172.018 169.594 20 2.2 169.606 172.043 20 9.7 172.037 169.617 20 49.0 169.603 172.041 in Bar. 30.23	R h 341°790 19 4 341°798 19 5 341°797 20 2 341°765 20 4 Ther. 41°0. 20 2	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	r B 6'734 531'290 4'326 531'324 6'775 531'308 4'331 531'304		
	di				
β	Sirius.	α	583, May 20.		
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	R h 282.031 9 4 282.046 9 5 282.016 10 2 282.057 10 3	m r 5·8 141·923 14 4·4 144·368 14 5·7 141·895 14 4·4 144·316 14	r R 4.348 286.434 1.912 286.452 4.319 286.438 1.869 286.429		
Bar. 30'00. Ther. 53 [°] 0.	Run + 3°3.	Images 2-3.	Steadiness 2–3.		
AL MIE: MIL B	∝ ₂ Centauri.	1 a	883, May 23.		
$ \begin{array}{c ccccc} h & m & r & r \\ 9 & 46^{\circ}6 & 120^{\circ}339 & 117^{\circ}893 \\ 10 & 18^{\circ}5 & 117^{\circ}909 & 120^{\circ}321 \\ 10 & 26^{\circ}3 & 120^{\circ}350 & 117^{\circ}921 \\ 10 & 57^{\circ}3 & 117^{\circ}903 & 120^{\circ}347 \\ & & \\$	$\begin{array}{c c} \mathbf{E} & \mathbf{h} \\ 238^{\circ}333 & 10 \\ 238^{\circ}333 & 10 \\ 238^{\circ}374 & 10 \\ 238^{\circ}352 & 10 \\ 328^{\circ}352 & 10 \\ \mathbf{Run} + 4^{\circ}3. \end{array}$	m r 5.2 147.608 15 5.3 150.001 14 8.2 147.591 15 7.8 150.035 14 Images 2. S	$ \begin{array}{c c c c c c c c c c c c c c c c c c c $		
α_2 Centauri. 1883, May 23.					
h m r r 16 49.9 120.379 117.929 17 20.4 117.948 120.364 17 28.5 120.363 117.937 17 55.4 117.949 120.363 in Bar, 29.98	$\begin{array}{c} \mathbf{R} & \mathbf{h} \\ \mathbf{238^{\circ}376} & 165 \\ \mathbf{238^{\circ}381} & 171 \\ \mathbf{238^{\circ}370} & 173 \\ \mathbf{238^{\circ}386} & 174 \\ 3. & \mathbf{Ther.} \mathbf{49^{\circ}0.} \end{array}$	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	r B 0`036 297`718 297`718 297`740 0`036 297`728 7`595 297`713		
at gut blas	α₂ Centauri.	1	883, May 28.		
z ¹ h m r r 17 9'9 234'535 232'095 17 47'7 232'103 234'477 17 59'2 232'103 234'477 18 30'4 232'044 234'476 in Bar. 29'96. Ther. 57'0.	$\begin{array}{c c} & & & h \\ & & & 466 \cdot 816 \\ & & 466 \cdot 802 \\ & & 466 \cdot 818 \\ & & 466 \cdot 794 \\ \end{array} \begin{array}{c} h \\ & & 17 \\ & 17 \\ & 18 \\ & 18 \\ & 18 \\ \end{array}$ Run + 5°3.	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$ \begin{array}{c c} \mathbf{F} & \mathbf{E} \\ 3.^{\circ}649 & 425.^{\circ}031 \\ 425.^{\circ}042 & 425.^{\circ}042 \\ 425.^{\circ}042 & 425.^{\circ}044 \\ 425.^{\circ}035 & 35 \end{array} $		



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312 120	tauxional d	8	Lacail	le 9352.	1883	, Septen	ıber 30.					
h m		ß	P	h m		a						
19 21.4	169. 505	171.941	341.633	19 29.3	266.852	264.417	531.530					
19 4× 9	in	109 554	341 030 Dun	1 19 35 5	1 204 305	200 021	531 450					
Dai	. 30 . 44	Ther. 52 6	3. Ivun	+ 5.7.	Images 3.	Steadin	less 3.					
	216.0		Lacaill	le 9352.		1883, Oc	tober 3.					
1.12 1990	alettered a	β	· BERRIN	The mark	0	e						
h m 19 29.8 19 56.3 20 0.8	r 171.971 169.510 171.953	r 169 [•] 531 171 [•] 962 169 [•] 504	B 341.672 341.618 341.599	h m 19 42 °9 19 50 °4 20 8 °4	r 264.430 266.851 264.397	r 266.877 264.429 266.892	B 531.538 531.504 531.494					
20 21 5	in 109-543	171 905	341.057	20 14 9	200-009	204.410	531. 505					
Bar.	30.00	Ther. 62.4	Run -	+ 4.9. 1	lmages 3.	Steadine	285 3.					
12.10	and an er		Lacaille	e 9352.	1	.883, Oct	ober 3.					
		β	ayla J		a							
h m	r 171:078	r 160.527	R 241:622	h m	r 261:420	1°	E					
I 54.3	169.537	171.976	341 640	1 44.0	266.887	264.432	531 529					
2 2.0	171 998	169.536	341.665	2 11.1	264.423	266.898	531.538					
down the	ingland	BLEES STATE	10 mg 10 mg	5.9.6. A 8.8.9	SCHOOL SHOT	NA STARLES	100 004					
Bar.	20.06.]	Ther. 53.8.	Run +	6.1. II	mages 1-2.	Bør. 29.96. Ther. 53.8. Run + 6.1. Images 1-2. Steadiness 2.						
Bar. :	29 [•] 96.]	Ther. 53.8.	Run +	6·1. II	mages 1-2.	Steadin	ness 2.					
Bar. :	29 [•] 96.]	Ther. 53.8.	Run + Lacaille	6·1. In e 9352.	mages 1-2.	Steadin 883, Oct	ober 5.					
Bør. :	29 [•] 96.]	Ther. 53.8.	Run + Lacaille	6·1. I1 e 9352.	mages 1-2. 1 β	Steadin 883, Oct	ober 5.					
Bør. : h m	29 [°] 96.]	Ther. 53.8.	Run + Lacaille	6.1. In e 9352.	mages 1-2. Ι β	Steadin 883, Oct	ober 5.					
Bør. : h m 19 52`5 20 15`6	29°96.] 29°26.] 266°862 264°429	rher. 53.8.	Run + Lacaille 531 · 501 531 · 493	6.1. In e 9352. h m 20 2.4 20 9.6	mages 1-2. 1 β 169.515 171.966	Steadin 883, Oct 171.985 169.522	aess 2. ober 5. 341.644 341.627					
Bər. : h m 19 52 ² 5 20 15 ⁶ 20 21 ¹ 1 20 41 ¹ 1	29°96.] 266°862 264°429 266°911 264°911	r 264 ⁺ 414 266 ⁺ 863 264 ⁺ 414 266 ⁺ 886	Run + Lacaille 531 * 501 531 * 493 531 * 522 * 737 * 467	6.1. In e 9352. h m 20 2.4 20 9.6 20 28.7 20 28.7	mages 1-2. 1 β 169 ⁻ 515 171-966 169,515 172-902	Steadin 883, Oct 171.985 169.522 171.984	Bess 2. ober 5. 341.644 341.627 341.627 341.627					
Bør. : h m 19 52 5 20 15 6 20 21 1 20 47 9	29°96. 29°96. 266°862 264°429 266°911 266°911 264°402 in	r 264,414 266,863 264,414 266,886	Run + Lacaille 531 · 501 531 · 493 531 · 522 531 · 467	6.1. In e 9352. h m 20 2.4 20 9.6 20 28.7 20 37.7	mages 1-2. 1 β 169 515 171 966 169 515 172 003	Steadin 883, Oct 171.985 169.522 171.984 169.543	R s41.644 341.627 341.627 341.669					
Bør. : h m 19 52° 5 20 15° 6 20 21° 1 20 47° 9 Bar.	29°96. 29°96. 266°862 264°429 266°911 264°402 in 30°32.	r 264 [°] 414 266 [°] 863 264 [°] 414 266 [°] 886 Ther. 57 [°] 5	Run + Lacaille 531 · 501 531 · 493 531 · 522 531 · 467 . Run -	6.1. In e 9352. h m 20 2'4 20 9'6 20 28'7 20 37'7 + 6'2. I	mages 1-2. 1 β 169·515 171·966 169·515 172·003 (mages 3.	Steadin 883, Oct 171.985 169.522 171.984 169.543 Steadine	Bess 2. ober 5. 341.644 341.627 341.627 341.669 288 3.					
Bør. : h m 19 52:5 20 15:6 20 21:1 20 47:9 Bar.	29°96. 7 29°96. 7 266°862 264°429 266°911 264°402 in 30°32.	r 264 ⁻ 414 266 ⁻ 863 264 ⁻ 414 266 ⁻ 886 264 ⁻ 414 266 ⁻ 886	Run + Lacaille 531 · 501 531 · 493 531 · 522 531 · 467 . Run -	6.1. In e 9352. h m 20 2.4 20 9.6 20 28.7 20 37.7 + 6.2. I	mages 1-2. 1 β 169 [•] 515 171 [•] 966 169 [•] 515 172 [•] 003 Images 3.	Steadin 883, Oct 171.985 169.522 171.984 169.543 Steadine	Ress 2. ober 5. 341.644 341.627 341.627 341.669 258 3.					
Bør. : h m 19 52 [•] 5 20 15 [•] 6 20 21 [•] 1 20 47 [•] 9 Bar.	29°96. 29°96. 266°862 264°429 266°911 264°402 in 30°32.	r 264 [°] 414 266 [°] 863 264 [°] 414 266 [°] 886 Ther. 57 [°] 5	Run + Lacaille 53 ^{1 · 501} 53 ^{1 · 493} 53 ^{1 · 522} 53 ^{1 · 467} . Run - Lacaille	6.1. In e 9352. h m $20 2^{2}4$ 20 9.6 20 28.7 20 37.7 + 6.2. In e 9352.	mages 1-2. 1 β 169 ⁻ 515 171 ⁻ 966 169 ⁻ 515 172 ⁻ 003 1 14	Steadin 883, Oct 171.985 169.522 171.984 169.543 Steadine 383, Octo	aess 2. ober 5. 341.644 341.627 341.669 288 3. ober 5.					
Bør. : h m 19 52 ² 5 20 15 ⁶ 6 20 21 ¹ 1 20 47 ⁹ 9 Bar.	29°96. r 266°862 264°429 266°911 264°402 in 30°32.	r 264 ⁻ 414 266 ⁻ 863 264 ⁻ 414 266 ⁻ 886 Ther. 57 [°] 5	Run + Lacaille 531 · 501 531 · 493 533 · 522 531 · 467 5. Run - Lacaille	6.1. In e 9352. h m 20 2 ² 4 20 9 ⁶ 20 2 ⁸ 7 20 37 ⁷ + 6 ² . I e 9352.	mages 1-2. 1 β 169 [•] 515 171 [•] 966 169 [•] 515 172 [•] 003 10 11 β	Steadin 883, Oct 171.985 169.522 171.984 169.543 Steadine 383, Octo	R 341.644 341.627 341.627 341.627 341.669 258 3.					
Bør. : h m 19 52 ² 5 20 15 ⁶ 6 20 21 ¹ 1 20 47 ⁹ 9 Bar.	29'96. 7 29'96. 7 266'862 264'429 266'911 264'402 in 30'32. 266'897	r 264'414 266'863 264'414 266'886 Ther. 57°5 r 264'422	Run + Lacaille 531 · 501 531 · 493 531 · 522 531 · 467 531 · 467 Lacaille B	6.1. In e 9352. h m $20 2^{2}4$ $20 9^{6}6$ $20 2^{8}7$ $20 37^{7}7$ + 6.2. I e 9352. h m $1 42^{2}8$	mages 1-2. 1 β r 169`515 171`966 169`515 172`003 1mages 3.	Steadin 883, Oct 171.985 169.522 171.984 169.543 Steadine 383, Octo	R 341.644 341.627 341.627 341.669 288 3. Obber 5. E 241.688					
Bør. : h m 19 52 5 20 21 1 20 47 9 Bar. h m 1 32 9 2 1 6	29°96. 7 29°96. 7 266°862 264°429 266°911 264°402 in 30°32. 266°897 266°897 266°897	r 264.414 266.863 264.414 266.886 Ther. 57°5 r 264.422 266.864	Run + Lacaille 531 · 501 531 · 493 531 · 522 531 · 467 . Run - Lacaille B 531 · 512 531 · 512 531 · 474	6.1. In e 9352. h m 20 2.4 20 9.6 20 28.7 20 37.7 + 6.2. In e 9352. h m 1 42.8 1 52.3	mages 1-2. 1 β 169`515 171'966 169`515 172'003 172'003 172'003 18 169`552 171'993	Steadin 883, Oct 171.985 169.522 171.984 169.543 Steadine 383, Octo	R 341.644 341.627 341.627 341.669 288 3.					
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HELIOMETER OBSERVATIONS. GILL.



HELIOMETER OBSERVATIONS. GILL.



ELKIN'S HELIOMETER OBSERVATIONS.



HELIOMETER OBSERVATIONS FOR STELLAR PARALLAX.

MR. ELKIN'S OBSERVATIONS.

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n m r r 8 38.6 194.269 192.192	386.560	n m 9 2.0	243'136	r 241'170	R 484.442
8 49.9 192.257 194.288	386.651	9 10.8	241.148	243.191	484.473
9 40.9 194.234 192.248	386.589	9 24.2	243.170	241.146	484.448
9 47.8 192.275 194.260	386.643	9 30.6	241.149	243.121	484.431
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7 29'0 195'577 197'550	393.448	7 44.9	200.613	202.699	403.697
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8 33.9 197.455 195.362	393.495	8 10.8	202.059	200.037	403.872
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a h ' m r r r g 38.3 194.951 196.915	Sin 391 [°] 996	rius. h m 9 20 [.] 3	191 [°] .658	1881, Ma b 193 ^{°.} 645	arch 11. $385^{\text{B}} \cdot 427$
a h ' m r r 9 38'3 194'951 196'915 9 46'3 196'860 194'904	Sin 391 [•] 996 391 [•] 897	ius. h m 9 20 [.] 3 9 27 [.] 5	r 191.658 193.646	1881, Ma b 193 ^{.645} 191.623	arch 11. $385^{\cdot}427$ $385^{\cdot}396$
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<i>a</i> h m r r 9 38'3 9 46'3 9 56'8 194'951 196'915 196'860 194'904 194'981 196'859 10 2'5 196'918 194'835	Sin 391 [•] 996 391 [•] 897 391 [•] 977 391 [•] 894	rius. h m 9 20 ^{.3} 9 27 ^{.5} 10 11 ^{.8} 10 19 ^{.4}	r 191.658 193.646 191.587 193.657	1881, Ma b 193.645 191.623 193.596 191.580	$\begin{bmatrix} & & & \\ & $
$\begin{array}{c}a\\ h & m\\ 9 & 38^{\circ}3\\ 9 & 46^{\circ}3\\ 9 & 56^{\circ}8\\ 10 & 2^{\circ}5\\ 10 & 2^{\circ}5\\ \end{array} \begin{array}{c}1 & r\\ 194^{\circ}951 & 196^{\circ}915\\ 194^{\circ}981 & 196^{\circ}859\\ 194^{\circ}981 & 194^{\circ}835\\ 196^{\circ}918 & 194^{\circ}835\\ \end{array}$	Sin $\begin{pmatrix} & \mathbf{R} \\ 391^{\circ}996 \\ 391^{\circ}897 \\ 391^{\circ}977 \\ 391^{\circ}894 \\ Run + 3^{\circ}4 \end{pmatrix}$	h m 9 20°3 9 27°5 10 11°8 10 19°4	r 191.658 193.646 191.587 193.657 2. Stead	1881, Ma b r 193 [.] 645 191 [.] 623 193 [.] 596 191 [.] 580 iness 2.	rch 11. $ \begin{bmatrix} B \\ 385^{\circ}427 \\ 385^{\circ}396 \\ 385^{\circ}333 \\ 385^{\circ}394 \end{bmatrix} $ F.P. $0^{\circ}58$.
$\begin{array}{c}a\\ \begin{array}{c c}h&m&r&r\\ 9&38^{\circ}3\\ 9&46^{\circ}3\\ 9&56^{\circ}8\\ 10&2^{\circ}5\\ 10&2^{\circ}5\\ 10&2^{\circ}5\\ \end{array} \begin{array}{c}196^{\circ}860&194^{\circ}904\\ 194^{\circ}981&196^{\circ}859\\ 196^{\circ}918&194^{\circ}835\\ \end{array}$ Bar, 29^{\circ}98. Ther, 73° 0.	$\begin{cases} \frac{R}{391^{\circ}996}\\ \frac{391^{\circ}897}{391^{\circ}977}\\ \frac{391^{\circ}894}{391^{\circ}894}\\ \text{Run} + 3^{\circ}4. \end{cases}$	ius. h m 9 20 ³ 9 27 ⁵ 10 11 ⁸ 10 19 ⁴ Images 2	r 191.658 193.646 191.587 193.657 2. Stead	1881, Ma b 193 [°] 645 191 [°] 623 193 [°] 596 191 [°] 580 iness 2.	rch 11. ^B ^{385'427} ^{385'396} ^{385'333} ^{385'394} F.P. 9'58.
$\begin{array}{c} a \\ \begin{array}{c} h & m & r & r \\ 9 & 38^{\circ} & 3 \\ 9 & 46^{\circ} & 196^{\circ} & 956^{\circ} & 196^{\circ} & 966^{\circ} & 194^{\circ} & 904 \\ 9 & 56^{\circ} & 8 & 194^{\circ} & 981 & 196^{\circ} & 859 \\ 10 & 2^{\circ} & 5 & 196^{\circ} & 918 & 194^{\circ} & 835 \\ \hline & & & & & \\ & & & & & \\ & & & & & &$	$\begin{cases} \frac{R}{391,996}\\ \frac{391,897}{391,977}\\ \frac{391,877}{391,894}\\ \text{Run} + 3.4. \end{cases}$	ius. h m 9 20 ³ 9 27 ⁵ 10 11 ⁸ 10 19 ⁴ Images 2	r 191.658 193.646 191.587 193.657 2. Stead	1881, Ma b 193 [°] 645 191 [°] 623 193 [°] 596 191 [°] 580 iness 2.	E 385'427 385'396 385'333 385'394 F.P. 9'58.
a h ' m r r 9 38'3 9 46'3 9 56'8 10 2'5 10 2'5 Bar. 29'98. Ther. 73'0.	$\begin{cases} \frac{8}{391,996} \\ \frac{391,897}{391,977} \\ \frac{391,894}{391,894} \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\$	ius. h m 9 20 ³ 3 9 27 ⁵ 5 10 11 ⁸ 10 19 ⁴ Images 2	r 191.658 193.646 191.587 193.657 2. Stead	1881, Ma b r 193 [°] 645 191 [°] 623 193 [°] 596 191 [°] 580 iness 2.	E 11. B 285°427 385°396 385°333 385°394 F.P. 9°58.
a h m r r 9 38'3 9 46'3 9 56'8 10 2'5 Bar. 29'98. Ther. 73'0.	Sin $\begin{vmatrix} & \mathbf{R} \\ 391^{\circ}996 \\ 391^{\circ}897 \\ 391^{\circ}977 \\ 391^{\circ}894 \\ Run + 3^{\circ}4. \\ \alpha_2 Ce$	ius. h m 9 20 ³ 9 27 ⁵ 10 11 ⁸ 10 19 ⁴ Images :	r 191.658 193.646 191.587 193.657 2. Stead	1881, Ma b 193 [°] 645 191 [°] 623 193 [°] 596 191 [°] 580 iness 2.	rch 11. ^B 385 [•] 427 385 [•] 396 385 [•] 333 385 [•] 394 F.P. 9 [•] 58. rch 11.
$a \\ \begin{array}{c} h & m & r & r \\ 9 & 38^{\circ} & 3 \\ 9 & 46^{\circ} & 196^{\circ} & 860^{\circ} & 194^{\circ} & 904 \\ 9 & 56^{\circ} & 8 & 196^{\circ} & 860^{\circ} & 194^{\circ} & 904 \\ 194^{\circ} & 981^{\circ} & 196^{\circ} & 859^{\circ} \\ 196^{\circ} & 918^{\circ} & 194^{\circ} & 835^{\circ} \\ \end{array} \\ \begin{array}{c} h & h & h \\ Bar, 29^{\circ} & 98^{\circ} & Ther, 73^{\circ} & 0 \end{array} \end{array}$	Sin $\begin{vmatrix} & \mathbf{R} \\ 391^{\circ}996 \\ 391^{\circ}897 \\ 391^{\circ}977 \\ 391^{\circ}894 \\ Run + 3^{\circ}4. \\ \alpha_2 Ce$	ius. h m 9 20 ³ 3 9 27 ³ 5 10 11 ⁸ 10 19 ⁴ Images 2	r 191.658 193.646 191.587 193.657 2. Stead	1881, Ma b 193 [°] 645 191 [°] 623 193 [°] 596 191 [°] 580 iness 2.	$\begin{array}{c} & & & & \\ & & & & \\ & & & & \\ & & & & $
a $ \begin{array}{c} h & m & r & r \\ 9 & 38^{\circ}3 \\ 9 & 46^{\circ}3 \\ 9 & 56^{\circ}8 \\ 10 & 2^{\circ}5 \\ 10 & 2^{\circ}5 \\ 106^{\circ}918 \\ 194^{\circ}981 \\ 196^{\circ}918 \\ 194^{\circ}835 \\ 196^{\circ}859 $	Sin $\begin{vmatrix} & \mathbf{R} \\ 391^{\circ}996 \\ 391^{\circ}897 \\ 391^{\circ}977 \\ 391^{\circ}894 \\ Run + 3^{\circ}4. \\ \alpha_2 Ce$	ius. h m 9 20 ³ 9 27 ³ 10 11 ⁸ 10 19 ⁴ Images : ntauri.	r 191.658 193.646 191.587 193.657 2. Stead	1881, Ma b 193 [°] 645 191 [°] 623 193 [°] 596 191 [°] 580 iness 2.	E R R R R R R R R R R R R R R R R R R R
a $ \begin{array}{c c} h & m & r & r \\ 9 & 38^{\circ} & 3 \\ 9 & 46^{\circ} & 194^{\circ} 951 & 196^{\circ} 915 \\ 9 & 46^{\circ} & 196^{\circ} 860 & 194^{\circ} 904 \\ 9 & 56^{\circ} & 194^{\circ} 981 & 196^{\circ} 859 \\ 10 & 2^{\circ} & 5 & 196^{\circ} 918 & 194^{\circ} 835 \\ \hline & & & & \\ Bar, 29^{\circ} 98. & Ther, 73^{\circ} 0. \end{array} $ $ \begin{array}{c c} a \\ h & m \\ 10 & 47^{\circ} 8 & 192^{\circ} 185 & 194^{\circ} 216 \\ \end{array} $	Sin $\begin{vmatrix} & \mathbf{R} \\ 391^{\circ}996 \\ 391^{\circ}897 \\ 391^{\circ}977 \\ 391^{\circ}894 \end{vmatrix}$ Run + 3.4. α_2 Ce $\begin{vmatrix} & \mathbf{R} \\ 386^{\circ}519 \end{vmatrix}$	ius. h m 9 20 ³ 9 27 ⁵ 10 11 ⁸ 10 19 ⁴ Images : ntauri. h m 11 18 ⁵ 5	r 191.658 193.646 191.587 193.657 2. Stead	1881, Ma b 193 [°] 645 191 [°] 623 193 [°] 596 191 [°] 580 iness 2. 1881, Ma b r 243 [°] 094	$\begin{array}{c} & & & & \\ & & & & \\ & & & & \\ & & & & $
a $ \begin{array}{c c} h & m & r & r \\ 9 & 38^{\circ} & 3 \\ 9 & 46^{\circ} & 194^{\circ} 951 & 196^{\circ} 915 \\ 9 & 46^{\circ} & 196^{\circ} 860 & 194^{\circ} 904 \\ 9 & 56^{\circ} & 194^{\circ} 981 & 196^{\circ} 859 \\ 10 & 2^{\circ} & 5 \\ 196^{\circ} 918 & 194^{\circ} 835 \\ \hline \\ Bar, 29^{\circ} 98. & Ther, 73^{\circ} 0. \\ \end{array} $ $ \begin{array}{c c} a \\ h & m \\ 10 & 47^{\circ} 8 \\ 105^{\circ} 56^{\circ} & 194^{\circ} 253 & 194^{\circ} 216 \\ 194^{\circ} 253 & 192^{\circ} 201 \\ \end{array} $	Sin $\begin{vmatrix} 8 \\ 391^{\circ}996 \\ 391^{\circ}897 \\ 391^{\circ}977 \\ 391^{\circ}894 \end{vmatrix}$ Run + 3.4. α_2 Ce $\begin{vmatrix} 8 \\ 386^{\circ}519 \\ 386^{\circ}574 \end{vmatrix}$	ius. h m 9 20 ³ 9 27 ⁵ 10 11 ⁸ 10 19 ⁴ Images : ntauri. h m 11 18 ⁵ 11 27 ⁸	r 191.658 193.646 191.587 193.657 2. Stead	1881, Ma b $193^{\circ}645$ $191^{\circ}623$ $193^{\circ}596$ $191^{\circ}580$ iness 2. 1881, Ma b r $243^{\circ}094$ $241^{\circ}042$	arch 11. $ \begin{array}{c} B \\ 385^{\circ} 427 \\ 385^{\circ} 396 \\ 385^{\circ} 333 \\ 385^{\circ} 394 \\ F.P. 9^{\circ} 58. \\ arch 11. \\ 484^{\circ} 304 \\ 484^{\circ} 281 \\ \end{array} $
a $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Sin $\begin{vmatrix} 8\\ 391^{\circ}996\\ 391^{\circ}897\\ 391^{\circ}977\\ 391^{\circ}894\\ Run + 3^{\circ}4.\\ \alpha_2 \text{ Ce}\\ \begin{vmatrix} 8\\ 386^{\circ}519\\ 386^{\circ}574\\ 386^{\circ}482\\ 966^{\circ}482\\ 986^{\circ}482\\ 986^{\circ}482$	ius. h m 9 20 ³ 9 27 ⁵ 10 11 ⁸ 10 19 ⁴ Images : ntauri. h m 11 18 ⁵ 11 27 ⁸ 11 40 ⁵	r 191.658 193.646 191.587 193.657 2. Stead 241.065 243.091 241.074	1881, Ma b r 193 [°] 645 191 [°] 623 193 [°] 596 191 [°] 580 iness 2. 1881, Ma b r 243 [°] 094 241 [°] 042 243 [°] 089	arch 11. $ \begin{array}{c} B \\ 385^{\circ} 427 \\ 385^{\circ} 396 \\ 385^{\circ} 333 \\ 385^{\circ} 394 \\ F.P. 9^{\circ} 58. \\ Freh 11. \\ 484^{\circ} 304 \\ 484^{\circ} 281 \\ 484^{\circ} 313 \\ 86^{\circ} 316^{\circ} 31 \\ 86^{\circ} 316^{\circ} 31 \\ 86^{\circ} 316^{\circ} 31 \\ 86^{\circ} 316^{\circ} 3$
a $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Sin $\begin{vmatrix} B \\ 391^{2}996 \\ 391^{2}897 \\ 391^{2}977 \\ 391^{2}977 \\ 391^{2}894 \\ Run + 3^{4}4 \\ \alpha_{2} Ce \\ \frac{386^{5}519}{386^{5}574} \\ 386^{4}482 \\ 386^{4}482 \\ 386^{4}482 \\ 386^{4}457 \\ 386^{4}57 \\ 386^{4}57 \\ 386^{4}57 \\ 386^{4}57 \\ 386^{4}57 \\ 386^{4}57 \\ $	ius. h m 9 20 ³ 9 27 ⁵ 10 11 ⁸ 10 19 ⁴ Images : ntauri. h m 11 18 ⁵ 11 27 ⁸ 11 40 ⁵ 11 40 ⁵	$\begin{vmatrix} r \\ 191.658 \\ 193.646 \\ 191.587 \\ 193.657 \\ 2. Stead \\ 241.065 \\ 243.091 \\ 241.074 \\ 243.101 \end{vmatrix}$	1881, Ma b r 193 [°] 645 191 [°] 623 193 [°] 596 191 [°] 580 iness 2. 1881, Ma b r 243 [°] 094 241 [°] 042 243 [°] 089 241 [°] 047	arch 11. $\begin{vmatrix} 8 & 5 & 27 \\ 385 & 396 \\ 385 & 333 \\ 385 & 394 \\ F.P. 9 & 58. \\ F.P. 9 & 58. \\ arch 11. \\ \end{vmatrix}$
a $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Sin $\begin{vmatrix} B \\ 391^{2}996 \\ 391^{2}897 \\ 391^{2}977 \\ 391^{2}977 \\ 391^{2}894 \\ Run + 3^{4}4 \\ \alpha_{2} Ce \\ \frac{8}{386^{5}519} \\ 386^{5}574 \\ 386^{4}482 \\ 386^{4}457 \\ Run + 3^{4}9 \\ Au + 3^{4}9 \\ Au + 3^{4}9 \\ Au + 3^{4}9 \\ Au + 3^{4}9 $	ius. h m 9 20 ³ 9 27 ⁵ 10 11 ⁸ 10 19 ⁴ Images : ntauri. h m 11 18 ⁵ 11 27 ⁸ 11 40 ⁵ 11 40 ⁵ 11 40 ⁵	r 191.658 193.646 191.587 193.657 2. Stead 241.065 243.091 241.074 243.101 2. Stead	1881, Ma b r 193 [°] 645 191 [°] 623 193 [°] 596 191 [°] 580 iness 2. 1881, Ma b r 243 [°] 094 241 [°] 042 243 [°] 089 241 [°] 047 iness 2.	arch 11. $\begin{vmatrix} 8 \\ 385^{\circ} 427 \\ 385^{\circ} 396 \\ 385^{\circ} 333 \\ 385^{\circ} 394 \\ F.P. 9^{\circ} 58. \\ F.P. 9^{\circ} 58. \\ arch 11. \\ \begin{vmatrix} 8 \\ 484^{\circ} 304 \\ 484^{\circ} 281 \\ 484^{\circ} 313 \\ 484^{\circ} 299 \\ F.P. 9^{\circ} 58. \\ \end{vmatrix}$

