LICK OBSERVATORY

UNIVERSITY OF CALIFORNIA

BULLETIN No. 13

MICROMETRICAL OBSERVATIONS OF EROS

We have made the following observations of Eros with the thirty-six-inch refractor of the Lick Observatory, for use in the determination of the solar parallax. The measures have been made with special care, at as great east and west hour angles as was practicable under the circumstances existing on the several dates of observation. Measures have been made at those times only when the conditions, atmospheric and otherwise, appeared favorable for securing reliable results.

The eye-piece used in making the measures has a magnifying power of 270 and a field a little more than six minutes of arc in diameter. On a few occasions, indicated in the notes, a power of 520 was employed.

The value of one revolution of the micrometer screw used in reducing the observations is $9''.907$. No complete investigation of the micrometer screw has been made. But such investigations as have been made appear to show that the screw is excellent in every respect and of uniform pitch. The temperature coefficient is no doubt small, and has here been neglected. The range of temperature during these observations, except for the night of January 1, 1901, was only 24° , from 43° to 67° Fahr.

It is our practice to obtain parallel by giving the micrometer wires a direction such that an equatorial star, in consequence of its diurnal motion, will follow the wire throughout the entire width of the field of view of the 270-power eye-piece. In every case the determination is repeated until the observer is satisfied with the accuracy of the value obtained. Our independent determinations on the same night have always given sensibly the same value. No determinations of parallel have been made in the extreme north nor near the horizon. In all other parts of the sky, both east and west of the meridian, accordant values have always been obtained. It has been our custom, in this series of measures, to check the value of parallel

by observations made in the vicinity of Eros in connection with both the evening and morning sets of measures. The micrometer wires are adjustable, and have always been kept strictly parallel to each other.

The large refractor is used a portion of each week for spectroscopic work. This necessitates the frequent removal of the micrometer. As a result parallel varies slightly whenever the micrometer is taken off and replaced. When no change is made in the disposition of the instrument the parallel remains constant. We have at all times taken great care in the determinations of parallel.

The investigations of the position of the telescope have shown it to be very stable. The mounting is very satisfactory. The driving clock carries the telescope with ease at all times. The only instrumental source of error which may affect the accuracy of the measures is a small periodic inequality in the motion of the driving clock which renders it somewhat more difficult to make accurate settings in right ascension than in declination. We have at all times had this source of error in mind while making the observations, and perhaps the greater care exercised in making the right ascension settings may somewhat counteract this tendency.

A complete observation by Mr. Hussey consists of four settings of the micrometer in declination, then eight in right ascension, then four more in declination. When the two declination sets are combined they have nearly the same epoch as the mean of the right ascension settings. The fixed wire was sometimes placed upon the star and sometimes upon the planet, thus giving the observations something of the character of double distance measures.

A complete observation by Mr. Aitken consists of three settings in declination, then ten in right ascension, then three in declination, then ten more in right ascension, and finally three more in declination.

Each complete observation has, therefore, nine settings in declination and twenty in right ascension. In making the settings the fixed wire always bisected the star.

The measures have not been combined. The result for each declination set and each right ascension set is separately given. The values of the differences in right ascension and declination are those which result from converting the differences of the micrometer readings into arc of a great circle. No corrections have been applied to them. The differences in right ascension must be multiplied by $\frac{1}{15}$ sec δ to reduce them to time. The conversion into time is not here given, because the definitive places of the comparison stars are not yet available.

No extended investigation of the precision of the measures has been made. From experimental measures of the distances between neighboring stars of about the brightness of Eros and its comparison stars, Mr. Hussey has found that the probable error of the mean of ten settings is about 0''.05. On December 5, at a time when the motion of Eros in right ascension was so slow that it could be neglected for a short interval, Mr. Aitken found the probable error of the mean of ten settings to range from 0''.04 to 0''.08. (See Publ. A. S. P., Volume XIII, pages 73-74.)

The differential refractions given in connection with the measures have been computed as follows:

The parallactic angle q and the zenith distance z for both planet and star have been found by the equations,

$$\begin{aligned}\tan N &= \cot \phi \cos \tau, \\ \tan q &= \tan \tau \sin N \sec (\delta + N), \\ \tan z &= \cot (\delta + N) \sec q,\end{aligned}$$

and the computation checked by

$$\Delta Z = -\Delta \alpha \sin q \cos \delta - \Delta \delta \cos q.$$

The differential refractions in right ascension and declination were then computed by

$$\begin{aligned}\Delta \text{ Refr. in } \alpha &= -\Delta r \sin q \sec \delta - r \cos q \sec \delta \Delta q \sin 1'' \\ &\quad - r \sin q \tan \delta \sec \delta \Delta \delta \sin 1'', \\ \Delta \text{ Refr. in } \delta &= -\Delta r \cos q + r \sin q \Delta q \sin 1'',\end{aligned}$$

and the values checked by

$$\begin{aligned}\text{Refr. in } \alpha &= -K \tan q \cot (N + \delta) \sec \delta, \\ \text{Refr. in } \delta &= -K \cot (N + \delta).\end{aligned}$$

The symbols used in these equations have the following meanings: ϕ is the latitude, τ the hour angle, α the right ascension, and δ the declination. r and Δr are given by the equations,

$$\begin{aligned}r &= \frac{983 b}{460 + t} \tan z, \\ \Delta r &= \frac{983 b}{460 + t} \sec^2 z \sin 1'' \Delta Z,\end{aligned}$$

in which b is the height of the barometer in inches, and t the external temperature in degrees Fahrenheit. K is the coefficient of $\tan z$ in the value of r .

It may be noted that the corrections for refraction in right ascension already contain the factor $\sec \delta$. Hence, to convert them into time it is necessary to divide them by 15 only.

It has not been thought necessary to compute the parallax factors, for in the final use of the observations these will need to be computed according to a uniform system for all the observations used in the determinations of the solar parallax. If the preliminary values are desired they can be obtained from the table of parallax factors given in Volume I of the Publications of the Lick Observatory.

The differential refractions for Mr. Hussey's measures have been computed by Mr. Joel Stebbins; those for Mr. Aitken's measures to November 9, by Dr. R. T. Crawford, and from November 9 to January 1, by Mr. R. H. Curtiss. Messrs. Stebbins and Curtiss have also assisted largely in the reduction of the observations. We desire to express our acknowledgments to them, and also to Messrs. Campbell, Wright, and Reese for their assistance in recording the observations.

W. J. HUSSEY.

R. G. AITKEN.

November 25, 1901.

1901LicOB....1...91H

OBSERVATIONS BY W. J. HUSSEY

Date. 1900	Mt. Hamilton						Eros—Star.		Corr. for refraction.		NOTES.
	Sidereal Time.			Mean Time.			*	Obs'd $\Delta\alpha$.	Obs'd $\Delta\delta$.	$\Delta\alpha$. $\Delta\delta$.	
October 25	21 ^h 22 ^m 40 ^s .8	7 ^h 6 ^m 30 ^s .5	1	1	1	1	1		+0' 26"38	 —0"107	Recorder, H. M. Reese.
	21 26 28.2	7 10 17.3	1	1	1	1	1	+3 39.97	.....	+0.202	
	21 30 44.3	7 14 32.8	1	1	1	1	1	.....	+