SALTETTS HOW BHOULT	1021120 1991 March 19
b	f a
Anh	h m i n n i n
7 15.3 200.704 202.712 403.690	7 28.6 195.553 197.611 393.487
7 20.4 202.768 200.766 403.825	7 35 1 197.630 195.489 393.466
8 2.2 200.559 202.024 403.007 8 0.7 202.581 200.628 402.741	7 45 5 195 475 197 478 393 344
in	1 7 52 0 1 197 500 195 491 + 595 422
Bar. 30.04. Ther. 65.4. Run + 2.9	. Images 3. Steadiness 3. F.P. 9.58.
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h m r r E	h m r r B
9 30.8 194.932 190.890 391.900	9 52'9 191'008 193'595 385'403
10 29.0 194.895 196.875 391.933	10 13.1 191.619 193.618 385.390
10 35.6 196.844 194.850 391.864	10 19.9 193.609 191.607 385.375
Bar. 30'05. Ther. 65.6. Run + 3.9.	Images 2-3. Steadiness 3. F.P. 9.58.
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8 4.8 256.584 254.501 511.287	8 20.8 270.240 268.131 538.571
8 50.1 254.527 256.583 511.319	8 32.5 268.145 270.202 538.548
8 56.9 256.579 254.507 511.295	8 40.4 270.207 268.140 538.548
Bar. 30'15. Ther. 58'8. Run + 3'0	Images 1. Steadiness 2. F.P. 9.70.
1381, March 11,	Mill Contraction
Si	rius. 1881, March 16.
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9 26.8 191.614 193.670 385.415	9 45.6 194.857 196.880 391.874
9 35.0 193.671 191.638 385.443	9 53 4 196 917 194 865 391 922
10 27.6 103.630 101.620 385.428	10 4 3 194 822 190 910 391 879
in	and the mark the second second second
Bar. 30.16. Ther. 56.7. Run + 0.5.	Images 1. Steadiness 2. F.P. 9'70.
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a, Cer	1881, March 17.
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n m r r R B B	h m r r B 0 20'4 102'132 104'121 286'271
9 11.6 243.154 241.056 484.347	9 27.9 194.193 192.197 386.499
9 58.0 241.089 243.096 484.320	9 38.3 192.158 194.252 386.520
in 4 7 243.102 241.050 484.294	9 40.9 194.250 192.130 386.497
Bar. 30'18. Ther. 60'4. Run + 2'7.	Images 2. Steadiness 3. F.P. 9.70.
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1881, March 23	Canopus.		1881, March 17.
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	m r 1'4 52'699 9'3 54'811 26'7 52'736 35'9 54'788 ges 2-3. Steading	r B 54'797 107'574 52'735 107'629 54'778 107'639 52'752 107'639 ness 2-3. F.P. 9'70.
1991, March 22	Sirius.		1881, March 18.
h m 8 50°1 8 50°1 9 45°6 9 53°9 194°867 194°867 196°913 194°854 194°899 196°936 194°854 194°899 196°936 194°854 194°854 194°859 196°936 R	R h 391.863 9 391.899 9 391.904 9 391.975 9 un + 1.5. In	m r 13 [•] 2 193 [•] 675 2 [•] 3 191 [•] 613 3 [•] 1 193 [•] 666 3 ⁶ 8 191 [•] 612 mages 1. Stead	r 191 [°] 605 193 [°] 700 193 [°] 612 193 [°] 677 193 [°] 677 193 [°] 677 195 [°] 424 iness 2. F.P. 9 [°] 70.
100Fs. March 1461	a, Centau	i.	1881. March 19.
a	1		Ъ
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c} \mathbf{R} & \mathbf{h} \\ 386^{\circ} 446 & \mathbf{io} \\ 386^{\circ} 470 & \mathbf{io} \\ 386^{\circ} 527 & \mathbf{io} \\ 385^{\circ} 492 & \mathbf{io} \\ \mathbf{in} + 3^{\circ} \mathbf{i} . \end{array}$	m r 243.113 14.5 241.048 25.7 243.095 32.2 241.057 mages 1. Steadin	$\begin{array}{c c c c c c c c c c c c c c c c c c c $
1981, March 24. a	Canopus		1881, March 19. b
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	B h 107'608 11 107'614 11 107'582 12 107'587 12 107'587 12 101'587 12 101'587 12	m r 44'1 45'296 50'9 47'379 1'2 45'302 7'8 47'341 mages 1. Stead	$\begin{array}{c c c c c c c c c c c c c c c c c c c $
1881. Marcine Mil.	e Eridani	•	1881, March 22. a
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	$\begin{array}{c} & & & \\ & & \\ 538 \cdot 551 \\ 538 \cdot 544 \\ 538 \cdot 609 \\ 538 \cdot 566 \\ \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ &$	mages 3. Stead	r R 256 [·] 589 254 [·] 578 256 [·] 581 254 [·] 488 511 [·] 367 511 [·] 412 511 [·] 322 511 [·] 304 diness 2. F.P. 9 [·] 70.

b	a₂ Cen	tauri.		1881, Ma	rch 22.
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	R 484.313 484.399 484.450 484.344 Cun + 3.7.	h m 11 32°0 11 39°5 11 51°4 12 2°3	r 192.152 194.220 192.115 194.246 . Steadin	r 194.211 192.144 194.240 192.129 ness 3.	B 386·492 386·495 386·486 386·507 F.P. 9·70.
as denki (Pars.	Siri	ius.		1881, Ma	rch 24.
Ь	1.2.54	De Nes	(ı	
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	в 385 [.] 232 385 [.] 393 385 [.] 411 385 [.] 444	h m 9 37 ^{.7} 9 44 ^{.6} 9 55 ^{.5} 10 3 ^{.8}	r 196·909 194·880 196·909 194·901	r 194.830 196.945 194.885 196.869	в 391.873 391.962 391.935 391.917
Bar. 30.25. Ther. 59.1. R	Run + 2.0.	Images 3	. Steadi	ness 3.	F.P. 9.70.
	α_2 Cen	tauri.		1881, Ma	rch 24.
Ь				a	
h m r r	R	h m	r	r	R
10 47.0 243.081 241.071	484.296	11 4.8	194.231	192.101	386.517
11 41.9 243.106 241.032	484.292	11 24.2	194.194	192.115	386.437
11 49·2 241·021 243·111	484.287	11 31.0	192.139	194.225	386.494
Bar. 30'23. Ther. 59'8. Run	a + 4°0.	Images 2-3.	Steadin	ess 2-3.	F.P. 9 . 70.
			11		
	~ Co	ntauri		1881 Ma	rah 95
	a2 00	1		LUUI, 114	ICH 20.
a				0	
n m r r 9 50.8 194.199 192.167	386.476	n m 10 7.6	r 243.092	241°060	R 484.286
9 57.4 192.136 194.198	386.445	10 16.8	241.061	243.099	484.296
10 56.1 192.164 194.219	386.202	10 38.2	243 108	241 059	484.305
Bar 20:04 Ther 65'I BI	In + 2°I	Images 2.	Steadin	PSS 2-2.	F.P. 0. 70
2000 19 94. 2200 03 10 20					2
and the second second	Con Sorth	Ref Contes			
State of the Lines	Sir	ius.		1881, Ma	rch 30.
a	Sec. 43			Ь	1. 4 1
h m r r	R	h m	r	r	R
9 9.8 194.912 190.909	392.005	9 25.7	191.015	193'000	385.410
9 56.5 194.932 196.928	392.002	9 41.9	191.638	193.686	385.461
10 4.0 190.901 194.873	391.980	9 47 5	193.047	191.570	385.303
Bar. 30.15. Ther. 58.3. R	lun + 1°5.	Images 1	. Steadir	ness 2. I	F.P. 9.70.



an a a M. 1981	;	Indi.	1881, A a	pril 4.
h m r r 17 37.8 202.004 204.127 17 45.9 204.117 202.000 18 28.6 202.063 204.093 18 33.7 204.100 201.996 in Bar. 30.19. Ther. 59.4. R	$ \begin{array}{c} \mathbf{B} \\ 406.353 \\ 406.326 \\ 406.321 \\ 406.257 \\ \mathbf{un} + 1.5. \end{array} $	h m 17 56°4 2 18 7°5 2 18 15°2 2 18 20°7 2 Images 2.	r r 228.709 230.777 230.766 228.706 228.677 230.836 230.776 228.715 Steadiness 2-3.	E 459 [•] 718 459 [•] 688 459 [•] 719 459 [•] 690 F.P. 9 [•] 70.
a	Sir	rius.	1881, A b	April 6.
h m r r 9 28.7 196.936 194.863 9 34.9 194.827 196.981 10 17.4 196.926 194.820 10 23.0 194.809 196.954 in Bar. 30.13. Ther. 61.9. H	$\begin{bmatrix} \mathbf{R} \\ 391^{\circ}928 \\ 391^{\circ}939 \\ 391^{\circ}900 \\ 391^{\circ}921 \\ \mathbf{Run} + 2^{\circ}0. \end{bmatrix}$	h m 9 42 [•] 3 1 9 49 [•] 2 1 9 57 [•] 8 1 10 3 [•] 7 1 Images 2.	r r 193.678 191.668 91.596 193.674 93.708 191.561 91.593 193.694 Steadiness 2. 1	R 385 [•] 421 385 [•] 410 385 [•] 413 385 [•] 435 F P. 9 [•] 70.
4 PRA 1981	a2 Cer	ntauri.	1881, A b	April 6.
$ \begin{array}{c cccc} h & m & r & r \\ 10 & 45 \cdot 8 \\ 10 & 51 \cdot 7 & 192 \cdot 144 & 194 \cdot 278 \\ 10 & 51 \cdot 7 & 194 \cdot 275 & 192 \cdot 139 \\ 11 & 31 \cdot 7 & 192 \cdot 138 & 194 \cdot 261 \\ 11 & 40 \cdot 3 & 194 \cdot 265 & 192 \cdot 119 \\ \hline \\ & m \\ Bar. & 30 \cdot 12. & Ther. & 61 \cdot 8. \\ \end{array} $	$ \begin{array}{r} B \\ 386'543 \\ 386'536 \\ 386'528 \\ 386'514 \\ cun + 2'6. \end{array} $	h m 11 2.0 2 11 7.6 2 11 15.3 2 11 21.7 2 Images 1.	r r 441.023 243.164 443.143 241.023 441.039 243.124 443.122 241.028 Steadiness 2. H	E 484.332 484.312 484.310 484.298 2.P. 9.72.
B Bays, April 2.	Sir	ius.	1881, A a	pril 7.
h m r r 8 38.8 9 46.1 9 23.8 9 31.3 191.573 193.719 191.573 193.719 191.573 193.704 193.719 191.573 193.699 193.711 191.584 in Bar. 30.18. Ther. 58°3. H	$ \begin{array}{c} B \\ 385^{\circ}394 \\ 385^{\circ}411 \\ 385^{\circ}412 \\ 385^{\circ}428 \\ Run + 3^{\circ}4. \end{array} $	h m 8 53 [•] 4 1 8 58 [•] 9 1 9 7 [•] 9 1 9 14 [•] 9 1 Images 2.	r r 94.819 196.971 96.994 194.843 94.839 196.970 96.951 194.858 Steadiness 2.	E 391.910 391.958 391.933 391.935 F.P. 9.72.
4 lingt , 1881 •	a ₂ Ce	ntauri.	1881, A	pril 7.
0 h m r r 9 54.6 10 1.4 10 42.1 10 42.1 10 50.8 241.013 243.182 10 42.1 10 50.8 241.013 241.015 10 50.8 241.024 243.158 Bar. 30.19. Ther. 57.4. H	$ \begin{array}{c} \mathbf{B} \\ 484 \cdot 266 \\ 484 \cdot 331 \\ 484 \cdot 289 \\ 484 \cdot 327 \\ \end{array} $ $\operatorname{Sun} + 1 \cdot 7.$	h m 10 10°0 I 10 16°8 I 10 25°7 I 10 31°6 I Images 2.	a 94 [°] 278 19 [°] 112 92 [°] 143 194 [°] 284 94 [°] 248 192 [°] 134 92 [°] 138 194 [°] 258 Steadiness 2.	R 386° 506 386° 544 386° 501 386° 516 T.P. 9°72.

a	Sirius.	1881, April 9. d
h m r r 9 6·9 194.833 196.957 9 14·7 196.943 194.848 9 52·5 194.819 196.933 9 58·7 196.972 194.826 m Bar. 30.15. Ther. 58°0.	\mathbb{R} h m $391'913$ $923'3$ $391'917$ $929'6$ $391'892$ $939'\circ$ $391'941$ $945'2$ Run + 3'9. Images 2.	r r R 191.632 193.685 385.446 193.690 191.599 385.421 191.539 193.704 385.379 193.699 191.553 385.391 Steadiness 2. F.P. 9.72.
a	Canopus.	1881, April 9. b
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	E h m $107^{\circ}639$ $10 40^{\circ}4$ $107^{\circ}651$ $10 47^{\circ}6$ $107^{\circ}648$ $11 2^{\circ}1$ $107^{\circ}627$ $11 8^{\circ}3$ Run + 2^{\circ}2. Images 2.	$ \begin{array}{c ccccc} r & r & r & r & r & r & r & r & r & r $
a	e Indi.	1881, April 9.
h m r r 17 59'8 230'764 228'551 18 5'0 228'566 230'873 18 45'5 230'838 228'519 18 51'8 228'523 230'828 in Bar. 30'11. Ther. 58'	$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	r r R 204:183 201.863 406.221 201:884 204:182 406.234 204:197 201.876 406.235 201:901 204.178 406.237 Images 2. Steadiness 2.
Ъ	Sirius.	1881, April 10. a
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	F F F B 196'999 194'750 391'872 194'771 197'065 391'961 197'046 194'754 391'927 194'755 197'031 391'916 2. Steadiness 2. F.P. 9'72.
	α ₂ Centauri.	1881, April 10.
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	$\begin{vmatrix} \mathbf{r} & \mathbf{r} & \mathbf{r} \\ 240^{\circ}956 & 243^{\circ}253 \\ 243^{\circ}234 & 240^{\circ}956 \\ 240^{\circ}942 & 243^{\circ}241 \\ 243^{\circ}240 & 240^{\circ}950 \\ 240^{\circ}950 & 484^{\circ}332 \\ 243^{\circ}240 & 240^{\circ}950 \\ 240^{\circ}950 & 484^{\circ}332 \\ 240^{\circ}240^{\circ}240^{\circ}950 \\ 240^{\circ}240^{\circ}240^{\circ}950 \\ 240^{\circ}240^{\circ}240^{\circ}950 \\ 240^{\circ}240^{\circ}240^{\circ}950 \\ 240^{\circ}240^{\circ}240^{\circ}950 \\ 240^{\circ}240^{\circ}240^{\circ}950 \\ 240^{\circ}240^{\circ}240^{\circ}250 \\ 240^{\circ}240^{\circ}250^{\circ}484^{\circ}322 \\ 240^{\circ}250^{\circ}484^{\circ}322 \\ 240^{\circ}250^{\circ}484^{\circ}484^{\circ}322 \\ 240^{\circ}250^{\circ}484^{\circ}484^{\circ}484^{\circ}484^{\circ}48$

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S	irius. 1881, April 12.
a	
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	$ \begin{array}{c c c c c c c c c c c c c c c c c c c $
α ₂ Ce	entauri. 1881, April 12.
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	h m r r r R 10 38·4 192·069 194·318 386·508 10 45·4 194·310 192·070 386·502 11 8·9 192·061 194·342 386·533 11 19·1 194·315 192·091 386·535
Bar. 30.13. Ther. 54.9. Run + 2.6.	. Images 2. Steadiness 3. F.P. 9.74.
• I	ndi. 1881, April 12.
a	Ъ
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$ \begin{array}{c c c c c c c c c c c c c c c c c c c $
۲ Tues	1881. April 12.
a	<i>b</i>
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	$ \begin{array}{c c c c c c c c c c c c c c c c c c c $
Sini	1881 April 14
b b	a a
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	h m r r R 9 9'1 196'882 194'743 391'749 9 15'3 194'744 196'938 391'809 9 25'0 196'885 194'723 391'737 9 32'7 194'743 196'897 391'737
Bar. 30.09. Ther. 53.5. Run + 2.1.	Images 2-3. Steadiness 3. F.P. 8.75.

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a	Sirius.	1881, Aj b	pril 20.
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	B h n 91.756 9.5' 9.1'' 91.693 9.11'' 9.20'' 91.783 9.27'' 9.27'' n + 1'3. Image:	a r r 5 193.672 191.504 4 191.470 193.653 3 193.648 191.450 1 91.483 193.638 s 2. Steadiness 2. F.P	R 385.301 385.249 385.227 385.253 .8.75.
a	α_2 Centauri.	1881, Ap b	oril 20.
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	R h m 36.363 10 24' 36.333 10 31' 36.392 10 40' 1 + 2'3.	1 r r 3 243°062 240°883 3 240°907 243°080 2 243°077 240°909 2 243°078 243°078 1. Steadiness 2. F.P.	R 484.088 484.131 484.132 484.123 8.75.
	T	1001 4	"1.00
Ь		1881, Ap a	orii 20.
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c} \mathbf{R} & \mathbf{h} & \mathbf{m} \\ 56 \cdot 93 & 17 & 19 \\ 56 \cdot 131 & 17 & 25 \\ 56 \cdot 123 & 17 & 35 \\ 56 \cdot 125 & 17 & 41 \\ 1 + 3 \cdot 6 \end{array}$	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	B 459°461 459°474 459°464 459°478
Ь	ζ Tucanae.	1881, Ap a	oril 20.
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	R h m 03'577 18 35' 03'577 18 42' 03'587 18 54' 03'526 19 1' n + 2'I. Image	r r 6 195,501 197.677 1 197.667 195.521 8 195.548 197.708 4 197.655 195.501 s 3. Steadiness 3. F.P	E 393 · 291 393 · 300 393 · 369 393 · 269 · 8 · 75.
b	Sirius.	1881,Ap	ril 21.
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	B h m 5 ⁵ 242 9 38 ³ 5 ⁵ 272 9 44 ³ 5 ⁵ 257 9 54 ³ 5 ⁵ 286 10 0 ³ + 1 ³ 7. Images 2 ⁻¹	r r 8 194'792 196'914 5 196'871 194'724 1 194'760 196'902 5 196'855 194'702 -3. Steadiness 2-3. F.	R 391·841 391·733 391·804 391·703 P. 8·75.

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a_2 Centauri. (1881, April 22. b a
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e Indi. 1881, April 22.
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۲ucanae. 1881, April 22.
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α_2 Centauri. 1881, April 23.
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	Sir	ius.	188E, A	pril:24.
a		A Baser	6	
^h ^m ^r ^r ^r 9 44 [.] 3 196 [.] 987 194 [.] 846	391.968	h m 10 1'3 1	93 [°] 753 191 [°] 601	B 385.200
9 51 9 194 853 197 067 10 35 4 196 989 194 837	392.058	10 18.2 I	91.585 193.772	385.508
10 41 .3 194 .864 197 .031	392.071	10 26.6 1	91.600 193.767	385.533
Bar. 30°16. Ther. 64°7.	Run + 1.6	Images 2.	Steadiness 2. F.]	P. 9'75.
Participant La .	e In	di.	1881, A	pril 24.
Ь	1 1343		a	
h m r r	E	h m	r r	R
18 7.7 202.040 204.189	400.300	18 15.0 2	28.685 230.835	459.742
18 52.0 204.192 202.005 18 58.6 202.045 204.198	406.344	18 36.0 2 18 42.7 2	30.853 228.676 28.680 230.864	459'713
in Bar 20:00 Ther 58	7 Run	+ 2:0 Im	ares a Standir	1 739 7-3
Dail jo og, Then 30	7. Itun	1 5 0int	ages 2. Dicauii	
A. C. M. C. M.				1000
	εI	ndi.	1881, A	pril 28.
a			0	
n m r r 19 7.5 230.851 228.672	459.688	h m 19 26.4 20	r r 04.191 202.037	406°361
19 15.6 228.683 230.819 20 6.6 230.840 228.702	459.663	19 36.4 20	02°003 204°222 04°165 202°032	406.354
20 11.9 228.684 230.872	459.694	19 57.4 20	2.025 204.208	406.355
Bar. 30'03. Ther. 44'8. R	un + 3°1.	Images 2. S	teadiness 2-3. F.	P. 9.75.
	a. Cer	tauri.	1881.	May 4.
в			a	
h m r r	R	h m	r r	R
11 47.7 243.218 241.031 11 56.0 240.989 243.228	484.404	12 0'0 10 12 12'5 10	94.316 192.141	386.591
12 47.6 243.169 241.002	484 333	12 23.3 1	94.323 192.164	386.623
in Ban 20101 (Then 46.6 1	200 407	T	92 153 194 345	300 035
Dar. 30'07. Ther. 50'0. 1	1 + 5.0	Images 3.	Steadiness 3. F.I	• 9 75.
			-	The second
All Astronomy	εI	ndi.	1881,	May 6.
6	10.1		a	11. A B
h m r r 18 46.4 201.992 204.198	406°343	h m 19 1.0 2:	28.686 230.850	B 459'703
18 53'1 204'141 202'032	406.322	19 7.5 2	30·790 228·600 28·665 220·800	459' 553
19 46.6 204.204 202.009	406.337	19 28.8 2	30.822 228.650	459.623
Bar. 30.09. Ther. 51.9. R	un + 3.7.	Images 2-3.	Steadiness 3. F	.P. 9'50.

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	* Tuo	2220	a starter	1001	Maria
Ь	S I UG	anae.	a	1001, .	may 6.
$ \begin{array}{c ccccc} h & m & r & r & r \\ 20 & 4^{\circ}2 & 202^{\circ}852 & 200^{\circ}733 \\ 20 & 10^{\circ}4 & 200^{\circ}765 & 202^{\circ}888 \\ 20 & 44^{\circ}7 & 202^{\circ}894 & 200^{\circ}694 \\ 20 & 49^{\circ}4 & 200^{\circ}708 & 202^{\circ}930 \\ & & & \\ &$	в 403`70б 403`777 403`718 403`769 Run + 3`4.	h m [°] 20 19 [•] 4 1 20 24 [•] 8 1 20 34 [•] 6 1 20 39 [•] 2 1 Images 3.	r 197.742 1 195.595 1 197.748 1 195.566 1 Steadiness	r 95 ^{.625} 97 ^{.788} 95 ^{.578} 97 ^{.766}	R 393`495 393`512 393`459 393`466 . 9`50.
a a	e In	di.	Ь	1881, 1	May 9.
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	B 459.600 459.614 459.591 459.572 un + 2.0	h m 19 4'9 2 19 11'0 2 19 20'0 2 19 25'8 2	r 204.144 2 201.993 2 204.159 2 201.946 2 Steadiness	r 01.967 04.161 02.007 04.143	E 406.255 406.295 406.303 406.223
Date 30 171 There 44 of 10		THUR OF T			. 9
	Siriu	15.	h	1881, N	lay 18.
$ \begin{array}{c ccccc} h & m & r & r \\ 9 & 36^{\circ}2 & 196^{\circ}914 & 194^{\circ}828 \\ 9 & 58^{\circ}3 & 194^{\circ}820 & 196^{\circ}953 \\ 10 & 10^{\circ}7 & 196^{\circ}898 & 194^{\circ}815 \\ 10 & 35^{\circ}4 & 194^{\circ}792 & 196^{\circ}936 \\ \end{array} \\ \begin{array}{c} in \\ Bar. & 30^{\circ}28. \end{array} Ther. 54^{\circ}9. \ R \end{array} $	R 391.877 391.918 391.865 391.900 Run + 2.8.	h m 9 43.6 1 9 51.4 1 10 17.5 1 10 26.1 1 Images 3.	r 91.632 1 93.715 1 91.566 1 93.696 1 Steadiness	r 93.721 91.544 93.650 91.564 3. F.P.	E 385.492 385.403 385.377 385.429 9.50.
South States	Sirit	15.		1881, M	lay 19.
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c} & \mathbf{E} \\ 385^{\circ} 483 \\ 385^{\circ} 354 \\ 385^{\circ} 419 \\ 385^{\circ} 386 \end{array}$	h m 9 54.8 10 0.4 11 11.6 10 17.6 11 Images 3.	a 196.931 1 94.810 1 96.933 1 94.821 1 Steadiness	r 94 [.] 852 96 [.] 923 94 [.] 841 96 [.] 883 3. F.P.	R 391'925 391'878 391'926 391'861 [9:50.
a	Siri	us.	в	1881, M	lay 20.
h m r r 9 43.0 194.826 196.936 9 50.4 196.943 194.797 10 32.5 194.772 196.959 10 39.6 196.911 194.796 in concernment of the second	E 391.899 391.880 391.901 391.883	$\begin{array}{c cccc} h & m \\ 9 & 58 \cdot 8 \\ 10 & 5 \cdot 6 \\ 10 & 16 \cdot 4 \\ 10 & 23 \cdot 4 \\ \end{array}$	r 91.582 1 93.699 1 91.592 1 93.693 1	r 93.727 91.571 93.703 91.535	B 385°457 385°422 385°455 385°394
Bar. 30'09. Ther. 53'9. R	ull + 1°5.	Images 3.	oreaumess	3. F.P.	9.20.

в	α ₂ Cer	itauri.		1881, N a	Iay 20.
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	$ \begin{array}{c} $	h m 13 40'3 13 51'0 14 7'3 14 15'3 Images 3	r 194.243 192.137 194.231 192.170 Steading	r 192°145 194°271 192°097 194°336 ess 3. F.P	B 386 · 527 386 · 546 386 · 466 386 · 642
a	Sir	ius.		1881, M	Iay 21.
h m r r 9 49 ° 0 10 19 ° 0 10 31 ° 4 12 2 ° 7 19 6 ° 91 Bar. 29 ° 93. Ther. 53 ° 3.	$ \begin{cases} & \mathbf{R} \\ 391.836 \\ 391.929 \\ 391.857 \\ 391.885 \\ \mathbf{Run} + 1.5 \end{cases} $	h m 10 0'1 10 8'8 10 43'6 10 54'6 . Images 3	r 191.592 193.682 191.565 193.695 . Steading	r 193.699 191.553 193.675 191.553 ess 3. F.F	R 385.439 385.388 385.427 385.449 9.50.
	a ₂ Ce	ntauri.		1881, N	Iay 23.
a			l	5	
h m r r 10 5.6 102:152 104:207	R 286:575	h m 10 25.6	r 241.000	r 243.138	E 484.280
10 15.6 194.273 192.192	386.583	10 32.0	243.146	241.005	484.294
11 11.2 194.201 192.164	386.531	10 43 8	240 994 243.137	243 133 240.978	484.261
in Bar. 30 [•] 15: Ther. 51 [•] 8.]	Run +3·3.	Images 2-2	3. Steadin	ess 3. F.I	9. 9. 50.
A CONTRACTOR OF A CONTRACTOR	a2 Cer	ntauri.		1881, J	une 13.
Ъ				a	
h m r r	R 184.288	h m	r 102:002	r 104:405	E 286.621
II 46.2 243.283 240.823	484.261	12 8.4	194.481	191.976	386.291
12 35'4 240'801 243'295 12 42'2 242'212 240'810	484.258	12 19.5	192.000	194.490	386.632
in Bar. 30°25. Ther. 58°5. H	Run + 3.8.	Images 3.	Steadines	s 2-3. F.	P. 9.50.
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	a			1001 T.	
<i>d</i>	α_2 Ce	ntauri.		1001, J1 5	me ro.
h m i n n	P	h m		r	B
11 51.5 194.462 191.968	386.563	12 7'1	243.292	240.807	484.258
11 58.5 191.995 194.480	380.009	12 12.5	240.799	243 320 240.818	484 279
12 51.3 191.969 194.470	386.578	12 30.4	240.840	243.302	484.304
Bar. 30.15. Ther. 54.9.	Run + 4'7	. Images 3	. Steadine	ess 3. F.P	. 9.50.

A CONTRACTOR OF THE OWNER OF	a2 Centar	ıri.	1881, June 17	
Ъ	+	a		
h · m r r 12 44:2 240:824 242:210 48		m r.	104.476 386.	:00
13 44 2 240 024 245 510 40	4'253 I.	4 8.5 194.467	191.955 386.	57
14 36.5 240.844 243.362 484	1.370 I	4 17.3 191.965	194.482 386.	81
14 45 9 243 318 240 824 484	4.305 1.	4 24.6 194.468	191.975 386.	578
in Dear Color Ban	T.	marros a Standing	FP o'ro	
Bar. 30.11. Ther. 03.3. Ruh	+ 4 5. 1	mages 3. Dieaume	55 3. I.I. 9 50.	
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	ζ Tucana	e.	1881, June 20).
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21 23 2 197 885 107 877 39	3 457 2	1 47.4 200.501	203.005 403	650
22 14.8 107.857 105.412 39	3.422 2	1 57.8 203.007	200.537 403	691
22 23.1 195.409 197.891 39	3.454 2	2 5.8 200.560	203.015 403.	723
in o				
Bar. 30.48. Ther. 55.1. Run	+ 3°5. In	nages 2–3. Steadir	ness 3. F.P. 9.50	D .
		Constraint,		
学们的医师的 ,但我们会认为了。	e Eridan	i.	1881. June 2	0.
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22 48.0 254.275 256.773 51	1.338 5	3 2.7 267.830	270.269 538.	384
22 54 8 250 747 254 252 51	1 275 2	3 10.0 270.292	207 792 538	353
23 40 3 256 700 254 314 51	1.308 2	3 33.2 270.360	267.832 538.	433
in o	,	0.00 1 1 0 1	- 1 - 0 1 00	100
Bar. 30.46. Ther. 55.3. Run	+ 3.0' Iu	ages 2-3. Steadin	ness 3. F.P. 9.5	0.
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and the part of the second second	Canopu	S.	1881, June 2	1.
0	1		h	
Ci -	10 A			
h m r r	R I	n m r	r B	0
12 9.0 54.940 52.430 10	7 509 1	2 22.9 47.028	45 112 92	808
12 51.8 54.050 52.400 10	7.531 1	2 37.4 47.603	45.083 02.	790
12 59.5 52.441 54.966 10	7.601 1	2 45'1 45'084	47.588 92.	791
in				
Bar. 30.36. Ther. 60.2. Run	+ 3°9. I	mages 3. Steadin	ess 3. F.P. 9.50	•
				3. C.
and the second	a2 Centau	ıri.	1881, June 2	1.
0	1		h	1
u				
h m r r	B	h m r	r	2
10 14.8 191.959 194.502 38	86.61-	0 28.0 240.770	243.320 484.	242
16 56.0 101.005 104.408 28	6.608	6 42.6 243.290	243.242 484	248
17 0.6 194.218 102.000 38	86.641	6 48.2 243.284	240.805 484.	237
in	0			01
Bar. 30'31. Ther	. 57 . 5.	Run + 4'3. F.	P. 9.50.	



b	a2 Cei	ntauri.	1881, a	July 2.
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$ \begin{array}{r} \mathbf{R} \\ $	h m 15 41.0 15 50.4 15 58.5 16 4.3 Images 2.	r r 194 [·] 529 192 [·] 032 192 [·] 045 194 [·] 538 194 [·] 503 192 [·] 027 192 [·] 023 194 [·] 513 Steadiness 3. F.P	R 386.694 386.713 386.659 386.666
a	e In	di.	1881, b	July 2.
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	B 459.679 459.653 459.662 459.636 Run + 3.3.	h m 17 9°2 17 18°3 17 28°9 17 35°4 Images 3.	r r 201 [.] 772 204 [.] 338 204 [.] 285 201 [.] 788 201 [.] 801 204 [.] 310 204 [.] 349 201 [.] 816 Steadiness 3. F.F	в 406 [•] 390 426 [•] 337 406 [•] 357 406 [•] 401 2 [•] 9 [•] 50.
art said durit	εIn	ıdi.	1881,	July 3.
6		STREET,	a	
$ \begin{array}{c ccccc} h & m & r & r \\ 15 & 31^{+}5 & 204^{+}042 & 201^{+}688 \\ 15 & 36^{+}7 & 201^{+}633 & 204^{+}117 \\ 16 & 24^{+}8 & 204^{+}224 & 201^{+}755 \\ 16 & 32^{+}0 & 201^{+}756 & 204^{+}298 \\ \hline \\ Bar. & 30^{+}58. & Ther. & 51^{+}2. & Rate \\ \end{array} $	$ \begin{array}{r} R \\ 406'273 \\ 406'325 \\ 406'365 \\ 406'418 \\ un + 4'8. \end{array} $	h m 15 52.9 15 58.0 16 10.7 16 17.6 Images 2-3.	r 230 [°] 741 228 [°] 326 228 [°] 23 ² 230 [°] 794 230 [°] 809 228 [°] 315 228 [°] 33 ² 230 [°] 831 Steadiness 3. F.	B 459 [.] 693 459 [.] 624 459 [.] 660 459 [.] 667 P. 9 [.] 50.
Signifian Inc.	e Eri	dani.	1881.	July 3.
Ь			a	
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c} & & \\ & & \\ & 538 \cdot 433 \\ & 538 \cdot 479 \\ & 538 \cdot 458 \\ & 538 \cdot 443 \end{array}$ Run + 3.2.	h m 22 34'4 22 42'0 22 53'1 23 1'4 Images 2.	r r 256'760 254'273 254'302 256'791 256'787 254'292 254'316 256'828 Steadiness 3. F.P	R 511.365 511.404 511.364 511.411
A CARLEND AND A CARL	7 Tues	inae.	1881.	July 4
Ь	y Luca		a	o ary to
h m r r 17 42.7 18 9.8 18 18.8 18 39.7 203.055 203.055 203.055 203.055 203.055 203.056 203.056 203.056 203.056 203.056 203.056 203.055 200.566 203.056 203.055 200.565 200.565 200.	$ \begin{array}{r} & & & & & \\ $	h m 17 50°3 11 18 1°2 11 18 24°6 11 18 32°7 11 Images 2. S	r 197 [*] 899 195 [*] 466 195 [*] 430 197 [*] 931 197 [*] 931 197 [*] 937 197 [*] 937 Steadiness 2-3. F.J	E 393 493 393 457 393 512 393 510 P. 9 50.









a	εI	ndi.	1	881, Aug 5	gust 12.
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	в 459 [•] 563 459 [•] 564 459 [•] 562 459 [•] 557	h m 19 45 [.] 4 19 54 [.] 2 20 19 [.] 6 20 27 [.] 0	r 201 · 797 204 · 356 201 · 800 204 · 385	r 204.402 201.812 204.370 201.804	в 406 [•] 326 406 [•] 293 406 [•] 289 406 [•] 307
Bar. 30.55. Ther. 49.8. E	Run + 4°1.	Images 1-	2. Steadir	ness 2. F.	P. 9 [.] 50.
a	Sir	ius.	1	881, Aug 5	gust 12.
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	R 391 ° 745 391 ° 837 391 ° 808 391 ° 808	h m 2 17 [•] 4 2 25 [•] 7 2 49 [•] 3 3 1 [•] 1	r 191 · 140 193 · 750 191 · 233 193 · 796	r 193 [•] 758 191 [•] 194 193 [•] 820 191 [•] 248	в 385·342 385·345 385·366 385·327
Bar. 30.49. Ther. 49.9. I	Run + 3.1.	Images 2.	Steadine	ss 2. F.P	. 9. 50.
В1	α_2 Cen	itauri.	1	881, Aug	ust 13.
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$ \mathbb{E} 228.425 228.468 228.467 228.451 $	h m 17 19.8 17 28.3 17 51.5 18 0.8	r 107.438 110.021 107.426 109.987	r 110°036 107°404 110°029 107°415	B 217.563 217.518 217.559 217.510
		Images I			
в	α_2 Cen	tauri.	1	881, Aug	ust 13.
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	е 484°207 484°212 484°184 484°245	h m 18 36.7 18 46.4 19 34.3 19 43.3	r 191•985 194•552 191•976 194•561	r 194 [•] 544 191 [•] 993 194 [•] 535 191 [•] 952	R 386.639 386.658 386.640 386.647
Bar. 30. 39. Ther. 51. 5. R	un + 4°5.	Images 1-2	. Steadin	ess 2. F.]	P. 9°50.
в	Sir	ius.	18	381, Aug	ust 13.
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	$ \begin{array}{r} & & & & & \\ & $	h m 2 14·1 2 22·4 2 49·6 3 0·2 Images 1-2	r 196`876 194`398 196`976 194`444 . Steadin	r 194·321 196·939 194·437 197·023	в 391.707 391.797 391.750 391.772 Р. 9.50.

a ¹	∝₂ Centauri.	1881, August 14.
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	E h 1 217.570 19 9 217.604 19 19 217.610 19 44 217.539 19 55 Run + 2.9. Imag	$\begin{array}{c c c c c c c c c c c c c c c c c c c $
- Newseller	¢ Indi.	1881, August 14.
$\begin{array}{c ccccc} b & m & r & r & r \\ 20 & 25^{\circ} 4 & 201^{\circ} 820 & 204^{\circ} 393 \\ 20 & 50^{\circ} 2 & 204^{\circ} 405 & 201^{\circ} 780 \\ 21 & 5^{\circ} 2 & 201^{\circ} 796 & 204^{\circ} 396 \\ 21 & 31^{\circ} 1 & 204^{\circ} 370 & 201^{\circ} 801 \\ & & & & $	$\begin{array}{c c} R & h \\ 20032 \\ 406\cdot329 \\ 406\cdot300 \\ 406\cdot307 \\ 406\cdot287 \\ 2113 \\ 2122 \\ 2122 \\ un + 5\cdot0. \text{ Image}$	$\begin{array}{c c c c c c c c c c c c c c c c c c c $
	a2 Centauri.	1881, August 16.
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c} & & h \\ 386 \cdot 611 & 17 & 52 \\ 386 \cdot 626 & 17 & 59 \\ 386 \cdot 637 & 18 & 40 \\ 386 \cdot 633 & 18 & 48 \\ a + 4 \cdot 9. & Images \end{array}$	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$
b ¹	α_2 Centauri.	1881, August 16. a ¹
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	R h $228' \cdot 427$ $19 \cdot 41$ $228' \cdot 454$ $19 \cdot 51$ $228' \cdot 523$ $20 \cdot 14$ $228' \cdot 404$ $20 \cdot 22$ $20n + 3' \cdot 4$. Image	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$
all and a little	e Eridani.	1881, August 16.
$\begin{array}{c ccccc} a \\ h & m & r & r \\ 22 & 8\cdot8 & 256\cdot693 & 254\cdot163 \\ 22 & 35\cdot5 & 254\cdot184 & 256\cdot769 \\ 22 & 42\cdot9 & 256\cdot767 & 254\cdot185 \\ & & \text{in} \\ & & \text{Bar. 30`41. Ther. 54`4. Ru} \end{array}$	$\begin{array}{c ccccc} & & & h \\ 511 & 270 & 22 & 12 \\ 511 & 275 & 22 & 26 \\ 511 & 254 & 22 & 50 \\ nn + 4^{\circ}6. & Image \end{array}$	$\begin{array}{c ccccc} b \\ m & r & r & r \\ 7'3 & 267'702 & 270'254 \\ 3'2 & 270'262 & 267'688 \\ 538'334 \\ 538'334 \\ 538'334 \\ 538'334 \\ 538'334 \\ es 2. & Steadiness 2-3. F.P. 9'50. \end{array}$

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e and with	εIı	ndi.	18	81, Augu	ıst 18.
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	Run + 3.3.	h m 17 23 ^{·2} 17 31 ^{·4} 17 54 ^{·2} 18 4 ^{·7} Images 3	r 201 [•] 703 204 [•] 396 201 [•] 734 204 [•] 406 . Steadines	r 204.404 201.687 204.458 201.711 35 3. F.P.	в 406·352 406·315 406·302 406·306 9·50.
	a, Cen	tauri.	18	81. Aug	ust 18.
a^1			Ъ	1	
$ \begin{array}{c ccccc} h & m & r & r \\ 18 & 35 \cdot 5 & 110 \cdot 108 & 107 \cdot 325 \\ 19 & 1 \cdot 7 & 107 \cdot 332 & 110 \cdot 082 \\ 19 & 10 \cdot 8 & 110 \cdot 085 & 107 \cdot 322 \\ 19 & 38 \cdot 0 & 107 \cdot 305 & 110 \cdot 050 \\ \end{array} $	R 217.559 217.558 217.559 217.531	h m 18 44'7 18 52'3 19 19'5 19 29'9	r 112.795 115.536 112.747 115.503	r 115.550 112.778 115.484 112.758	R 228.487 228.463 228.405 228.444
Bar. 30.21. Ther. 55.0. R	un + 3.1	Images 3.	Steadines	s 3. F.P.	9*50.
b	α ₂ Cen	tauri.	1	881, Aug	rust 19.
$ \begin{array}{c ccccc} h & m & r & r \\ 18 & 6^{\circ}7 & 240^{\circ}659 & 243^{\circ}396 \\ 18 & 33^{\circ}9 & 243^{\circ}371 & 240^{\circ}659 \\ 19 & 10^{\circ}6 & 240^{\circ}682 & 243^{\circ}395 \\ 19 & 41^{\circ}0 & 243^{\circ}375 & 240^{\circ}648 \\ \hline \\ Bar. & 30^{\circ}11. & Ther. & 56^{\circ}3. & R \end{array} $	$ \begin{array}{r} B \\ 484 \cdot 188 \\ 484 \cdot 165 \\ 484 \cdot 216 \\ 484 \cdot 175 \\ un + 4.6. $	h m 18 16 ° 0 18 25 ° 7 19 21 ° 3 19 35 ° 0 Images 2-	r 194.649 191.918 194.616 191.919 -3. Steadin	r 191.895 194.585 191.912 194.623 eess 3. F.	$ \begin{array}{c} B \\ 386.652 \\ 386.611 \\ 386.648 \\ 386.669 \\ B. 9.50. \end{array} $
	∝ ₂ Cen	tauri.	18	381, Aug	ust 25.
a			l	5	
h m r r 18 11.7 194'542 191'998 18 20'8 192'001 194'555 19 12'0 194'543 191'977 19 43'4 191'965 194'535	B 386.653 386.669 386.642 386.637	h m 18 20'8 18 30'8 19 21'5 19 31'3	r 240°756 243°281 240°761 243°306	r 243·318 240·749 243·305 240·742	R 484 · 215 484 · 171 484 · 215 484 · 201
Bar. 30.67. Ther. 45.0.	Run + 4.9.	Images 2	. Steadines	ss 2. F.P.	9'50.
	Si	rius.	1	881, Aug	ust 25.
$\begin{array}{c} & \mathbf{r} \\ \mathbf{h} \mathbf{m} \\ 2 46 \cdot 9 \\ 3 11 \cdot 9 \\ 3 18 \cdot 7 \\ 3 18 \cdot 7 \\ 3 45 \cdot 4 \\ 197 \cdot 016 \\ 194 \cdot 542 \\ 197 \cdot 051 \\ \mathbf{m} \\ \mathbf{Bar}, 30 \cdot 69, \\ \end{array} $	$\begin{array}{c} \mathbf{R} \\ 391, 782 \\ 391, 780 \\ 391, 795 \\ 391, 812 \\ \end{array}$	h m 2 54.0 3 4.7 3 28.6 3 37.3 Images 1-	r 191·227 193·774 191·287 193·811 -2. Steadir	r 193 [•] 785 191 [•] 245 193 [•] 798 191 [•] 264 ness 2. F.	B 385,318 385,296 385,314 385,291 P. 0.50
				-	9 300

a2 Cen	tauri. 1881, August 27.
Ь	a
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$ \begin{array}{c c c c c c c c c c c c c c c c c c c $
¢ In Ø	di. 1881, August 27. a
h m r r R 19 34.7 201.827 204.373 406.326 20 2.4 204.381 201.829 406.331 20 9.3 201.860 204.386 406.366 20 36.3 204.380 201.822 406.318	h m r r g g 19 43.9 230.986 228.424 459.556 19 52.9 228.426 230.979 459.548 20 17.2 230.968 228.444 459.548 20 26.7 228.428 231.005 459.566
Bar. 30. 39. Ther. 53.5 . Run + 4.5.	Images 2. Steadiness 2. F.P. 9.50.
ζ Tuc a	anae. 1881, August 28. b
h m r r B 19 54'6 197'929 195'381 393'433 20 20'5 195'409 197'904 393'443 20 20'7 197'911 195'422 393'466 20 54'1 195'392 197'922 393'453	$ \begin{array}{c c c c c c c c c c c c c c c c c c c $
Bar. 30'34. Ther. 49°0. Run + 4'2.	Images 3. Steadiness 3. F.P. 9.50.
Siri õ	ius. 1881, August 28. a
h m r r B 2 44*4 191*276 193*775 385*383 3 8*1 193*810 191*317 385*394 3 16*7 191*273 193*835 385*356 3 45*0 193*824 191*324 385*351	$ \begin{array}{c c c c c c c c c c c c c c c c c c c $
Bar. 30'35. Ther. 45'0. Run + 1'9.	Images 1-2. Steadiness 2. F.P. 9.50.
α_2 Cent	tauri. 1881, August 29. b
h m r r B 19 11'0 192'004 194'538 386'659 19 36'0 194'500 192'007 386'636 19 44'1 192'003 194'494 386'632 20 10'4 194'496 191'985 386'642	h m r r R 19 18.8 243.275 240.753 484.171 19 27.8 240.760 243.261 484.169 19 52.4 243.244 240.765 484.172 20 2.1 240.747 243.255 484.175
Bar. 30° 52. Ther. 56°0. Run + 4°0.	. Images 2. Steadiness 2. F.P. 9.50.

a	e II	ndi.	1881, Au b	igust 29.
h m r r 20 35.6 228.467 230.969 21 8.0 230.989 228.505 21 17.9 228.468 230.956 21 46.6 230.958 228.493	в 459 [•] 568 459 [•] 524 459 [•] 555 459 [•] 584	h m 20 45 · 1 20 57 · 1 21 26 · 5 21 37 · 3	r r 204'362 201'844 201'835 204'365 204'365 201'825 201'869 204'349	E 406·319 406·315 406·306 406·333
Bar. $30^{\circ}32$. Ther. $55^{\circ}5$. I	Run + 3.8.	Images 2.	Steadiness 2. F.	P. 9 [•] 50.
	Cane	opus.	1881, Au	igust 30.
$\begin{array}{c cccccc} & & & & & & & & & & & & & \\ \hline h & m & & & & & & & & & & \\ 1 & 58\cdot8 & & 54\cdot981 & 52\cdot480 \\ 2 & 21\cdot5 & & 52\cdot506 & 55\cdot002 \\ 2 & 30\cdot0 & & 55\cdot08 & 52\cdot509 \\ 2 & 51\cdot9 & & 52\cdot509 & 55\cdot010 \\ \hline & & & & & & \\ & & & & & & \\ & & & &$	B 107.530 107.571 107.578 107.573 n + 4.6.	h m 2 4 ^{.4} 2 13 ^{.6} 2 36 ^{.5} 2 45 ^{.4} Images 1-2	$\begin{array}{c ccccc} & & & & & & \\ & & & r & & r & \\ & & & 45^{\circ}113 & 47^{\circ}598 \\ & & & 47^{\circ}608 & 45^{\circ}101 \\ & & & 45^{\circ}098 & 47^{\circ}611 \\ & & & 47^{\circ}594 & 45^{\circ}121 \\ & & & & &$	B 92.770 92.765 92.759 92.759 92.761 F.P. 9.50.
a	Sir	ius.	1881, Au b	igust 30.
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	B 391.796 391.749 391.801 391.776 un + 2.4.	h m 3 19°1 3 28°9 3 52°8 4 0°7 Images 1-	r r 193'774 191'275 191'291 193'794 193'815 191'325 191'323 193'825 2. Steadiness 2. 1	$ \begin{array}{c} B \\ 385 \cdot 287 \\ 385 \cdot 305 \\ 385 \cdot 335 \\ 385 \cdot 330 \\ F.P. 9 \cdot 50. \end{array} $
h	α ₂ Cen	tauri.	1881, Sept	ember 3.
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	E 484.193 484.186 484.159 484.168	h m 19 48.6 19 56.6 20 18.4 20 28.5	r r 192°015 194°524 194°521 192°005 192°006 194°501 194°476 192°003	B 386.676 386.678 386.680 386.668
Bar. 30°24. 11er. 44°5. 1	Kun + 5°6.	Images 2	. Steadiness 2. F.	.P. 9'50
Ь	Sir	ius.	1881, Sept <i>a</i>	ember 3.
$ \begin{array}{c ccccc} h & m & r & r \\ 4 & 8 \cdot 7 & 193 \cdot 806 & 191 \cdot 314 \\ 4 & 27 \cdot 2 & 191 \cdot 355 & 193 \cdot 841 \\ 4 & 31 \cdot 5 & 193 \cdot 843 & 191 \cdot 315 \\ \end{array} $	R 385 ^{.297} 385 ^{.356} 385 ^{.315}	h m 4 14.6 4 21.6 4 36.4	r r 194 [.] 594 197 [.] 055 197 [.] 093 194 [.] 569 194 [.] 580 197 [.] 055	B 391.829 391.837 391.797
Bar. 30.16. Ther. 45.0. R	un + 3°4.	Images 1-	2. Steadiness 2.	F.P. 9 50.

	ζTuo	eanae.	188	1, Septen	aber 5.
6	3.11		0	t	
$\begin{array}{c cccccc} h & m & r & r \\ 22 & 43^{\circ} 1 & 200^{\circ} 538 & 203^{\circ} 011 \\ 23 & 9^{\circ} 1 & 203^{\circ} 025 & 200^{\circ} 538 \\ 23 & 16^{\circ} 0 & 200^{\circ} 502 & 203^{\circ} 040 \\ 23 & 46^{\circ} 2 & 203^{\circ} 015 & 200^{\circ} 499 \\ \end{array}$	B 403 [•] 702 403 [•] 718 403 [•] 697 403 [•] 669	h m 22 52 [°] 2 23 1 [°] 0 23 25 [°] 1 23 34 [°] 8	r 197 [•] 889 195 [•] 419 197 [•] 902 195 [•] 411	r 195°414 197°901 195°408 197°883	R 393`460 393`478 393`468 393`451
Bar. 30 [°] 14. Ther. 47 [°] 3.	Run + 5°0.	Images 2.	Steadines	ss 2. F.P.	9.20.
- design Frank (S.)	εI	ndi.	188	1, Septer	nber 5.
Ъ	5 1 1 1		(z	
$ \begin{array}{c ccccc} h & m & r & r \\ o & 6 \cdot o \\ o & 31^\circ 7 & 204^\circ 330 & 201^\circ 852 \\ o & 31^\circ 7 & 201^\circ 836 & 204^\circ 328 \\ o & 38^\circ o & 204^\circ 338 & 201^\circ 843 \\ I & 3^\circ I & 201^\circ 785 & 204^\circ 342 \\ & & & & &$	$\begin{vmatrix} & & & \\ & 406^{\circ} 346 \\ & 406^{\circ} 340 \\ & 406^{\circ} 361 \\ & 406^{\circ} 322 \\ \\ & & \\ $	h m o 13°4 o 23°4 o 45°9 o 55°1 . Images 2.	r 228.437 230.939 228.444 230.889 Steadine	r 230 [.] 942 228 [.] 443 230 [.] 916 228 [.] 461 ss 2. F.P	R 459 [•] 562 459 [•] 571 459 [•] 556 459 [•] 556
A Stand att	a ₂ Cen	taari.	188	1, Septer	nber 6.
- a			i	5	
h m r r	R	h m j	r	r	R
18 44.3 192.038 194.533	386.682	18 50.4	243.278	240.765	484.182
19 12.0 192.033 194.563	386.716	19 19.4	243.278	240.752	484.176
in 0	1 300-005	- 19 29 9 1	240.705	243-273	404 109
Bar. 30.40. Ther. 48.8. F	Run + 4.9.	Images 1-2	. Steadin	less 2. F.	P. 9. 50.
	-			1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	
1 S. Margaret Berl	ζTuo	canae.	188	1, Septer	nber 6.
a		[i	3	
hm r r	E	h m	r	r	R
21 20.4 195.387 197.911 21 50.1 107.028 105.368	393.440	21 33.4	203.018	200.503	403.007
22 0.9 195.414 197.919	393.487	22 9.1	203.000	200.231	403.683
22 26.1 197.924 195.379 in	393.401	22 18.9	200.231	203.024	403.737
Bar. 30'39. Ther. 43'3. Ri	un + 4·4·	Images 1-2.	Steadine	ss 1-2. H	[.] .P. 9 [.] 50.
		· · · · · · · · · · · · · · · · · · ·			
2 States and a state of the	Sir	ius.	188	1, Septer	nber 7.
a		- ×	6	1-2-5	
h m r r 3 43'4 194'597 197'031 4 3'5 197'015 194'534 4 9'4 194'573 197'046 4 29'5 197'047 194'564	B 391.842 391.739 391.803 391.776	h m 3 49 ^{.5} 3 56 ^{.7} 4 15 ^{.5} 4 22 ^{.6}	r 193.877 191.333 193.859 191.363	r 191·326 193·848 191·328 193·863	в 385 [.] 397 385 [.] 368 385 [.] 357 385 [.] 389
Bar. 30' 38. Ther. 53°0. R	un + 2°6.	Images 2-3.	Steading	ess 2–3. I	P. 9 • 50.

a terrante o la la	e Indi.	188	l, September 8.
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	R h 459:584 19 459:578 19 459:552 20 459:537 20 an + 5:0. In	m r 48°0 204°357 58°1 201°867 21°0 32°3 201°848 agges 3. Steadines	r B 201'838 406'315 204'342 406'327 201'885 406'327 204'364 406'325 55 3. F.P. 9'50.
	ζ Tucana	e. 188	1, September 8.
h m r r 21 19.6 203.016 200.493 21 50.2 200.516 203.030 21 56.7 203.032 200.474 22 23.3 200.516 203.010 in Bar. 30.24. Ther. 66°5. R	$\begin{array}{c c} $	m r 27.8 195.440 43.1 197.899 4.1 195.402 14.5 197.913 nages 3. Steadine	r B 197.868 393.449 195.389 393.433 197.900 393.450 195.406 393.468 ss 3. F.P. 9.50.
	a₂ Centau	ri. 188	1, September 9.
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c} \mathbf{R} & \mathbf{h} \\ 484 \cdot 140 & 19 \\ 484 \cdot 164 & 19 \\ 484 \cdot 172 & 20 \\ 484 \cdot 193 & 20 \\ \mathrm{un} + 4 \cdot 1. & \mathrm{Ir} \end{array}$	m r 192.012 37.0 194.527 3.77 192.030 0.15.4 194.489 mages 3. Steading	r 194.506 192.000 194.488 191.997 ss 3. F.P. 9.50.
a	α_2 Centar	ıri. 1881	, September 10.
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	R h 386.642 19 386.640 20 386.609 20 386.626 20	m r 54'2 240'784 4'0 243'270 32'1 240'754 46'6 243'210 8723 25 8723 25 8725 25 8755 25 8755 25 8755 25 8755 25 8755 25 8755	r R 243°252 484°199 240°723 484°166 243°224 484°193 240°727 484°184
		ages 3. Dreadines	
ь	Canopu	s. 1881	, September 13.
$ \begin{array}{c ccccc} h & m & r & r \\ 2 & 28.6 \\ 2 & 46.7 \\ 2 & 53.2 \\ 3 & 15.3 \\ \end{array} \begin{array}{c} r & r \\ 45.146 & 47.609 \\ 47.594 & 45.124 \\ 45.135 & 47.594 \\ 47.594 & 45.126 \\ \end{array} $	R H 92.808 2 92.766 2 92.775 2 92.761 3	r 34'1 54'970 41'3 52'540 59'3 55'011 3 7'9 52'531	r R 52°517 107°547 55°011 107°609 52°506 107°570 54°977 107°559
Bar. 30.40. Ther. 43.8. Ru	in + 3.6. Im	ages 1-2. Steadir	ness 2. F.P. 9.50.

2 Standy Series	Sir	ius.	1881, Septen	ıber 13.
Ь			a	
$ \begin{array}{c ccccc} h & m & r & r & r \\ 3 & 29^{\circ}9 & 193^{\circ}828 & 191^{\circ}317 \\ 3 & 54^{\circ}7 & 191^{\circ}369 & 193^{\circ}810 \\ 4 & 2^{\circ}2 & 193^{\circ}813 & 191^{\circ}326 \\ 4 & 26^{\circ}0 & 191^{\circ}332 & 193^{\circ}811 \\ & & \\ & & \\ & & \\ & & Bar. & 30^{\circ}41. & Ther. & 43^{\circ}0. \end{array} \right) $	Run + 2*6.	h m 3 37 ^{.8} 3 47 ^{.9} 4 9 ^{.4} 4 18 ^{.1} Images 2	r r 194.553 197.000 196.970 194.536 194.584 197.018 197.039 194.566 . Steadiness 2. F.J	B 391,782 391,718 391,790 391,783 P. 9,50.
b	α ₂ Ce	entauri.	1881, Septen a	nber 14.
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	$ \begin{array}{r} B \\ 484 \cdot 181 \\ 484 \cdot 152 \\ 484 \cdot 161 \\ 484 \cdot 163 \\ Run + 4.0. \end{array} $	h m 19 11.8 19 21.8 19 51.2 20 0.2 Images 2.	r r 194.522 192.028 192.042 194.523 194.494 192.007 192.003 194.510 Steadiness 2. F.I	R 386.669 386.688 386.643 386.663 2.9.50.
a	ζ Τι	ıcanae.	1881, Septen b	aber 14.
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	B 393`441 393`477 393`473 393`473 393`477 Run + 4`2.	h m 21 49 5 21 58 6 22 25 7 22 37 2 Images 2.	r r 200 [°] 531 203 [°] 023 203 [°] 008 200 [°] 511 200 [°] 516 202 [°] 994 203 [°] 001 200 [°] 532 . Steadiness 2. F.I	B 403'700 403'667 403'665 403'683 2.9'50.
· b	e Ii	ndi.	1881, Septem a	iber 19.
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$ \begin{array}{r} & & & \\ & 406 \cdot 323 \\ & 406 \cdot 330 \\ & 406 \cdot 346 \\ & 406 \cdot 334 \end{array} $ $ \begin{array}{r} & & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ $	h m 19 53'7 20 6'1 20 40'8 20 56'5 Images 3.	r r 228.504 230.950 230.980 228.493 228.500 230.931 230.946 228.509 . Steadiness 3. F.I	B 459`595 459`610 459`562 459`584 2.9`50.
a	Sir	ius.	1881, Septen <i>b</i>	iber 19.
$\begin{array}{c ccccc} h & m & r & r \\ 4 & 10 \cdot 6 & 197 \cdot 015 & 194 \cdot 580 \\ 4 & 39 \cdot 7 & 194 \cdot 534 & 197 \cdot 027 \\ 4 & 47 \cdot 9 & 197 \cdot 059 & 194 \cdot 597 \\ 5 & 11 \cdot 0 & 194 \cdot 599 & 197 \cdot 028 \\ & & & \\ & & & \\ & & & Bar. & 30 \cdot 32. & Ther. & 55 \cdot 7. \end{array}$	$ \begin{array}{r} B \\ 391,777 \\ 391,718 \\ 391,807 \\ 391,765 \\ Run + 3.6. \end{array} $	h m 4 20°4 4 31°3 4 54°9 5 4°7 Images 2.	r r 191.369 193.781 193.807 191.334 191.357 193.796 193.825 191.368 . Steadiness 2. F.I	E 385'313 385'295 385'294 385'329

in the second	ζTu	canae.	1881, September 20.	
Ь		1.1.1.1.1.1	a	201-5
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	в 403 [.] 667 403 [.] 702 403 [.] 705	h m 22 17.6 22 24.9 22 46.4	r r 195`456 197`926 197`893 195`402 195`434 197`911	B 393`534 393`448 393`501
Bar. 30.32. Ther. 56.0. R	lun + 4.4.	Images 1-	2. Steadiness 2. F.	P. 9 [•] 50.
	Cano	opus.	1881, Septem	ber 21.
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	R 107.610 107.582 107.535 107.590	h m 2 53 [.] 4 3 1 [.] 3 3 21 [.] 9 3 28 [.] 6	47 [°] 580 45 [°] 060 45 [°] 095 47 [°] 600 47 [°] 633 45 [°] 071 45 [°] 082 47 [°] 608	в 92`684 92`738 92`743 92`728
Bar. 30 ^{•2} 7. Ther. 53 ^{•2} . H	Run + 4•6.	Images 3.	Steadiness 2-3. F.	P. 9 [.] 50.
and the second	Sir	rius.	1881, Septem	ber 21.
в			a	
$ \begin{array}{c ccccc} h & m & r & r \\ 3 & 52^{\circ}5 & 193^{\circ}815 & 191^{\circ}319 \\ 4 & 16^{\circ}6 & 191^{\circ}325 & 193^{\circ}833 \\ 4 & 25^{\circ}0 & 193^{\circ}851 & 191^{\circ}333 \end{array} $	B 385·326 385·328 385·346	h m 3 59 [•] 3 4 8 [•] 7 4 32 [•] 9	r r 194 [.] 532 197 [.] 079 197 [.] 067 194 [.] 536 194 [.] 543 197 ^{.069}	B 391·807 391·789 -391·776
4 53.7 191.354 193.880 in Bar. 30.26. Ther. 48.8. Ru) 385°378 in + 2°7.	4 42 9 Images 2-3	. Steadiness 2-3. F	391 835 .P. 9 50.
a	a2 Ce	entauri.	1881, Septem b	ber 22.
h m r r 19 18.2 194.560 191.982 19 42.4 192.014 194.534 19 51.6 194.563 191.995 20 20.8 191.962 194.517	886°661 386°680 386°697 386°650	h m 19 26·2 19 33·9 20 2·2 20 11·6	r r 240°760 243°283 243°285 240°776 240°751 243°282 243°293 240°717	в 484°188 484°210 484°203 484°191
Bar. 30.22. Ther. 58.5	. Run +	4.2. II	mages 2-3. Steadir	1ess 2.
	e Er	idani.	1881, Septem	ber 22.
6			a	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	B 538 · 275 538 · 358 538 · 277 538 · 350	h m 22 32°9 22 42°5 23 6°5 23 14°4	r r 256 [.] 793 254 [.] 273 254 [.] 258 256 [.] 768 256 [.] 806 254 [.] 270 254 [.] 250 256 [.] 817	B 511·389 511·324 511·324 511·302
Bar. 30. 23. Ther. 60. 3. R	un + 4°3.	Images 2-3	3. Steadiness 2-3.	E.P. 9 50.

ST SHERE IS DES	ε]	Indi.	1881	, Septem	ber 23.
a		1	J		
h m r r 20 47'5 230'994 228'479 21 17'5 228'450 230'956 21 24'5 230'982 228'452 21 51'7 28'451 230'999 in Bar. 30'29. Ther. 59'0. Ru	B 459.602 459.536 459.564 459.582 n + 3.7.	h m 20 56 0 21 9 5 21 33 0 21 44 0 Images 2-3	r 201.875 204.390 201.846 204.408 Steadine	r 204`354 201`845 204`376 201`854 ss 2-3. F	B 406·343 406·349 406·337 406·379 2.P. 9·50.
a	Sir	rius.	1881 <i>č</i>	, Septem	ber 24.
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$ \begin{array}{r} B \\ 391.784 \\ 391.843 \\ 391.781 \\ 391.802 \\ \\ B + 2.4 $	h m 4 28.9 4 39.1 5 2.3 5 11.3	r 191·394 193·846 191·419 193·786	r 193.865 191.378 193.871 191.433	B 385.416 385.374 385.428 385.352
		Integeo I .	. Otcauii	COD 2. 1.1	
a a	ζTuc	canae.	1881 b	, Septem	ber 25.
h m r r 21 8.5 195.475 197.939 21 34.6 197.913 195.458 21 41.7 195.458 197.951 22 4.7 197.905 195.443 in Bar. 29.90. Ther. 55.8. Ru	E 393`553 393`515 393`555 393`497 un + 4`1.	h m 21 15.4 21 26.0 21 48.1 21 56.5 Images 1-2	r 203.021 200.571 203.053 200.561 2. Steadin	r 200`544 203`059 200`540 203`008 ess 2. F.I	E 403`700 403`767 403`735 403`713 2. 9`50.
a	e Eri	dani.	1881 6	, Septeml	oer 25.
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c} & & & \\ & 511 \cdot 394 \\ & 511 \cdot 330 \\ & 511 \cdot 355 \\ & 511 \cdot 347 \\ & & \\ &$	h m 22 56.5 23 6.4 23 30.9 23 40.0 Images 1-2.	r 270°282 267°816 270°334 267°821 Steadines	r 267.831 270.304 267.814 270.328	E 538.406 538.393 538.380 538.368 538.368 P. 9.52.
Ь	∝₂ Cen	ntauri.	. 1881, <i>a</i>	Septem	er 26.
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	B 484.166 484.167 484.208 484.164	h m 20 27 2 20 35 4 20 58 1 21 7 5	r 194°455 191°997 194°492 191°970 Steadines	r 192.098 194.481 191.970 194.428	B 386.736 386.676 386.712 386.677 P. 0.52
		Ben r a.			9 3

b	ζ Tucanae.		1881, September 26. a	
h m r r 22 38.8 200.565 203.019 23 4.2 202.995 200.511 23 12.0 200.539 203.016	в 403°736 403°659 403°709	h m 22 46.8 22 55.2 23 21.2	r r 197 [.] 906 195 [.] 4 195 [.] 415 197 [.] 9 197 [.] 881 195 [.] 4	R 393.480 01 393.473 07 393.446
Bar. 30'17. Ther. 50'3. Run + 5'4. Images 1-2. Steadiness 1-2. F.P. 9'50.				
в	Canopus.		1881, September 28. a	
$ \begin{array}{c cccc} h & m & r & r \\ 3 & 18 \cdot 0 & 47 \cdot 590 & 45 \cdot 089 \\ 3 & 37 \cdot 0 & 45 \cdot 103 & 47 \cdot 589 \\ 3 & 44 \cdot 0 & 47 \cdot 566 & 45 \cdot 106 \\ 4 & 5 \cdot 0 & 45 \cdot 123 & 47 \cdot 605 \\ \end{array} $	в 92°718 92°729 92°708 92°761	h m 3 23°5 3 29°5 3 49°5 3 56°5	r r 52°542 55°0 55°031 52°5 52°524 55°0 55°023 52°5	· B 52 107.642 22 107.598 08 107.574 29 107.593
Bar. 30.31. Ther. 56.0. Run + 5.6. Images 2-3. Steadiness 2-3. F.P. 9.50.				
b	Sirius.		1881, September 28.	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	$ E 385^{\circ}398 385^{\circ}353 385^{\circ}351 385^{\circ}364Run + 2.8$	h m 4 31.6 4 41.7 5 3.5 5 13.3	r r 197`072 194`5 194`594 197`0 197`048 194`5 194`595 197`0 . Steadiness 2.	R 391.806 51 391.801 391.757 391.805 F.P. 9.50. F.P. 9.50.
a	α ₂ Centauri.		1881, September 30. b	
h m r r 19 20°1 192°042 194°523 19 39°5 194°517 192°003 19 46°3 192°010 194°510 20 16°1 194°479 191°972	в 386.684 386.649 386.654 386.615	h m 19 25.6 19 32.6 19 55.7 20 6.1	r r 243 [.] 227 240 [.] 7 240 [.] 785 243 [.] 2 243 [.] 247 240 [.] 7 240 [.] 791 243 [.] 2	E 49 484.120 45 484.177 47 484.157 32 484.197
Bar. 30 [•] 20. Ther. 60 [•] 0. Run + 3 [•] 5. Images 2-3. Steadiness 2-3. F.P. 9 [•] 50.				
α ₂ Centauri. b			. 1881, 0 . a	October 4.
h m r r 21 0°7 240°706 243°159 21 19°9 243°176 240°618 21 26°6 240°661 243°152 21 54°1 243°066 240°521	B 484 · 150 484 · 155 484 · 206 484 · 167	h m 21 6'9 21 13'7 21 33'6 21 44'2	r r 194 [.] 435 191 [.] 9 191 [.] 952 194 [.] 4 194 [.] 412 191 [.] 9 191 [.] 841 194 [.] 3	$ \begin{array}{c ccccc} $
Bar. 30'07. Ther. 58'5. Run + 4'3. Images 2-3. Steadiness 2-3. F.P. 9'50.				


a de la constante de	2 Centauri.	1881, October 10.
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	h m 119 20 26.0 164 20 36.6 165 21 5.0 152 21 19.8 	a r r 8 192°010 194°478 386°671 194°479 191°987 386°668 191°950 194°440 386°663 194°422 191°909 386°657 Steadiness 2-2, F.P. 0°50.
Dat. 30 32. Incl. 30 0. Inc	2°0. 1111ages	Steatiness 2-3. 1.1.9 5.
b	ζ Tucanae.	1881, October 10.
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	h m 760 22 8·2 722 22 16·9 714 22 44·8 723 22 55·1	r r 8 197.955 195.422 393.530 195.444 197.940 393.538 197.923 195.459 393.539 195.438 197.939 393.534
Bar. 30°32. Ther. 50°3. Run +	5.9. Images 1-2	2. Steadiness 2. F.P. 9. 50.
a	e Indi.	1881, October 12. b
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c} & h & m \\ 579 & 1 & 13^{\circ} 1 \\ 664 & 1 & 21^{\circ} 6 \\ 622 & 1 & 48^{\circ} 7 \\ 629 & 1 & 59^{\circ} 8 \\ 3^{\circ} 7^{\circ} & \text{Images } 2-3^{\circ} \end{array}$	$\begin{array}{c cccccc} r & r & e^{*} \\ 201^{*}876 & 204^{*}320 \\ 204^{*}310 & 201^{*}857 \\ 201^{*}841 & 204^{*}290 \\ 204^{*}323 & 201^{*}826 \\ \end{array} \begin{array}{c ccccccccccccccccccccccccccccccccccc$
1		
Ь	Sirius.	1881, October 12. a
h. m r r 3337 193'741 191'300 385' 2 59'5 191'337 193'775 385' 3 6'8 193'762 191'313 385' 3 34'0 191'360 193'798 385' m Bar 20'22. Ther, 58'5. Bun f	h m 402 391 2 53.0 337 3 15.8 369 3 26.8 - 2.7 - Images 3.	r r 8 194'464 196'947 391'775 196'932 194'492 391'775 196'983 194'539 391'757 196'983 194'539 391'761 Steadiness 2 F.P. 0'50
	* /·	
b	2 Centauri.	1881, October 19. a
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	h m 226 20 58 1 179 21 8 4 206 21 29 7 191 21 38 2	r r r 8 192°016 194°435 386°697 194°381 191°992 386°651 191°960 194°346 386°666 194°350 191°969 386°718
Bar. 30. 20. Ther. $58^{\circ}3$. Run + 4	•6. Images 2-3.	Steadiness 2-3. F.P. 9.50.

A State of the second second	s Indi	1881 October 10
Ь	[a
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c cccc} R & h & m \\ 406'384 & I & 7'2 \\ 406'319 & I & 16'3 \\ 406'400 & I & 38'0 \\ 406'347 & I & 47'3 \\ + 4'0. & Images 2-3. \end{array}$	r r R 230'914 228'452 459'574 228'488 230'926 459'628 230'895 228'464 459'586 228'493 230'876 459'602 Steadiness 2-3. F.P. 9'50.
a	Sirius.	1881, October 19. b
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c ccccc} & & h & m \\ 391'819 & 2 & 25'2 \\ 391'801 & 2 & 35'4 \\ 391'796 & 2 & 57'6 \\ 391'833 & 3 & 7'8 \\ n & + & 1'8. & \text{Images } 1-2 \end{array}$	$ \begin{array}{c c c c c c c c c c c c c c c c c c c $
	0	
a	∞ ₂ Centauri.	1881, October 24.
$ \begin{array}{c ccccc} h & m & r & r \\ 21 & 35 \cdot 1 & 194 \cdot 383 & 191 \cdot 969 \\ 21 & 54 \cdot 0 & 191 \cdot 913 & 194 \cdot 279 \\ 22 & 1 \cdot 1 & 194 \cdot 277 & 191 \cdot 845 \\ 22 & 26 \cdot 8 & 191 \cdot 759 & 194 \cdot 072 \\ \end{array} $ $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	$\begin{array}{c cccccc} & h & m \\ 386'738 & 21 & 40'7 \\ 386'684 & 21 & 47'4 \\ 386'663 & 22 & 9'2 \\ 386'603 & 22 & 17'7 \\ n + 3'2. & Images 2-3. \end{array}$	$ \begin{array}{c c c c c c c c c c c c c c c c c c c $
1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	ε Indi.	1881, October 28.
a		в.
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c} \mathbf{E} & \mathbf{h} & \mathbf{m} \\ 459^{\circ}579 & \mathbf{i} & 57^{\circ}8 \\ 459^{\circ}556 & 2 & 9^{\circ}6 \\ 459^{\circ}575 & 2 & \mathbf{31^{\circ}9} \\ 459^{\circ}550 & 2 & 41^{\circ}7 \end{array}$ un + 4'2. Images 2.	$\begin{array}{c cccc} r & r & r & r \\ 204^{\circ}269 & 201^{\circ}803 & 406^{\circ}300 \\ 201^{\circ}769 & 204^{\circ}307 & 406^{\circ}312 \\ 204^{\circ}247 & 201^{\circ}797 & 406^{\circ}298 \\ 201^{\circ}795 & 204^{\circ}228 & 406^{\circ}284 \end{array}$ Steadiness 2, F.P. 9 \circ co.
Ь	Sirius.	1881, October 28. a
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	r r E 194, 541 197, 030 391, 829 197, 014 194, 512 391, 766 194, 568 197, 043 391, 813 197, 044 194, 565 391, 798 Steadiness 1-2. F.P. 9, 50.





	e Indi.	1881, November 18.
a	1	Ъ
$ \begin{array}{c cccccc} h & m & r & r \\ \circ & 46^{\circ}3 & 230^{\circ}894 & 228^{\circ}414 \\ I & 9^{\circ}7 & 228^{\circ}418 & 230^{\circ}909 \\ I & 16^{\circ}6 & 230^{\circ}899 & 228^{\circ}409 \\ I & 40^{\circ}5 & 228^{\circ}423 & 230^{\circ}879 \\ \end{array} $	R h m 459°507 0 53°9 459°539 I 2°5 459°525 I 23°5 459°534 I 33°9	r r R 201.858 204.333 406.378 204.309 201.888 406.378 201.841 204.326 406.372 204.323 201.803 406.339
Bar. 30.25. Ther. 52.5.	$\operatorname{Kun} + 4^{\circ}1. \operatorname{Images} 2$. Steadiness 2. F.P. 9. 50.
b	a2 Centauri.	1881, November 18.
$ \begin{array}{c ccccc} h & m & r & r & r \\ 6 & 54^{\circ} 9 & 240^{\circ} 551 & 243^{\circ} 048 \\ 7 & 25^{\circ} 6 & 243^{\circ} 136 & 240^{\circ} 658 \\ 7 & 33^{\circ} 3 & 240^{\circ} 667 & 243^{\circ} 164 \\ 8 & 3^{\circ} 5 & 243^{\circ} 174 & 240^{\circ} 742 \\ & & \text{in} \\ \text{Bar. 30^{\circ} 26. Ther. 51^{\circ} 2. R } \end{array} $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	r r B 194'444 191'976 386'657 191'974 194'483 386'665 194'489 191'998 386'663 192'017 194'492 386'648 Steadiness 2-3. F.P. 9'50.
в	Sirius.	1881, November 19. a
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	\mathbf{R} \mathbf{h} \mathbf{m} $385^{\circ}290$ $339^{\circ}9$ $385^{\circ}294$ $347^{\circ}8$ $385^{\circ}257$ $411^{\circ}1$ $385^{\circ}302$ $420^{\circ}4$ Run + $3^{\circ}7$. Images 2	r r B 197.033 194.541 391.791 194.554 197.032 391.791 197.053 194.560 391.791 194.609 197.048 391.828 . Steadiness 2. F.P. 9.50.
b	e Indi.	1881, November 24.
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	B h m 406:386 2 43.2 406:346 2 51:5 406:358 3 16:1 406:358 3 28:3 Run + 3:5. Images 3	r r B 230.867 228.404 459.546 228.395 230.840 459.518 230.842 228.405 459.518 230.842 228.405 459.549 228.415 230.896 459.622 3. Steadiness 3. F.P. 9.50.
a	Sirius.	1881, November 25. b
h m r r 4 3.6 194.596 197.093 4 28.5 197.073 194.594 4 36.5 194.603 197.037 4 58.7 197.067 194.590	R h m 391.875 4 10.9 391.830 4 21.3 391.796 4 43.0 391.799 4 51.8	r r B 193.811 191.328 385.308 191.323 193.844 385.327 193.815 191.326 385.285 191.351 193.824 385.315
Bar. 29'98. Ther. 58'8. Ru	n + 2.0. Images 1-2.	Steadiness 1-2. F.P. 9.50.





I





A Shitawa Child	Sirius.		188	1, Decem	ber 24.
<i>a</i> h m r r 4 12'0 4 35'4 4 42'8 5 7'7 194'629 197'087 194'617 194'629 197'089 194'629 197'089 194'638 194'648 194'648 194'648 194	$\begin{vmatrix} & & & & \\ & 391 \cdot 848 \\ & 391 \cdot 882 \\ & 391 \cdot 857 \\ & 391 \cdot 855 \\ \\ & & & \\ & & & \\ & & & \\ & & & & & \\ & & & & \\ & & & & $	h m 4 18°9 4 26°6 4 49°5 4 59°0 Images 2-	r 191·319 193·820 191·368 193·832 3. Steadin	r 193.*816 191.348 193.*807 191.329 ness 3. F.	B 385 [•] 296 385 [•] 322 385 [•] 316 385 [•] 297 P. 9 [•] 50.
в	a ₂ Ce	ntauri.	1883	l, Decem	ber 25.
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	$ \begin{array}{c c} $	h m 7 25°0 7 32°7 7 59°1 8 7°0	r 194.470 192.026 194.492 192.014 . Steadine	r 192°002 194°484 192°001 194°473 wss 2. F.P	B 386.653 386.676 386.625 386.612 .9.50.
The Property	εI	ndi.	1	882, Jani	uary 4.
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	в 459 [°] 5 [°] 3 459 [°] 48 [°] 459 [°] 489 459 [°] 52 [°]	h m 3 17·2 3 24·1 3 47·8 3 55·6	r 201.845 204.288 201.872 204.258	r 204°315 201°835 204°253 201°822	R 406.437 406.406 406.426 406.386
Bar. 30.06. Ther. 66°0. R	un + 2.6.	Images 2-3	3. Steading	ess 3. F.1	?. 9*58.
b	Siri	us.	18 a	82, Janus 1	ary 17.
h m r r 3 59°5 193°787 191°341 4 16°9 191°342 193°814 4 22°4 193°796 191°328 4 38°8 191°332 193°826 in	E 385*304 385*316 385*279 385*302	h m 4 3°9 4 11°6 4 27°6 4 33°4	r 194.608 197.094 194.630 197.083	r 197`080 194`611 197`097 194`650	R 391.870 391.879 391.887 391.887 391.889
Bar. 30.04. Ther. 69.5.	Run + 2·4.	Images 2.	Steadines	ss 2. F.P.	9.42.
a a a construction of a	α ₂ Cen	tauri.	181 6	82, Janua	ary 17.
h m r r 7 53'7 194'473 191'973 8 13'2 192'001 194'510 8 19'8 194'499 191'989 8 45'9 192'017 194'512	E 386.581 386.629 386.602 386.636	h m 8 1.0 8 7.6 8 28.1 8 35.6	r 240 [.] 712 243 [.] 195 240 [.] 747 243 [.] 186	r 243.190 240.680 243.234 240.716	R 484.095 484.056 484.138 484.053
Bar. 30.05. Ther. 67.0. Ru	n + 3°2.	Images 2–3.	Steadines	s 2-3. F.	P. 9 [.] 50.



1862, Jacuny 16.	Siri	us.	1882, Janua	ry 21.
a			в	
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	в 391.883 391.931 391.949 391.915	h m 3 53 ^{.7} 4 0 ^{.0} 4 20 ^{.9} 4 28 ^{.9}	r r 191 [.] 346 193 [.] 788 193 [.] 774 191 [.] 347 191 [.] 361 193 [.] 767 193 [.] 785 191 [.] 353	R 385'318 385'299 385'287 385'289
in Bar. 30*03. Ther. 65 [°] 0.	Run + 3°3-	Images 2.	Steadiness 2. F.P.	9. 50.
1962, January 18	a ₂ Ce	ntauri.	1882, Janua	ary 21.
a	34.6. M		b	
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	R 386.627 386.622 386.623 386.633	h m 7 23°3 7 31°4 7 52°5 8 1°3	r r 243 [.] 147 240 [.] 664 240 [.] 688 243 [.] 117 243 [.] 149 240 [.] 709 240 [.] 718 243 [.] 169	R 484.112 484.075 484.068 484.079
Bar. 30.03. Ther. 65.0	o. Run -	+ 2.7. Ir	nages 2. Steadine	ss 2-3.
an and the set of the		NAME OF ADDRESS OF ADDR		
1382, January 19, 1	α_2 Cer	ntauri.	1882, Janua a ¹	ary 22.
h m r r 8 8.9 112.833 115.274 8 32.8 115.306 112.875 8 39.0 112.872 115.321	E 228.358 228.406 228.411	h m 8 16·1 8 25·5 8 45·5	r r 109.855 107.429 107.387 109.915 109.884 107.429	R 217.533 217.538 217.526
Bar. 30°02. Ther. 69°5.	Run + 2.9.	Images 3.	Steadiness 3. F.P.	9. 50.
1967 Jamane Ste	ፖ ጥ	canao	1889 Janu	ary 93
a	5 Lu		<i>b</i>	
$\begin{array}{c ccccc} h & m & r & r \\ 4 & 36^{\circ}3 & 197^{\circ}863 & 195^{\circ}494 \\ 4 & 56^{\circ}4 & 195^{\circ}458 & 197^{\circ}931 \\ 5 & 2^{\circ}4 & 197^{\circ}941 & 195^{\circ}459 \end{array}$	E 393°465 393°499 393°511	h m 4 42°9 4 49°9 5 8°7	r r 200°554 202°995 203°013 200°542 200°552 203°013	R 403.659 403.666 403.678
5 25.4 195.459 197.903	393.478	5 16.4	202.999 200.563	403.675
Bar. 29'98. Ther. 65°0. H	Run + 2°4.	Images 2-3	. Steadiness 3. F.I	P. 9.50.
and the second second		Sector L.		A Second
I the Jeanny 20.	a2 Cer	ntauri.	1882, Janu	ary 28.
h m i n	No.		0-	
10 19.6 107.515 109.952	217.600	10 26·4	115 [.] 321 112 [.] 915	228.368
10 40'1 109'933 107'510	217.564	10 34.1	112.944 115.355	228.427
11 10.8 109.944 107.523	217.572	11 2.5	112.958 115.346	228.416
Bar. 29 [•] 92. Ther. 60 [•] 0.	Run + 2.2	2. Images 2	. Steadiness 2. F.I	9.9.60.

.5 comodel a second	α_2 Cer	ntauri.	1882, Febr	uary 3.
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	$R = \frac{484 \cdot 029}{484 \cdot 093} \\ 484 \cdot 052 \\ 484 \cdot 095 \\ 484 \cdot 095 \\ un + 3 \cdot 5.$	h m 8 17'4 8 23'1 8 29'7 8 37'4 Images 2.	r r 193 ² 57 193 ² 34 193 ² 24 193 ² 248 193 ² 56 193 ² 73 193 ² 53 193 ² 45 Steadiness 2-3. F.	R 386.608 386.587 386.642 386.589 P. 9.50.
61	a ₂ Cer	ntauri.	1882, Febr α ¹	uary 3.
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	E 228 · 403 228 · 365 228 · 390 228 · 399 5. Run	h m 10 50'3 10 59'0 11 8'3 11 16'0 + 0'6.	r r 108.734 108.723 108.727 108.728 108.730 108.729 108.734 108.739 Images 2. Steadir	E 217.573 217.566 217.569 217.580 eess 2.
-			1000 E 1	
a ¹	α ₂ Ce	ntauri.	1882, Febi	ruary 5.
$ \begin{array}{c ccccc} h & m & r & r \\ 8 & 53.9 & 107.481 & 109.906 \\ 9 & 15.5 & 109.905 & 107.451 \\ 9 & 24.0 & 107.426 & 109.901 \\ 9 & 50.0 & 109.926 & 107.481 \\ \end{array} $	B 217·596 217·542 217·566 217·563	h m 9 0°2 9 7°7 9 32°1 9 43°0	r r 115 [.] 292 112 [.] 872 112 [.] 876 115 [.] 338 115 [.] 342 112 [.] 896 112 [.] 913 115 [.] 340	R 228.365 228.408 228.410 228.417
Bar. 30'05. Ther. 59°0. F	Run + 2°3.	Images 2.	Steadiness 2-3. F	.P. 9 50.
	α ₂ Ce	ntauri.	1882, Feb a ¹	ruary 6.
$ \begin{array}{c ccccc} h & m & r & r \\ 8 & 28^{\circ}9 & 112^{\circ}909 & 115^{\circ}361 \\ 8 & 51^{\circ}3 & 115^{\circ}273 & 112^{\circ}892 \\ 8 & 58^{\circ}4 & 112^{\circ}917 & 115^{\circ}287 \\ 9 & 24^{\circ}5 & 115^{\circ}293 & 112^{\circ}882 \\ & & & & & \\ \end{array} $	B 228·502 228·373 228·406 228·353	h m 8 35 5 8 44 3 9 6 5 9 16 2	r r 109 [.] 898 107 [.] 438 107 [.] 446 109 [.] 874 109 [.] 854 107 [.] 482 107 [.] 509 109 [.] 886	B 217.564 217.538 217.531 217.580
Bar. 30.06. Ther. 62.5.	Run + 0'2	4. Images 2	e. Steadiness 3. F.I	2. 9.50.
and second state	Si	rius.	1882, Feb	ruary 6.
h m r r 9 37.3 191.399 193.840 10 2.3 193.801 191.338 10 8.3 191.334 193.789 10 28.1 193.776 191.313	B 385.373 385.287 385.275 385.258	h m 9 44 [•] 3 9 54 [•] 3 10 14 [•] 4 10 21 [•] 1	r r 197`086 194`652 194`636 197`069 197`122 194`661 194`671 197`118	B 391.874 391.848 391.986 391.948
Bar. 30.05. Ther. 58.5.	Run + 1.1	. Images 3	3. Steadiness 3. F.	P. 9.50.

a^1	a2 Cer	atauri.	1882, Febr <i>b</i> 1	uary 8.
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	B 217.592 217.590 217.600 217.617 Run + 0.2.	h m 12 22'0 1 12 29'4 1 13 0'3 1 Images 2.	r r 115·366 112·963 112·980 115·377 115·400 112·960 112·947 115·395 Steadiness 2. F.P.	B 228.410 228.436 228.435 228.415 9.50.
. B ¹	a ₂ Cer	atauri.	1882, Febru a ¹	ary 10.
$ \begin{array}{c ccccc} h & m & r & r \\ 11 & 14^{+}6 & 115^{+}323 & 112^{+}921 \\ 11 & 38^{+}2 & 112^{+}957 & 115^{+}361 \\ 114^{8}^{+}3 & 115^{+}375 & 112^{+}988 \\ 12 & 14^{+}5 & 112^{+}968 & 115^{+}357 \\ 112^{+$	$ \begin{array}{c} \mathbf{B} \\ 228, 349 \\ 228, 414 \\ 228, 455 \\ 228, 408 \\ \mathbf{un} + 0.5. \\ \end{array} $	h m 11 21'9 11 29'5 11 56'4 12 5'5 Images 2. S	r r 107.562 109.972 109.929 107.517 107.546 109.927 109.963 107.572 Steadiness 2-3. F.J	R 217.632 217.542 217.558 217.618 2.9.50.
al	a2 Cer	ntauri.	1882, Febru b ¹	ary 11.
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	$ \begin{array}{c} \mathbf{R} \\ 217.618 \\ 217.509 \\ 217.542 \\ 217.598 \\ \mathbf{in} + 2.0. \end{array} $	h m 10 42 2 10 51 8 11 13 4 11 21 5 Images 2-3.	r r 112.933 115.332 115.325 112.930 112.960 115.367 115.319 112.923 Steadiness 2-3. F	в 228°386 228°370 228°432 228°343 °.Р. 9°50.
δ ¹	α ₂ Cei	ntauri.	1882, Februa a^{i}	ary 12.
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	$ \begin{array}{c} $	h m 10 25°3 10 34°2 10 57°7 11 9°7	r r 109'884 107'521 107'544 109'954 109'957 107'525 107'497 109'935 Steadiness 3. F.P	R 217.534 217.622 217.592 217.537 .9.50.
	a ₂ Cer	ntauri.	1882, Februa b ¹	ary 13.
h m r r 12 11'3 107'563 109'960 12 35'3 109'999 107'547 12 41'0 107'513 109'937 13 2'9 110'001 107'528	B 217.603 217.620 217.521 217.598	h m 12 17°0 12 28°4 12 47°0 12 57°4	r r 115'332 112'954 112'958 115'362 115'389 112'955 112'939 115'391	E 228 [•] 368 228 [•] 398 228 [•] 418 228 [•] 402
Bar. 30'00. Ther. 67 [°] 0.	Run + 0.4	. Images 2.	Steadiness 2. F.P	. 9. 50.

a	α_2 Cen	itauri.	1882, Febru b	ary 14.
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	B 386.600 386.580 386.605 386.627 1 + 4.0.	h m 7 57 ° 1 8 3 ° 9 8 25 ° 7 8 36 ° 7	r r 243°140 240°713 240°727 243°160 243°165 240°751 240°762 243°169 Steadiness 2–3.	B 484.053 484.076 484.075 484.080 F.P. 9.50.
61	α ₂ Cen	tauri.	1882, Febr a ¹	uary 16.
$ \begin{array}{c cccc} h & m & r & r \\ 11 & 47 \cdot 0 \\ 12 & 13 \cdot 0 \\ 12 & 19 \cdot 2 \\ 12 & 36 \cdot 5 \\ Bar. & 30^{\circ} 21. \end{array} \begin{array}{c cccc} r & r \\ 114^{\circ} 155 & 114^{\circ} 166 \\ 114^{\circ} 156 & 114^{\circ} 149 \\ 114^{\circ} 159 & 114^{\circ} 171 \\ 114^{\circ} 218 & 114^{\circ} 159 \\ \end{array} \right] $	E 228.417 228.391 228.413 228.456 Run + 2.3	h m 11 54.1 12 7.3 12 26.2 12 42.6 . Images 1	r r 108.748 108.724 108.742 108.784 108.760 108.749 108.770 108.748 . Steadiness 1. F.	$\begin{array}{c} & \mathbf{B} \\ 217 \cdot 560 \\ 217 \cdot 609 \\ 217 \cdot 587 \\ 217 \cdot 592 \\ \end{array}$ $\mathbf{P}. 9 \cdot 50.$
	∝ ₂ Cen	tauri.	1882, Febr ³¹	uary 17.
h m r r 8 16 ^{.1} 109 ^{.8} 95 107 ^{.4} 67 8 38 ^{.4} 107 ^{.4} 63 109 ^{.8} 83 8 45 ^{.8} 109 ^{.8} 77 107 ^{.4} 64 9 13 ^{.7} 107 ^{.4} 64 109 ^{.9} 03 in Bar. 30 ^{.10} . Ther. 64 [°] 0. I	R 217.614 217.571 217.557 217.554 Run + 2.54	h m 8 23.6 8 31.7 8 54.5 9 4.6 Images 3.	r r 112.893 115.285 115.304 112.859 112.886 115.260 115.293 112.865 Steadiness 3. F.	$\begin{array}{c c} & & & & \\ & & & & \\ & & & & \\ & & & & $
a	Sir	ius.	1882, Febr	uary 17.
h m r r 9 45.8 197.054 194.660 10 9.9 194.686 197.105 10 21.3 197.053 194.677 10 47.4 194.690 197.089	E 391.849 391.940 391.888 391.961	h m 9 53 ^{.3} 10 0 ^{.3} 10 31 ^{.4} 10 39 ^{.9}	r r 191 ³ 405 193 ³ 844 193 ³ 787 191 ³ 355 191 ³ 70 193 ³ 733 193 ³ 813 191 ³ 334	B 385°392 385°288 385°273 385°327
Bar. 30.10. Ther. 62.5. Ru	n + 1.9.	Images 2–3. tauri.	. Steadiness 2-3. 1882, Febru	F.P. 9.50.
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	B 228°352 228°380 228°426 228°378 Sun + 1°1.	h m 9 40°6 9 47°9 9 56°0 10 3°4 Images 3.	a ¹ 108'670 108'738 108'703 108'738 108'686 108'659 108'686 108'693 Steadiness 3. F.	B 217.571 217.587 217.587 217.495 217.524 P. 9.50.

	1258				
1583, February 14.	Sir	ius.	188	2, Febru	ary 19.
Ъ			(z	
h m r r	R	h m	r	r	E
9 21.0 193.797 193.778	305 299	9 27 8	194.713	194.713	391.953
9 51.6 191.413 191.386	385.336	9 58.7	197.113	197.110	391 962
10 13.6 193.805 193.780	385.336	10 5.4	194.700	194.664	391.906
Bar. 20.86. Ther. 71.5. Run	+ 1.2.	Images 2-3.	Steading	SS 2-3. F	P. 0' 50.
		0 0			,
		11223			
	α_2 Cen	tauri.	188	2, Febru	ary 25.
a^1	5.8.8		Ь	1	1.
h m t r r t	R	h m	r	r	R
10 4.4 108.751 108.694	217.591	10 9.6	114.105	114.088	228.334
10 24.0 108.727 108.735	217.593	10 17.8	114.101	114.088	228.328
10 58.3 108.721 108.727	217 595	10 37 9	114.110	114 115	228 354
in Bar 20:25 Than 61.5 Du	ID + 0.6	Imagon	Standing	E E D	01.00
Dat. 30 25. Ther. of 5. 110	ш т з о.	Images 2.	bieaumes	5 2. P.L.	9.50.
	NO. WERE				
16ds, L'donary 17.	Si	rius.	188	2, Februa	ary 26.
a	*		1	5	
h m i r r i	R	h m	l r	r	I R
9 19.3 194.694 197.140	391.961	9 26.8	193.769	191.319	385.217
9 43.8 197.162 194.626	391.923	9 35 9	191.371	193.883	385.386
10 19.4 197.110 194.671	392 070	10 10'7	193.851	191.322	385 320
in Bar 20112 Ther 62's R	un + or (Imagan	Stording		
Dai, 30 13. 1101. 03 0. 1	un - 0 4.	images 3.	. Breaume	55 3. E.F	. 9. 50.
			1. 10 × 10		
THE DOMESTIC	α_2 Cen	tauri.		1882, M	arch 3.
Ь		11-12		a	
h m r r	R	h m	r	r	IR
9 47.9 243.196 240.760	484.090	10 16.1	191.991	194.468	386.575
10 51.4 240.715 243.105	484.024	10 42'1	194.430	192.038	386.595
10 50 4 243 175 240 749	404 009	11 51.4	192'000	194 443	386.630
in Bar 20111 Ther 6010 Bun	+ 2.0]	mages"a_2	Standing		Potro
Dai. 30 11 1101. 00 0. 1001	т 2 9. 1	.mages 2-3.	Dicadine	55 4-3. I	.1. 9 50.
The second s	Server and Land	(a) assistant		and a second of	an and the state of the state o
.81 wangedell .1801	a2 Ce	ntauri.		1882, M	arch 4.
a				3	
h m r r	R	h m	r	r	R
8 23.4 194.427 191.989	386: 531	8 31.4	240.727	243.172	484.055
8 47.6 104:464 102:025	386. 206	8 55'2	243 172	240.723	404.040
9 9.9 192.051 194.468	386.625	9 2.4	243.171	240.764	484.074
Bar, 30'10, Ther 60'0	Run +	2:2. In	nages 2.	Steadines	55 2-3
	Jun T			o courted or	



Section and the state	Cenonus,	1882 March 8.
a	Canopus,	6
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	B h m 107.617 8 44.9 107.588 8 54.0 107.612 9 13.9 107.570 9 23.9 tun + 3.6. Images 2.	$ \begin{vmatrix} \mathbf{r} & \mathbf{r} & \mathbf{R} \\ 45^{\circ} 131 & 47^{\circ} 587 & 92^{\circ} 753 \\ 47^{\circ} 599 & 45^{\circ} 170 & 92^{\circ} 805 \\ 45^{\circ} 166 & 47^{\circ} 591 & 92^{\circ} 799 \\ 47^{\circ} 594 & 45^{\circ} 164 & 92^{\circ} 799 \\ . \text{ Steadiness 2. F.P. 9. 50.} \end{vmatrix} $
a	Sirius.	1882, March 8. b
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	R 391.984 391.954 391.961 h 	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$
a	e Eridani.	1882, March 9. b
h m r r 7 12.0 256.800 254.364 7 31.0 254.366 256.857 7 38.2 256.874 254.352 8 4.2 254.380 256.830 in Bar. 30.21. Ther. 60.0. Ru	$\begin{array}{c c} \mathbf{B} & \mathbf{h} & \mathbf{m} \\ 511,356 & 7,17,1 \\ 511,420 & 7,24,1 \\ 511,425 & 7,45,3 \\ 511,413 & 7,54,5 \\ 1\mathbf{n} + 3,2. & \text{Images 2.} \end{array}$	$ \begin{array}{c c c c c c c c c c c c c c c c c c c $
.2 4000 BBU	e Indi.	1882, March 10. b
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c cccc} & & h & m \\ 459^{\circ} 428 & 15 & 42^{\circ}7 \\ 459^{\circ} 475 & 15 & 51^{\circ}3 \\ 459^{\circ} 471 & 16 & 16^{\circ}8 \\ 459^{\circ} 452 & 16 & 27^{\circ}4 \\ tun + 3^{\circ}5. & Images 3 \end{array}$	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$
to should gritte	e Eridani.	1882, March 11.
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c ccccc} & & h & m \\ 538'31'7 & 7 & 32'8 \\ 538'284 & 7 & 44'3 \\ 538'201 & 8 & 7'2 \\ 538'304 & 8 & 15'3 \\ a + 2'2. & Images 2-3 \end{array}$	r r R $256^{\circ}859$ $254^{\circ}396$ $511^{\circ}449$ $254^{\circ}445$ $256^{\circ}862$ $511^{\circ}503$ $256^{\circ}848$ $254^{\circ}415$ $511^{\circ}463$ $254^{\circ}375$ $256^{\circ}877$ $511^{\circ}452$. Steadiness 3-4. F.P. 9.50.



1882 March 19.	a2 Cen	itauri.	1	882, Ma	rch 17.
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	$ \begin{array}{c} B \\ 484 \cdot 105 \\ 484 \cdot 097 \\ 484 \cdot 112 \\ 484 \cdot 122 \\ Run + 2 \cdot 2. $	h m 10 54'3 11 1'4 11 25'1 11 34'0 Images 1.	r 194.452 192.017 194.480 192.047 Steadines	r 192.012 194.465 192.016 194.439 55 2. F.P.	R 386.586 386.607 386.625 386.616 9.50.
STRAIL MAN	ζTu	canae.	1	.882, Ma	rch 20.
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c} & & & \\ 393^{\circ}572 \\ 393^{\circ}493 \\ 393^{\circ}491 \\ 393^{\circ}498 \\ \\ & & \\ & \\ & \\ & \\ & \\ & \\ & \\ & \\ $	h m 7 16·4 7 23·0 7 44·4 7 54·0 Images 2.	r 202.868 200.480 202.838 200.384 Steadines	r 200°442 202°865 200°384 202°766 5 2-3. F.	R 403 · 588 403 · 646 403 · 612 403 · 590 P. 9 · 50.
1662, blarch 14,	Sir	ius.		1882, Ma	rch 20.
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{cases} R \\ 385 \cdot 286 \\ 385 \cdot 284 \\ 385 \cdot 256 \\ 385 \cdot 317 \\ Run + 0.9. \end{cases}$	h m 10 14 8 10 24 6 10 53 5 11 4 0 Images 3.	r 194.685 197.091 194.739 197.059 Steadine	r 197.103 194.679 197.061 194.650 ss 3. F.P	R 391.940 391.931 391.991 391.913 .9.50.
a datable 2081	Siri	us.	· · · · · · ·	1882, Ma	rch 21.
h m r r 10 30°0 194'713 197'089 10 54'3 197'087 194'652 11 1'1 194'687 197'069 11 26'1 197'063 194'660 in Bar. 30'21. Ther. 63°5. Ii	$\begin{vmatrix} & & & \\ & 391 \cdot 967 \\ & 391 \cdot 930 \\ & 391 \cdot 958 \\ & 391 \cdot 972 \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\$	h m 10 36.6 10 46.9 11 7.3 11 17.1 Images 2-	r 193.779 191.335 193.721 191.346 3. Steadir	r 191 [•] 324 193 [•] 740 191 [•] 332 193 [•] 716 ness 3. F.	B 385:279 385:262 385:272 385:302 P. 9:50.
at down 1980	Can	opus.		1882, Ma	rch 23.
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{vmatrix} \mathbf{R} \\ 92.807 \\ 92.802 \\ 92.733 \\ 92.839 \\ \mathbf{Run} + 3.3. \end{vmatrix}$	h m 10 44'8 10 57'1 11 19'8 11 29'2 Images 2-	$\begin{vmatrix} r \\ 54'960 \\ 52'575 \\ 54'938 \\ 52'556 \\ -3. & Steading$	r 52.560 54.927 52.560 54.943 ness 3. F	R 107 [·] 590 107 [·] 578 107 [·] 585 107 [·] 592 .P. 9 [·] 50.



	ndi. 1882. April 2.
Б	a 1002, 11pm 2.
hm (rrt B	h m ('r r R
15 56.3 201.788 204.140 406.397	16 2.4 230.586 228.290 459.430
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$
16 39.2 204.175 201.931 406.437	16 32.4 228.401 230.631 459.461
Bar. 30.14. Ther. 62.0. Run +	2·3. Images 2-3. Steadiness 2-3.
z Tu	canae. 1882. April 2.
6	
h m l r r l B	hmir rip
17 2.3 200.575 202.864 403.658	17 9.5 197.815 195.487 393.470
17 24.0 202.840 200.505 403.582	17 17 4 195 498 197 835 393 489
17 55.7 202.860 200.552 403.548	17 46.9 197 556 197.865 393 454
Bar, 20'15. Ther, 62'0. Run +	2.7. Images 2-2. Steadiness 2-2.
	- /·g 3.
εIı	ndi. 1882, April 8.
a	в
h m r r B	h m r r R
16 46°1 230°630 228°343 459°369	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$
17 11.4 230.703 228.424 459.449	17 19.7 201.944 204.233 406.429
17 33 3 228 406 230 722 459 403	17.26.7 204.231 201.913 406.384
Bar. 30.01. Ther. 53°0. Run + 2.8.	Images 1-2. Steadiness 2. F.P. 9.55.
a, Cer	tauri. 1882, April 8.
a	Ь
h m r r B	hm r r B
17 49.0 192.115 194.417 386.642	17 50.0 243.101 240.828 484.128
18 17.5 192.085 194.421 386.615	18 23.6 243.171 240.847 484.154
18 39.0 194.414 192.100 386.623	18 32.2 240.842 243.160 484.138
Bar. 30'01. Ther. 51°5. Run + 2'5.	Images 1-2. Steadiness 2. F.P. 9.55.
a Cen	tauri. 1882. April 11.
6	. a
hmir ri B	hmir r 1 B
11 2.7 243.111 240.811 484.069	11 9.8 192.108 194.399 386.633
11 24.1 240.829 243.143 484.123 11 30.4 243.131 240.848 484.131	11 18.2 194.403 192.100 380.031
Bar, 30:08. Ther, 56° = Run + 1'2	Images 1-2. Steadiness 1-2. F.P. 0:50

. It lings	,toni (a ₂ Cer	itauri.	,	1882, A _l	pril 12.
h m 12 37.8 13 0.2 13 4.9 13 32.5 in Bar. 30.0	$\begin{array}{c} \mathbf{r} & \mathbf{r} \\ 194^{\circ} 395 & 192^{\circ} 116 \\ 192^{\circ} 125 & 194^{\circ} 403 \\ 194^{\circ} 388 & 192^{\circ} 104 \\ 192^{\circ} 128 & 194^{\circ} 434 \\ 192^{\circ} 128 & 194^{\circ} 434 \\ 55. & \text{Ther. } 62^{\circ} 5. & \mathbf{R} \end{array}$	B 386.646 386.664 386.628 386.698 un + 2.0.	h m 12 44 ² 12 52 ⁰ 13 11 ⁰ 13 23 ¹ Images 2.	r 240.813 243.129 240.813 243.119 Steadiness	r 243°114 240°804 243°120 240°833 2-3. F.I	R 484.087 484.094 484.096 484.115 2.9.50.
is ingh	Bally .	εI	ndi.		1882, Aj	pril 17.
h m 19 6°1 19 26°0 19 31°8 in Bar. 30°2	<i>b</i> ^r ^r 201.986 201.992 204.282 204.307 201.983 6. Ther. 60°0. R	R 406.412 406.404 406.418 un + 2.2.	h m 19 13.0 19 20.0 19 39.7 19 48.7 Images 2.	r 228.438 230.753 228.452 230.760 Steadiness	r 230°748 228°449 230°761 228°454 4 2-3. F.J	R 459`344 459`357 459`358 459`355 P. 9`50.
. The long L	s the	e II	ndi.		1882, A	pril 18.
	a			в		
h m 17 45 ^{.7} 18 8 ^{.7} 18 15 ^{.2} 18 38 ^{.0}	r r 228·417 230·746 230·718 228·429 228·466 230·753 230·759 228·453	R 459.412 459.360 459.424 459.394	h m 17 52.6 17 59.3 18 23.2 18 30.2	r 204.219 201.964 204.257 201.990	r 201.953 204.292 201.972 204.273	406.372 406.448 406.398 406.428
Bar. 30	08. Ther. 61°0.	Run +	1.4. Iu	nages 2-3.	Steadin	ess 2–3.
Bernier	100	ζ Tu	canae.	*	1882, A	pril 18.
	a		1		3	•
h m 18 51 3 19 16 7 19 24 1 19 47 4 i Bar. 30	r r 195`549 197`842 197`830 195`518 195`559 197`852 197`832 195`552 °8. Ther. 57`5.	R 393 [•] 501 393 [•] 460 393 [•] 525 393 [•] 503 Run +	h m 18 59'9 19 8'7 19 31'3 19 41'3 1'3. In	$\begin{vmatrix} r \\ 202.869 \\ 200.589 \\ 202.885 \\ 200.584 \\ ages 2-3. \end{vmatrix}$	r 200°582 202°894 200°604 202°857 Steadin	$ \begin{array}{c c} \mathbb{R} \\ 403.564 \\ 403.596 \\ 403.604 \\ 403.558 \\ ess 2-3. \end{array} $
deper-		εI	ndi.		1882, A	pril 19.
h m 15 45'3 16 7'9 16 23'5 16 54'6 Bar, 30'	<i>b</i> 204.063 201.820 201.878 204.168 204.145 201.889 201.908 204.209 0 03. Ther. 58°3.	$ \begin{array}{c c} $	h m 15 51 9 16 07 16 33 5 16 45 3 Images 2	228.268 230.536 228.344 230.633 Steadine	a 230°566 228°305 230°642 228°361 55 3-4. F	R 459'444 459'405 459'412 459'382 .P. 9'52.
Bar. 30	03. Ther. 58°3.	Run + 1'1.	Images 2	. Steadine	58 3-4. F	.P. 9. 52.

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182, 310012.	α ₂ C	entauri.	1882, April 21.	
h m r 13 4'2 194'395 13 31'6 192'126 13 39'7 194'390 14 26'3 192'134	a 192°120 194°386 194°386 194°396 194°396 194°396 194°396 194°396	h m 13 13'4 24 13 22'4 24 14 1'2 24 14 13'3 24	r r 0.827 243.107 3.107 240.807 0.818 243.103 3.110 240.843	R 484.100 484.081 484.090 484.122
Bar. 30.17. The	er. 53 [°] 0. Run + 2 [•] 4	Images 1-2.	Steadiness 2. F.I	2. 9*50.
a marana	α ₂ C	entauri.	1882, Aj a	oril 22.
h m r 11 29'3 240'812 11 59'8 243'096 12 11'8 240'807 12 52'7 243'088 in Bar. 30'18. The	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	h m 11 39 4 19 11 49 9 19 12 26 8 19 12 40 3 19 Images 2-3.	r r 4' 388 192' 086 2' 096 194' 399 4' 408 192' 097 2' 097 194' 399 Steadiness 3. F.1	R 386.606 386.628 386.642 386.633
in the set	a2 C	entaari.	1882, A _l b	oril 25.
h m r 13 19.6 194.370 13 19.6 194.416 14 0.9 192.123 14 0.9 192.115	r R 192.099 386.607 192.118 386.672 194.395 386.655 194.403 386.655	h m 13 33'5 24 13 33'5 24 13 48'3 24 13 48'3 24 13 48'3 24	r r 5.815 243'124 5.854 243'116 3.090 240'812 3.111 240'836	R 484.105 484.086 484.069 484.114
Ear. 30.15. The	r. 57 [°] 0. Run + 1.6.	Images 1-2.	Steadiness 2. F.I	2. 9. 52.
at the solar	e	Indi.	1882, A ₁	oril 25.
h m r 15 51.4 228.224 16 15.6 230.559 16 23.9 228.311 in Bar. 30.15.	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	h m 15 59.0 20. 16 7.3 20 16 34.0 20. + 3.1. Image	r r 4 ¹ 118 201 ³ 849 1 ³ 846 204 ¹ 23 4 ¹ 155 201 ³ 953 5 2. Steadiness	E 406·432 406·402 406·458 5 2-3.
ALT. S. THE	a ₂ Cer	ntauri.	1882, 1	May 4.
h m r 18 39.6 240.847 19 3.8 243.140 19 10.6 240.855 19 38.5 243.131 in Bar. 30.25. Ther	$\begin{array}{c ccccc} r & & & R \\ 243^{\cdot}151 & & 484^{\cdot}133 \\ 240^{\cdot}831 & & 484^{\cdot}109 \\ 243^{\cdot}146 & & 484^{\cdot}131 \\ 240^{\cdot}827 & & 484^{\cdot}110 \\ \cdot 57^{\circ}3. & Run + 2^{\cdot}8. \end{array}$	h m 18 47 3 194 18 55 4 195 19 19 7 194 19 31 0 195 Images 2-3. S	a r r r 388 1921105 r 090 194406 r 408 192101 21113 194377 teadiness 2-3. F.	R 386.604 386.609 386.628 386.616 P. 9.50.

Have	b	ζTu	canae.	a	1882, 1	May 4.
$\begin{array}{c cccc} h & m \\ 19 & 52 \cdot 6 \\ 20 & 18 \cdot 8 \\ 20 & 26 \cdot 1 \\ 20 & 55 \cdot 2 \\ 10 \\ 10 \\ 10 \\ 10 \\ 10 \\ 10 \\ 10 \\ $	r r po2:897 200.573 po:577 202.887 po2:868 200.568 po:591 202.889 4. Ther. s7.8	R 403`589 403`587 403`562 403`612 Bun +	h m 20 0.6 20 10.8 20 35.3 20 46.1	r 195 [•] 530 197 [•] 811 195 [•] 522 197 [•] 829	r 197.833 195.529 197.807 195.507 Steading	E 393`485 393`464 393`461 393`470
		Tur I			Steaume	
	Ъ	e Ir	ndi.	a	1882, 1	May 6.
$\begin{array}{c cccc} h & m \\ 16 & 17.8 \\ 16 & 42.2 \\ 16 & 49.9 \\ 17 & 15.7 \\ \end{array}$	r r 01.862 204.164 04.179 201.861 01.879 204.200 04.221 201.905 7 Ther s2. R	R 406.424 406.369 406.390 406.385	h m 16 25 4 16 33 8 16 57 9 17 7 8	r 230°571 228°324 230°654 228°383 Steadines	r 228·304 230·622 228·387 230·658	R 459.336 459.376 459.398 459.372
	7. Incl. 52 5. It	un + 5 5.	Images 2.	Dicadifies	a 2−3, I.	
	a	a₂ Cen	tauri.	l	1882,	May 6.
h m 17 27.0 I 17 52.2 I 18 I.1 I 18 25.7 I in	r r 92°100 194°438 94°402 192°111 92°126 194°427 94°433 192°113	R 386.649 386.622 386.662 386.655	h m 17 35 ^{.8} 17 43 ^{.2} 18 9 ^{.9} 18 17 ^{.1}	r 243.144 240.845 243.138 240.823	r 240 [.] 812 243 [.] 150 240 [.] 824 243 [.] 138	R 484.099 484.130 484.100 484.098
Bar. 30.0	o6. Ther. 51.5.	Run +	· 2·7. II	mages 2.	Steadine	ss 2-3.
The set of	в	a ₂ Cen	otaori.		1882, N	fay 11.
h m 19 29.5 2 19 55.7 2 20 5.8 2 20 36.5 2	r r 43°104 240°829 40°840 243°099 43°128 240°813 40°820 243°089	E 484°078 484°104 484°133	h m 19 39 1 19 49 3 20 14 2 20 25 3	r 192.133 194.406 192.085 194.396	r 194·423 192·095 194·403 192·082	в 386°686 386°638 386°651 386°658
Bar. 30.01.	Ther. 54°0. Ru	in + 3.6.	Images 2-3	. Steadine	ss 2-3. F	.P. 9.50.
		e II	ndi.	7	1882, N	fay 18.
h m 15 56.8 2 16 23.3 2 16 29.1 2 17 1.2 2 in Bar. 30.2	^r 30 [•] 541 228 [•] 252 28 [•] 305 230 [•] 615 30 [•] 600 228 [•] 325 28 [•] 371 230 [•] 667 2. Ther, 51 [•] 0. F	B 459'390 459'393 459'376 459'388 Run + 1'2.	h m 16 5'7 16 15'8 16 40'8 16 51'3 Images 2.	r 201.830 204.153 201.952 204.175 Steadines	r 204°120 201°856 204°163 201°928 18 3-4. F.	R 406' 392 406' 417 406' 451 405' 413 P. 9' 50.

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A THE ROLL			α_2 Ce	a ₂ Centauri.			1882, May 18.	
	a				i	Ъ		
	h m 17 22.0 17 48.4 17 57.2 18 27.4	r 192.137 194.400 192.113 194.405 in	r 194.417 192.121 194.427 192.130	в 386.677 386.632 386.650 386.645	h m 17 29°8 17 38°8 18 9°0 18 17°0	r 243°124 240°827 243°124 240°818	r 240.814 243.140 240.830 243.122	R 484.082 484.110 484.093 484.078
	Dar.	30.21.	rner. 50.5	. Run +	· 3·3. II	nages 2.	Steadines	35 2-3.
	draph A		5	° a ₂ Cei	ntauri.		1882, N a	fay 19.
	n m 16 33.6 16 59.7 17 10.7 17 40.4	r 243 [.] 134 240 [.] 828 243 [.] 138 240 [.] 817	r 240 [.] 797 243 [.] 137 240 [.] 825 243 [.] 159	E 484.083 484.112 484.109 484.119	h m 16 42.6 16 51.8 17 22.6 17 31.1	r 192.112 194.418 192.108 194.442	r 194°443 192°099 194°434 192°118	в 386.673 386.634 386.655 386.672
	Bar. 30	·02. Ther.	• 49 [°] 5. R	tun + 3.7.	Images 2.	Steadines	s 2–3. F.	P. 9 [.] 50.
	a gold	a	,	a ₂ Ce	ntauri.	l	1882, N	lay 20.
	h m 11 32°2 12 1°0	r 194°412 192°092 in	r 192.087 194.450	в 386·630 386·677	h m 11 39°2 11 47°8	r 240°776 243°135	r 243 [.] 125 240 [.] 788	в 484°055 484°079
1	Bar. 3	0.18. The	r. 55°0.	Run + 3.0	. Images 2.	. Steadine	ess 2. F.P	. 9 . 50.
	34 74	Ь	*	a ₂ Cei	ntauri.	c.	1882, N	lay 21.
	h m 11 18.4 11 43.8 11 49.9 12 22.8	r 243·109 240·816 243·113 240·794	r 240·796 243·132 240·788 243·138	B 484.057 484.105 484.069 484.095	h m 11 25.8 11 35.1 11 58.7 12 12.4	r 192°095 194°408 192°108 194°445	r 194.440 192.098 194.432 192.108	R 386.667 386.640 386.676 386.690
	Bar. 30'2	46. Ther.	54 [°] 8. Ru	n + 2°7.	Images 2–3.	Steadine	ss 2–3. F.	P. 9 [.] 50.
							-	
		100		a2 Cer	ntauri.		1882, M	ay 22.
		a a				6		
	h m 11 13.1 11 36.6 11 43.1 12 11.1	r 194°412 192°114 194°448 192°102	r 192.099 194.428 192.126 194.419	R 386.639 386.675 386.708 386.658	h m 11 20.6 11 28.8 11 51.7 12 2.6	r 240 [.] 810 243 [.] 135 240 [.] 799 243 [.] 130	r 243 [•] 108 240 [•] 798 243 [•] 144 240 [•] 793	E 484.070 484.087 484.102 484.083
	in Bar. 30°2	8. Ther. 5	51 [°] 8. Ru	n + 2°7.	Images 1–2.	Steadines	s 2-3. F.	P. 9 · 50.



ATT WHICH BERRY	dani. 1882, June			ine 25.	
a			6		
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	R 511.645 511.651 511.625 511.651	h m o 14.9 o 25.7 o 50.8 o 59.2	r 267.823 270.318 267.853 270.372	r 270·319 267·838 270·299 267·861	R 538.334 538.340 538.340 538.323 538.401
Bar. 30.39. Ther. 50. Ru	n + 3.5. In	nages 2–3.	Steadiness	s 2-3. F.	.P. 9 [.] 50.
in your wat	e Erid	lani.		1882, Ju	ne 29.
h m r r 23 13.9 267.801 270.234 23 41.1 270.295 267.796 23 49.6 267.803 270.263 0 17.9 270.292 267.822 in Bar. 30.18. Ther. 45.5. R	$ \begin{array}{c} $	h m 23 20.7 23 33.6 23 57.6 0 9.6	r 256.890 254.450 256.961 254.482 . Steadine	r 254.437 256.913 254.453 256.913 ss 2. F.1	R 511.599 511.578 511.604 511.576 P. 9.50.
at call of the	e Erid	lani.	ь	1882, 3	July 1.
$ \begin{array}{c ccccc} h & m & r & r \\ 23 & 20^{\circ}5 & 256^{\circ}834 & 254^{\circ}391 \\ 23 & 47^{\circ}3 & 254^{\circ}393 & 256^{\circ}837 \\ 23 & 54^{\circ}7 & 256^{\circ}844 & 254^{\circ}398 \\ 0 & 25^{\circ}4 & 254^{\circ}413 & 256^{\circ}854 \\ \hline & n \\ Bar. & 30^{\circ}15. & Ther. & 42^{\circ}8. & R \\ \end{array} $	$\begin{bmatrix} R \\ 511^{\circ}459 \\ 511^{\circ}431 \\ 511^{\circ}435 \\ 511^{\circ}439 \end{bmatrix}$ sun + 2°2.	h m 23 29°1 23 38°8 0 3°3 0 15°6	r 267°742 270°162 267°728 267°737 Steadiness	r 270 [°] 177 267 [°] 704 270 [°] 208 270 [°] 173 2–3. F.I	R 538.161 538.094 538.138 538.102 P. 9.50.
b contraction b	e Erid	lani.	a	1882, 3	July 7.
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	B 538.083 538.119 538.137 538.115	$ \begin{array}{c} h & m \\ 23 & 52 \cdot 8 \\ \circ & 6 \cdot \circ \\ \circ & 38 \cdot 9 \\ \circ & 45 \cdot 3 \end{array} $	r 254.406 256.849 254.413 256.848	r 256·845 254·386 256·856 254·410	R 511.442 511.415 511.430 511.417
Bar. 30.15. Ther. 55.0. R	tun + 1.5.	Images 2-3	. Steadine	ss 2. F.I	P. 9.50.
. La gale dans a	e Erid	lani.	b	1882, 3	July 9.
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	в 511.510 511.466 511.444 511.460	h m 22 51 4 23 1 9 23 23 4 23 34 1	r 270°137 267°704 270°168 267°724	r 267 · 691 270 · 178 267 · 721 270 · 163	R 538 · 145 538 · 173 538 · 140 538 · 123
Ther. 44.0. Run + 1.	5. Images	1-2. St	teadiness 2.	F.P.	9.20.

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	α_2 Centa		tauri.	1882, A b ¹	ugust 1.
h m 18 11 1 18 31 5 18 37 5 19 3 0	r r 110:076 107:592 107:603 110:038 110:042 107:604 107:596 110:058 in the ther too R	B 217.781 217.766 217.774 217.800	h m 18 17 ^{.5} 18 24 ^{.4} 18 46 ^{.0} 18 55 ^{.6}	r r 112.815 115.298 115.289 112.801 112.886 115.299 115.248 112.800	R 228·239 228·220 228·320 228·320
	47. Incl. 50 0. K	un + 0 9.	111111gcs 2.	Dica 111035 2-3. 1	
	<i>δ</i> 1	a ₂ Cen	tauri.	1882, A^{1}	ugust 2.
h m 19 55 9 20 0 3 20 32 3 20 39 0 Bar. 3	$\begin{array}{c} r & r \\ 115^{\circ}227 & 112^{\circ}716 \\ 112^{\circ}755 & 115^{\circ}232 \\ 115^{\circ}219 & 112^{\circ}758 \\ 112^{\circ}787 & 115^{\circ}206 \\ in \\ 0^{\circ}36. & \text{Ther. } 58^{\circ}0. \end{array}$	$ \begin{array}{r} $	h m 20 6.6 20 13.3 20 20.9 20 26.2 Images 2	r r 110°040 107°55 107°563 110°01 109°996 107°55 107°527 110°01 . Steadiness 2. F	R 217.798 3 217.788 5 217.774 1 217.766
A1 14		a ₂ Ce	ntauri.	1882, 4 b ¹	August 3.
h m 19 17.0 19 23.8 20 1.7 20 10.4	r r 107.585 110.060 110.031 107.598 107.534 110.027 110.026 107.554	R 217.802 217.792 217.762 217.789	h m 19 31 [.] 3 19 37 [.] 7 19 46 [.] 3 19 51 [.] 8	r r 112.829 115.23 115.238 112.76 112.803 115.27 115.296 112.76	$\begin{array}{c c} $
in Bar. 30	a 33. Ther. 56°0. R	un + 1°2.	Images 2-3	3. Steadiness 3.	F.P. 9 . 50.
a.s.a	61	a ₂ Cer	ntauri.	$1882, A$ a^1	Lugust 6.
h m 19 44'3 20 8'7 20 17'1 20 42'7	r r 112.760 115.218 115.239 112.707 112.752 115.241 115.263 112.749	R 228.182 228.180 228.239 228.300	h m 19 50°6 20 1°9 20 25°4 20 34°5	r r 110'073 107'54 107'508 110'05 110'071 107'52 107'542 110'04	B 217.814 3 217.766 7 217.831 9 217.836
i Bar. 30	n •28. Ther. 44.5. R	un + 4·3.	Images 2-3	3. Steadiness 2. I	'.P. 9°38.
	<i>a</i> ¹	a ₂ Cer	ntauri.	1882, A B ¹	ugust 7.
h m 19 6·5 19 30·6 19 46·0 20 7·3	r r 107.615 109.998 110.035 107.601 107.603 110.012 109.980 107.595	R 217.761 217.806 217.799 217.781	h m 19 11.4 19 20.3 19 51.5 20 1.0	r r 115·240 112·86 112·819 115·25 115·210 112·80 112·826 115·17	$\begin{array}{c c} $
Bar. 30	29. Ther. 55.0. R	$un + 4^{\circ}I.$	Images 2.	Steadiness 2-3. I	P. 9.50.

	.C 1992 A 1981		a2 C	a ₂ Centauri.		1882, August 11.		
	h m 10 6.5	r 115.206	r 112.840	E 228°217	h m	r 110.028	r 107.622	R 217.811
	19 11.7 19 44.6 19 50.0	112.878 115.180 112.810	115.201 112.802 115.195	228·246 228·183 228·213	19 24.6 19 33.2 19 38.2	107.639 109.984 107.586	109.991 107.582 110.006	217.805 217.739 217.769
	Bar.	in 30°22.	Ther. 51°C	o. Run	+ 3.7. 1	Images 2.	Steadine	ess 2.
-	S Beatry	4. 9881		a ₂ Ce	ntauri.	1	882, Aug	ust 12.
		a	ıl		1	ł	1	
1	h m 19 24.0 19 28.7 19 56.3 20 1.0	r 107.627 110.009 107.591 110.011	r 110 [°] 006 107 [°] 642 109 [°] 971 107 [°] 626	B 217·797 217·819 217·757 217·838	h m 19 34°5 19 38°4 19 46°3 19 50°8	r 112.830 115.185 112.806 115.213	r 115°200 112°829 115°207 112°812	R 228 · 219 228 · 207 228 · 216 228 · 234
	Bar.	in 30°11.	Ther. 50°c	. Run	+ 2°9. I	mages 1.	Steading	ess 1.
	di tan y	b	1	a ₂ Ce	ntauri.	1	882, Aug	ust 18.
Ι,	h m i	r	r i	R	h m i	r	r I	R
I	9 44 0	110.057	107.606	217.848	19 56.0	115'212	112'781	228'210
2	0 22.3	110.029	107.612	217 869	20 9'2	115 174	112.831	228.238
	Bar. ,	in 30° 22.	Ther. 47°0	. Run -	+ 2°0. II	mages 2.	Steadine	38 2.
-								
	. a thur i	a dent		Canc	pus.	188 B	2, Septen	nber 1.
	h m	r r 4:058	r 12:487	R 107:576	h m	r 47.524	r	R
3	0 23.8	52.479	54.931	107.537	0 36.9	45.112	47.550	92.775
	o 55.7 I 0.9	54°971 52°525	52 534 54.969	107.594	0 41 7	47 530 45.074	45 103	92°748 92°720
	Bar. 30	in 5°23. I	'her. 43 [°] 0.	Run +	3.6. Im	ages 2.	Steadiness	2-3.
				C.		100		
		a	1	SI	ius.	1882 b	z, Septem	ber 1.
1	h m 1 54°2 1 59°8 2 33°5	r 195 [°] 581 195 [°] 644 195 [°] 731	r 195·589 195·620 195·733	^R 391.854 391.891 391.864	h m 2 7.5 2 13.1 2 19.5	r 192·388 192·416 192·448	r 192°386 192°433 192°445	в 385°275 385°314 385°323
	2 40.0 in Bar. 30.	195.748 23. Ther.	195·778 44 [°] 0. Ru	391.899 n + 4.1.	2 27°7 Images 2.	192°497 Steadiness	192*409 2-3. F.P.	385°295 9°50.

20 minutes 2 htt	Siri	Sirius.		1882, September 3.	
Ь			a		
$ \begin{array}{c ccccc} h & m & r & r \\ 3 & 44^{\circ}1 & 192^{\circ}540 & 192^{\circ}510 \\ 3 & 49^{\circ}0 & 192^{\circ}546 & 192^{\circ}561 \\ 4 & 17^{\circ}8 & 192^{\circ}569 & 192^{\circ}539 \\ 4 & 23^{\circ}4 & 192^{\circ}570 & 192^{\circ}569 \end{array} $	в 385 [•] 249 385 [•] 300 385 [•] 273 385 [•] 299	h m 3 54.6 3 58.5 4 5.6 4 12.0	r 195 [.] 873 19 195 [.] 841 19 195 [.] 862 19 195 [.] 847 19	r 5.851 39 5.807 39 5.846 39 5.830 39	E 91.923 91.842 91.894 91.855
Bar. 30'30. Ther. 49 [°] 0. I	Run + 4'3.	Images 2.	Steadiness 2	. F.P. 9'	50.
a	Siri	ius.	1882, b	Septembe	er 8.
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	E 391.881 391.903 391.926 391.883 0. Run +	h m 3 28.5 3 32.5 3 40.7 3 48.0	r 193°797 19 191°260 19 193°772 19 191°294 19 Images 2.	r 1 · 296 38 3 · 762 38 1 · 308 38 3 · 806 38 Steadiness	B 5 · 312 5 · 236 5 · 282 5 · 292 2.
A million (Age)	Siri	ius.	1882, S	leptember	25.
Ь			a		
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	B 385°298 385°253 385°277 385°290	h m 4 11°3 4 18°3 4 27°7 4 32°7	r 194.623 19 197.108 19 194.655 19 197.099 19	r 7°053 39 4°587 39 7°060 39 4°631 39	R 1.853 1.866 1.878 1.890
Bar. 30'08. Ther. 51°0. R	un + 4.8.	Images 2.	Steadiness 1-	-2. F.P. 9	• 50.
	Siriu	15.	1882, S	eptember	27.
a	Sec. 1		6		
$ \begin{array}{c ccccc} h & m & r & r \\ 4 & 15 \cdot 5 & 194 \cdot 651 & 197 \cdot 060 \\ 4 & 20 \cdot 6 & 197 \cdot 113 & 194 \cdot 644 \\ 4 & 52 \cdot 2 & 194 \cdot 638 & 197 \cdot 086 \\ 4 & 56 \cdot 2 & 197 \cdot 038 & 194 \cdot 616 \\ \end{array} $	E 391 · 888 391 · 930 391 · 873 391 · 800	h m 4 26 [•] 2 4 30 [•] 3 4 43 [•] 1 4 47 [•] 8	r 191·383 19 193·768 19 191·333 19 193·803 19	r 3.793 38 1.383 38 3.797 38 1.334 38	E 5 335 5 306 5 278 5 282
in Bar. 30 [°] 56. Ther. 50 [°] 0. R	un + 3°8.	Images 2-3	3. Steadiness	2. F.P. 9	• 50.
		1 ×			
6	Siriu	us.	1882, S a	eptember	28.
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	R 385.239 385.212 385.347 385.338	h m 3 52.6 3 58.3 4 6.5 4 12.9	r 197 [•] 145 19 194 [•] 589 19 197 [•] 086 19 194 [•] 610 19	r 4.640 39 7.087 39 4.658 39 7.064 39	в 1.985 1.869 1.928 1.851
Bar. 30.24. Ther. 51.0. R	un + 3.1.	Images 2.	Steadiness 2-	-3. F.P. 9	• 50.

signationality 2 . Statt Siri		irius. 1882, September 30.			ber 30.
a	1	U	,		
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	E 391.819 391.862 391.871 391.862	$ \begin{array}{c} h & m \\ 3 & 52 \cdot 1 \\ 3 & 56 \cdot 0 \\ 4 & 2 \cdot 6 \\ 4 & 8 \cdot 0 \end{array} $	r 191·310 193·764 191·325 193·770	r 193°785 191°293 193°778 191°311	B 385·285 385·243 385·282 385·256
Bar. 30.44. Ther. 49.5. Ru	a + 3·7.	Images 1-2.	Steadines	s 1-2. F.	P. 9. 50.
	Sir	rius.	1	.882, Oct	ober 1.
h m r r 3 42 ^{.5} 193 ^{.784} 191 ^{.255} 3 47 ^{.3} 191 ^{.255} 193 ^{.796} 4 31 ^{.3} 191 ^{.273} 193 ^{.774} in Bar 20 ^{.22} Ther the Bu	B 385.240 385.285 385.201	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	r 197.064 194.600 197.047 Steadines	r 194.569 197.041 194.631	R 391.827 391.825 391.846
Dat. 30 32. Ther. 51 0. Ru	± + 4 5.	images 2-3.	Breaumer	55 2-3. r	.1.9 50.
a a	Siri	us.	1 6	882, Oct	ober 2.
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	B 391°904 391°896 391°886 391°890	h m 4 21°5 4 27°6 4 37°7 4 42°1	r 191°358 193°801 191°344 193°812	r 193°798 191°352 193°775 191°335	E 385.316 385.308 385.268 385.293
in Bar. 30.19. Ther. 52.5. R	un + 2.9.	Images 1-2.	. Steadine	ess 2. F.I	P. 9·50.
a	Cano	pus.	188 b	32, Nove	mber 6.
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c} & & & \\ 107.601 \\ 107.594 \\ 107.585 \\ 107.569 \\ 107.569 \\ 101 + 5.3. \end{array}$	h m 1 50°1 1 56°7 2 6°1 2 13°8 Images 2.	r 45°141 47°545 45°123 47°561 Steadiness	r 47 [•] 589 45 [•] 136 47 [•] 585 45 [•] 130 5 ² -3. F.	в 92`796 92`745 92`768 92`748 92`748 Р. 9`50.
b	Can	opus.	188 a	32, Novei	nber 7.
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	B 92°780 92°761 92°765 92°760 Sun + 5°5.	h m 1 14°5 1 19°0 1 28°5 1 39°5 Images 2-3	r 52.530 54.950 52.470 54.973 . Steadin	r 55 ^{°013} 52 [°] 537 54 [°] 953 52 [°] 544 ess 2. F.	в 107.633 107.573 107.505 107.594 Р. 9.50.





at mat and	Sirius.	1883, March 12.
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	r r R B 197'182 194'718 392'044 194'718 197'133 392'000 197'126 194'730 392'021 194'709 197'153 392'034 3. Steadiness 3. F.P. 9'50.
a	Sirius.	1883, March 13. b
h m r r 10 10'7 197'172 194'729 10 25'7 194'714 197'142 10 30'9 197'091 194'722 10 50'0 194'727 197'100 in Bar. 30'07. Ther. 67'0. Ru	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$ \begin{array}{c c c c c c c c c c c c c c c c c c c $
- a	Sirius.	1883, March 14. b
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	$ \begin{array}{c c c c c c c c c c c c c c c c c c c $
	Sirius.	1883, March 16.
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c} & & h & m \\ \hline & & & 385^{\circ}285 \\ \hline & & 385^{\circ}255 \\ \hline & & 385^{\circ}255 \\ \hline & & 385^{\circ}225 \\ \hline & & 10 & 24^{\circ}4 \\ \hline & & 30^{\circ}5 \\ \hline & & n + 4^{\circ}0. \end{array}$	a $\begin{array}{c c c c c c c c c c c c c c c c c c c $
	Sirius.	1883, March 22.
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c cccc} & & h & m \\ 385 \cdot 263 & 9 & 15 \cdot 9 \\ 385 \cdot 216 & 9 & 22 \cdot 4 \\ 385 \cdot 282 & 9 & 30 \cdot 2 \\ 385 \cdot 273 & 9 & 37 \cdot 9 \\ un + 3 \cdot 5. & Images 3. \end{array}$	a r r R 197.122 194.813 392.057 194.718 197.133 391.975 194.757 197.093 391.975 197.124 194.720 391.973 Steadiness 2-3. F.P. 9.50.

ST Book Shit		opus. 18		383, March 24.	
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c} & & \\ \mathbf{R} \\ 107, 540 \\ 107, 606 \\ 107, 563 \\ 107, 578 \\ 107, 578 \end{array}$	h m 11 38°0 11 44°0 11 51°2 11 56°1 Images 2-3.	r r 47 [°] 567 45 [°] 1 45 [°] 118 47 [°] 5 47 [°] 538 45 [°] 1 45 [°] 132 47 [°] 5 Steadiness 2-3.	B B 28 92°773 13 92°775 34 92°756 92°787 F.P. 9°50.	
Se double gast	Sir	ius.	1883,	March 25.	
$\begin{array}{c cccc} & & & & & & & & & \\ h & m & r & r & r & \\ g & 54^{\circ}0 & & & & & & \\ 9 & 58^{\circ}0 & & & & & & & \\ 191^{\circ}347 & & & & & & & \\ 193^{\circ}758 & & & & & & & \\ 10 & 27^{\circ}3 & & & & & & & \\ 10 & 27^{\circ}3 & & & & & & & \\ 10 & 35^{\circ}0 & & & & & & & \\ 103^{\circ}742 & & & & & & & \\ 103^{\circ}742 & & & & & & & \\ 101^{\circ}35^{\circ}0 & & & & & & \\ 103^{\circ}742 & & & & & & & \\ 101^{\circ}35^{\circ}0 & & & & & & \\ 103^{\circ}742 & & & & & & & \\ 101^{\circ}35^{\circ}0 & & & & & & \\ 103^{\circ}742 & & & & & & & \\ 101^{\circ}35^{\circ}0 & & & & & & \\ 103^{\circ}742 & & & & & & \\ 101^{\circ}35^{\circ}0 & & & & & & \\ 103^{\circ}742 & & & & & & & \\ 101^{\circ}35^{\circ}0 & & & & & & \\ 103^{\circ}742 & & & & & & \\ 101^{\circ}35^{\circ}0 & & & & & & \\ 103^{\circ}742 & & & & & & \\ 101^{\circ}35^{\circ}0 & & & & & & \\ 103^{\circ}750 & & & & \\ 103^{\circ}750 & & & & \\ 103^{\circ}750 & & & & \\ 103^{\circ}750 & & & & \\ 1$	$\begin{array}{r} & & & \\ & & & 385^{\circ}246 \\ & & & 385^{\circ}207 \\ & & & 385^{\circ}256 \\ & & & & 385^{\circ}195 \end{array}$ un + 3.8.	h m 10 3'9 10 7'6 10 13'7 10 20'6 Images 2-3	a r r 197.173 194.7 194.732 197.1 197.130 194.7 194.757 197.1 3. Steadiness 2.	E 392.026 391.989 50 392.028 392.016 F.P. 9.50.	
	Sir	ius.	1883, b	March 27.	
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	$ \begin{array}{r} B \\ 392.039 \\ 392.030 \\ 392.040 \\ 392.008 \\ m + 5.4. \end{array} $	h m 9 55`5 10 3`0 10 15`5 10 23`0 Images 2-3.	r r 191 [°] 343 193 [°] 193 [°] 756 191 [°] 191 [°] 339 193 [°] 193 [°] 739 191 [°] 3 Steadiness 2-3	$\begin{array}{c c} & & & & & \\ \hline 758 & & & & & \\ 385 \cdot 241 \\ 330 & & & & & \\ 385 \cdot 230 \\ 775 & & & & & \\ 385 \cdot 268 \\ 390 & & & & & \\ 385 \cdot 288 \\ \cdot & & & F.P. 9 \cdot 50. \end{array}$	
	Sir	rius.	1883, a	March 28.	
h m r r 10 0°0 191'377 193'742 10 16'7 193'748 191'332 10 22'7 191'332 193'780 10 40'5 193'679 191'351 in Bar. 30'14. Ther. 61°0. Ru	$\begin{vmatrix} & & & \\ & & & \\ & & & $	h m 10 5'5 10 11'5 10 27'7 10 35'5 Images 2-3.	r r 197 [°] 155 194 [°] 194 [°] 723 197 [°] 197 [°] 146 194 [°] 194 [°] 769 197 [°] . Steadiness 2-3	$\begin{array}{c cccc} & & & & & & \\ 727 & & & & & \\ 392 & & & & & \\ 759 & & & & & & \\ 392 & & & & & & \\ 392 & & & & & & \\ 689 & & & & & & \\ 392 & & & & & & \\ 392 & & & & & & \\ 689 & & & & & & \\ 890 & & & & & & \\ 890 & & & & & & \\ 890 & & & & & & \\ 890 & & & & & & \\ 890 & & & & & & \\ 890 & & & & & & \\ 890 & & & & & & \\ 890 & & & & & & \\ 890 & & & & & & \\ 890 & & & & & & \\ 890 & & & & & & \\ 890 & & & & & & \\ 890 & & & & \\ 890 & & & \\ 890 & & \\ 890 & $	
δ ¹	a ₂ Cen	tauri.	188 a ¹	3, April 3.	
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	$ \begin{cases} & & & \\ 217.934 \\ 217.926 \\ 217.862 \\ 217.913 \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\$	h m 9 55 5 10 2 5 10 26 5 10 33 5 . Images 3	$ \begin{array}{c} r & r \\ 115^{\circ}135 & 112^{\circ} \\ 112^{\circ}758 & 115^{\circ} \\ 115^{\circ}129 & 112^{\circ} \\ 112^{\circ}780 & 115^{\circ} \\ \end{array} $	R 228.037 165 228.075 227.021 228.021 161 228.072 F.P. 9.50.	
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	α ₂ Cen	α ₂ Centauri.			1883, April 3. b ¹				
h m r r 17 4.0 112.838 115.227 17 25.5 115.220 112.799 17 31.5 112.842 115.217 17 54.0 115.206 112.805 in Bar. 30.19. Ther. 56.0. Ru	$ \begin{array}{r} & & \\ 228 \cdot 152 \\ 228 \cdot 155 \\ 228 \cdot 158 \\ 228 \cdot 121 \\ n + 2 \cdot 8. \end{array} $	h m 17 9.5 17 18.5 17 39.5 17 48.0	r 110 [.] 095 107 [.] 681 110 [.] 087 107 [.] 654 . Steadine	r 107.683 110.077 107.700 110.101 ss 1-2. F	R 217.863 217.846 217.884 217.855 .P. 9.50.				
a2 Centauri. 1883, April 4.									
61 h m r r 17 12.3 107.692 110.105 17 28.3 110.078 107.671 17 34.5 107.690 110.088 17 51.3 110.097 107.662 in Bar. 30.15. Ther. 50.0. Ru	B 217.884 217.842 217.874 217.862 n + 3.4.	h m 17 15.8 17 22.8 17 38.3 17 45.3 Images 1-2	r 115 [•] 203 112 [•] 803 115 [•] 222 112 [•] 804 . Steading	a ¹ 112.840 115.206 112.823 115.215 Ess 1-2. F	B 228 · 135 228 · 105 228 · 147 228 · 126 C.P. 9 · 50.				
	∝ ₂ Cen	tauri.	a	1883, A	pril 5.				
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	B 217.921 217.883 217.887 217.866 n + 2.5.	h m 11 24.0 11 32.7 11 49.3 11 56.8	r 115.198 112.798 115.185 112.837 Steadine	r 112 · Soo 115 · 217 112 · 808 115 · 219 ss 1-2. F	R 228 · 101 228 · 115 228 · 086 228 · 146 .P. 9 · 50.				
μ1	a ₂ Cer	ntauri.	0	1883, A	April 7.				
$ \begin{array}{c ccccc} h & m & r & r \\ 17 & 23 \cdot 1 & 107 \cdot 686 & 110 \cdot 076 \\ 17 & 41 \cdot 6 & 110 \cdot 061 & 107 \cdot 707 \\ 17 & 52 \cdot 8 & 107 \cdot 704 & 110 \cdot 103 \\ 18 & 11 \cdot 0 & 110 \cdot 079 & 107 \cdot 679 \\ \end{array} $	E 217.852 217.866 217.910 217.871 Run + 5.1	h m 17 27.5 17 35.3 17 56.9 18 6.0	r 115.218 112.797 115.191 112.798 . Steadin	r 112.809 115.230 112.779 115.183 ness 2. F.J	R 228.124 228.127 228.081 228.099 P. 9.50.				
	a ₂ Cer	atauri.	b	1883, A	april 8.				
$ \begin{array}{c ccccc} h & m & r & r \\ 11 & 12 \cdot 4 & 112 \cdot 809 & 115 \cdot 184 \\ 11 & 31 \cdot 6 & 115 \cdot 198 & 112 \cdot 823 \\ 11 & 37 \cdot 1 & 112 \cdot 834 & 115 \cdot 179 \\ 11 & 56 \cdot 5 & 115 \cdot 202 & 112 \cdot 810 \\ & in \\ Bar. & 30 \cdot 03. & Ther. & 62 \cdot 0. & Run$	$ \begin{array}{r} & & & & & \\ & & & \\ & & $	h m 11 18°2 11 25°3 11 42°2 11 49°3 Images 1-2.	r 110 [.] 093 107 [.] 699 110 [.] 128 107 [.] 682 Steadine	r 107.688 110.057 107.694 110.071 ss 1-2. F	R 217.882 217.854 217.913 217.841 .P. 9.50.				

HELIOMETER OBSERVATIONS. ELKIN.

The April of	a2 Cer	entauri. 1883, April 9.						
$ \begin{array}{c ccccc} h & m & r & r \\ 11 & 34^{\circ} 5 \\ 11 & 52^{\circ} 6 \\ 11 & 57^{\circ} 4 \\ 11 & 57^{\circ} 4 \\ 107^{\circ} 713 \\ 107^{\circ$	$ \begin{array}{r} & & & & \\ & & & & \\ & & & & \\ & & & & $	h m 11 40 ^{.8} 11 46 ^{.1} 12 5 ^{.9} Images 1-2	r 115 [.] 171 112 [.] 814 115 [.] 183 . Steadine	$ \begin{array}{c} \mathbf{r} \\ 112 \cdot 782 \\ 115 \cdot 138 \\ 112 \cdot 853 \\ 122 \cdot 853 \end{array} $	R 228.051 228.048 228.125 F.P. 9.50.			
6 ¹	a₂ Ce	ntauri.	a	1883, Aj 1	pril 10.			
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	R 217 [.] 874 217 [.] 883 217 [.] 850 217 [.] 845 Run + 4 [.] 0.	h m 17 38.6 17 52.1 18 22.1 18 28.5 Images 2.	r 115 [•] 188 112 [•] 806 115 [•] 168 112 [•] 807 Steadine	r 112 ^{.8} 34 115 ^{.224} 112 ^{.813} 115 ^{.205} ss 2. F.P	E 228 · 124 228 · 139 228 · 109 228 · 144 . 9 · 50.			
a ₂ Centauri. 1883, Apr								
h m r r 17 45.9 115.202 112.807 18 6.2 112.807 115.157 18 13.3 115.165 112.788 18 34.9 112.792 115.213 in o	R 228 · 113 228 · 080 228 · 073 228 · 139	h m 17 51.7 17 59.0 18 22.5 18 28.9	r 107.705 110.113 107.656 110.077	r 110°064 107°694 110°096 107°667	R 217.870 217.912 217.869 217.865			
Bar. 29'90. Ther. 57'0. Ru	$an + 4^{\cdot}4$. a_2 Ce	Images 2. ntauri.	Steadines	s 2-3. F. 1883, A	P. 9·50. pril 14.			
$\begin{array}{c cccccc} & & & & & & & & & & & & \\ \hline h & m & r & r & & & & \\ 17 & 11 \cdot 5 & & 110 \cdot 113 & 107 \cdot 713 \\ 17 & 30 \cdot 0 & & 107 \cdot 705 & 110 \cdot 092 \\ 17 & 36 \cdot 2 & & 100 \cdot 098 & 107 \cdot 670 \\ 18 & 5 \cdot 2 & & 107 \cdot 709 & 110 \cdot 060 \\ & & & & & & \\ & & & & & & \\ & & & & & & & \\ & & & & & & \\ & & & & & & \\ & & & & & & \\ & & & & & & \\ & & & & & & \\ & & & & & & \\ & & & & & & \\ & & & & & & \\ & & & & & & \\ & & & & & & \\ &$	R 217 · 910 217 · 889 217 · 862 217 · 877	h m 17 17 9 17 25 5 17 43 6 17 56 5	r 112.838 115.145 112.822 115.170	r 115.198 112.811 115.164 112.826	B 228.127 228.051 228.089 228.105			
Bar. 30.21. Ther. 59.0. Kun + 2.5. Images 3. Steadiness 3. F.P. 9.50. α_2 Centauri, 1883, April 16.								
$ \begin{array}{c ccccc} h & m & r & r \\ 9 & 58 \cdot 0 & 115 \cdot 148 & 112 \cdot 775 \\ 10 & 21 \cdot 0 & 112 \cdot 788 & 115 \cdot 188 \\ 10 & 27 \cdot 0 & 115 \cdot 181 & 112 \cdot 793 \\ 10 & 52 \cdot 0 & 112 \cdot 801 & 115 \cdot 192 \\ \hline \\ Pop & const & Then Const \\ \end{array} $	R 228.076 228.112 228.107 228.111	h m 10 6.0 10 14.0 10 36.0 10 44.5	r 107.675 110.129 107.692 110.066	r 110 [.] 096 107 [.] 690 110 [.] 120 107 [.] 716	B 217.915 217.957 217.935 217.901			
Dar. 30 05. 111er. 00.0. K	un + 4.8.	Images 2.	Steaume	55 2-3. r	.1.9 50.			

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.e 9-	a	₁ 1	a ₂ Ce	ntauri.	1883, April 18. b1		
h m 17 25 [•] 2 17 41 [•] 4 17 49 [•] 0 18 7 [•] 5 in	r 112 [.] 824 115 [.] 229 112 [.] 830 115 [.] 198	r 115 [.] 272 112 [.] 850 115 [.] 220 112 [.] 850	R 228°190 228°181 228°155 228°165	h m 17 29'7 17 36'0 17 55'5 18 1'7	r 110'116 107'708 110'105 107'672	r 107`683 110`125 107`693 110`108	R 217 [.] 890 217 [.] 926 217 [.] 901 217 [.] 886
Bar. 30.	03. Ther.	60.0. Ru	in + 2°4.	Images 2–3.	. Steading	ess 2–3. F	'.P. 9 [.] 50.
		1 1	a ₂ Ce	ntauri.		1883, A _l ³¹	oril 20.
h m 9 39 [.] 4 10 1 [.] 0 10 38 [.] 7 Bar. 2	r 112.796 115.162 112.784 in 9.77. The	r 115 \cdot 171 112 \cdot 793 115 \cdot 185 er. 60 \cdot 5.	R 228.132 228.103 228.093 Run + 3.0.	h m 9 44.8 9 51.5 10 41.9 Images 2.	r 110.078 107.686 110.140 Steading	r 107.698 110.104 107.710 ess 2. F.P	E 217 [•] 935 217 [•] 943 217 [•] 969 • 9 [•] 50.
derid	в	1	a ₂ Ce	ntauri.		1883, A _l	oril 23.
h m 11 19°5 11 37°3 11 46°5 12 6°2 in Bar. 29°	r 110.105 107.704 110.130 107.713 92. Ther.	r 107.709 110.120 107.718 110.098	^R 217.916 217.918 217.939 217.896 m + 3.4.	h m 11 26·3 11 31·7 11 52·6 11 58·3 Images 1-2	r 112.783 115.203 112.812 115.182 c. Steadin	r 115.210 112.796 115.215 112.811 ess 2. F.H	в 228.096 228.099 228.118 228.083 2.9.50.
	in the second		a ₂ Ce	entauri.		1883, Aj	pril 23.
h m 17 38.9 17 56.5 18 5.4 18 26.5 Bar. 2	r 110.096 107.720 110.104 107.697 in 9.89. The	r 107.721 110.077 107.680 110.080 er. 56°.0.	R 217:913 217:900 217:893 217:896 Run + 3:7.	h m 17 44.9 17 50.8 18 12.3 18 18.5 Images 2.	r 112:801 115:217 112:772 115:190 Steading	r 115 [•] 219 112 [•] 834 115 [•] 196 112 [•] 798 ess 2. F.P	E 228 · 123 228 · 157 228 · 087 228 · 112 . 9 · 50.
		.1	a_2 Ce	entauri.	· · · · ,	1883, A _I	oril 25.
h m 10 13'4 10 35'5 10 43'7 in Bar 20'	r 112.770 115.158 112.796	r 115.158 112.784 115.181	$ \begin{array}{c} R \\ 228.070 \\ 228.070 \\ 228.099 \\ n + 4.3. \end{array} $	h m 10 19.0 10 28.3 10 50.8	r 110.075 107.661 110.085 Steadine	r 107.663 110.120 107.673	R 217.871 217.910 217.874
Dar. 30.0	5. Ther.	59 0. Mu			2. Containe		

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St Dig & State			a2 Centauri.			1883, April 28.		
61				a	a^1			
h m i r r i			R	h m l	r	rl	R	
10 13.2	107.702	110.004	217.936	10 17.6	115.189	112.774	228.102	
10 28.0	110.003	107.686	217.909	10 23.8	112.802	115.177	228.115	
10 39.2	107.688	110.111	217 921	10 44.7	115.171	112.783	228.077	
10 59.0	110'112	107.724	217.947	10 50.0	112.808	115.183	228.111	
	in	0			C. 1'			
Bar. 3	0.20. The	er. 57°5.	Kun + 2°5.	Images 2.	Steadine	SS 2. F.F.	. 9' 50.	
- (Can	opus.		1883. Aı	oril 30.	
	a	ı			NO	b		
h m	r	r	R	h m	r	r	R	
11 21.5	54.930	52.528	107.548	11 32.0	47.567	45.157	92.800	
11 27.2	52.566	54.966	107.626	11 40.0	45.146	47.546	92.772	
11 57.0	54 943	52.525	107.585	11 44.5	47.213	45.133	92.728	
12 2.8	52.526	54'933	107. 582	11 51.0	45.179	47.544	92.807	
Bar. 30'	14. Ther.	55°0. Ru	ın + 5°9.	Images 2-3.	. Steadine	ess 2–3. F	P. 9 · 50.	
			Car	nopus.		1883,	May 1.	
	C	r				Ъ		
h m	r	ľ	R	h m	r	r	R	
11 20.0	54.919	52.603	107.610	11 30.5	47.524	45.174	92.772	
11 24.8	52.261	54.948	107.600	11 34.2	45.121	47.563	92.791	
11 56.4	54.891	52.262	107.568	11 44.2	47.530	45.147	92.758	
12 1.9	52.595	54.939	107.654	11 49.5	45.100	47.521	92.764	
in Bar. 30	o7. Ther.	59 [°] 5. Ru	in + 4°1.	Images 2–3	. Steadin	ess 2–3. 1	F.P. 9 . 50.	
-						-	-	
			Car	nopus.		1883,	May 3.	
	1.54	Ь				a		
h m	r	r	R	h m	r	r	R	
10 9.0	45.219	47.522	92.791	10 19.0	52.573	54.961	107 595	
10 13.0	47.561	45.194	92.806	10 25.8	54.974	52.577	107.615	
10 49.5	45.169	47.571	92.800	10 35.2	52. 587	54.943	107.597	
10 55.5	47.519	45.170	92.758	10 42.5	54.941	52.283	1 107 594	
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ERRATA AND ADDENDA.

HELIOMETER OBSERVATIONS FOR STELLAR PARALLAX.

Page.	No.	Column.	For	Read
	A	in the second	Three	
3	1	4	298.091	298.177
4	1	1	18.8.9	18.18.0
5	2	3	35.695	35.696
6	1	Ther.	39.8	42.5
8	1	"	48.1	48.4
	2	8	467 . 206	467.256
9	1	Date	August 20.	August 30.
;,	2	2	35.698	35.696
11	1	Ther.	55.3	53.3
13	5	Run	4'9	3.9
14	3	5	19.22.6	19.45.6
17	4	5	0.52.5	0.53.5
18	2	3	137.707	139.707
20	2	2	81.596	81.597
"	3	Date	November 24.	November 25.
,,	5	8	282.092	282.093
21	1	Images	2	2-3
23	4	8	282.059	282.057
,,	,,	Steadiness	. 2	2-3
24	2	2	117.797	117.707
		5	8.54.2	8.54.3
	5	3	139.774	139.772
25	2	7	139.787	139.789
	3	8	487.324	487.322
26	3	5	4.22.2	4'42'2
27	1	Stars	α, β.	α^1, β^1
Section 1		3	232.170	232.100
	5	Star	a Centauri.	a, Centauri.
		Stars	β, α.	β^1, α^1
	,,	6	234.639	234.680
29	3	5	13.12.3	13:21:3
30	1	Run	6.1	3.6
31	2	5	10.27 3	10:22:7
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Page.	No. Column.		For	Read ,
31	2	VIII CA	232.262	232 252
21	5	3	213.904	213.404
33	1.1.1	3	213.386	213.381
34	4	Steadiness	2	3
36	5	Ther.	64.0	63.5
37	1	,,	61.5	62.3
39	5	7	144.273	144.276
43	1	Ther.	59.5	60.0
44	4	Images	I-2	2
45	5	Ther.	57.5	58.0
46	1	Steadiness	2-3	3
47	3	Ther.	48.0	49 3
48	5	,,	4.6 • 5	45.3
49	3	6	150.028	150.020
50	4 1	Ther.	53.5	54.8
51	4	Steadiness	2-3	3
,,	5	5	18.52.3	18.52.2
54	1	Steadiness	2	3 1
59	1	Run	2.5	2.8
1,250	5	Steadiness	2	3
61	1	Ther.	53.0	52.5
73	3	3	144.358	144.356
art die opland	5	Produgan A. P.	211.107	211.139
75	1	2.	117.626	147.626
76	2	5	18.25.9	18.22.8
80	2	Images	2-3	3
	,,,	Steadiness	2-3	3
85	5	3	171.929	171.926
91	4	2	194.140	194.190
.,,	>3	Ther.	71.7	70.7
92	3 .	15t 10' ,,	58 8	58.0
93	5	2	63 • 1	53.1
94	1	Images	3	3-4
98	1	7	193.706	193.766
,,	3	Steadiness	3	3-4
99	2	Ther.	54.0	57.0
103	2	1	12.2.7	11.5.7
39	5	Images	3	3-4
104	1	C x1 - 21-	3	3-4
105	1	5	18.2.4	18.12.4
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	"		Images	2-3	
	"	33	Steadiness	2-3	1-2
	" 117	3	Images	3	3-4
	191	3	7	194.506	104:566
	125	4	Images	2	194 Joo
	127	4	Steadiness	3	3-1
	128	1		. 3	3-4
		4	Images	I-2	2
	"	5	7	240.756	240.766
	129	2	8	537.	538.
	130	2	7	195.502	195.507
		3	Steadiness	3	3-4
	131	4		3	3-4
	133	4	33	3	3-4
	135	2	Bar.	29.81	29.89
		4	Run	+ 0.4	- 0.4
			Images	.2	3
	136	1	Ther.	46.0	64.0
	139	4	,,	59.0	60.0 B
	140	4	Steadiness	3	3-4
	144	3	1 Ther.	53.0	52.5
	145	3	"	61.0	60.5
	146	2	Steadiness	3	3-4
	149	1	Ther.	46.0	45.5
	150	2	8	511.599	511.559
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	,,	4	33	9.50	9.00
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DATA TO BE INSERTED IN HELIOMETER OBSERVATIONS.

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9	2	30.34	55.0	+ 2.3	27	3	30.09	61.2	+ 3.9
10	5	30.42	55.0	+ 6.2	27	5	-		+ 2.7
12	5	-	-2-	+ 3.3	28	1	-		+ 3.9
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	3	2-3	2-3	29	1	3	3				
	4	2	2-3		2	2	3				
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22	1	2-3	2-3	1.1	5	2-3	3				
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24	1	I-2	2-3	1.1.1	5	3	3				
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Page 7	h m r r r Page 73. No. 1. Columns 1 to 4. Insert 8.18.8, 251 531, 253.897, 505.574. Page 156. No. 1. Insert F.P. 9.50.										









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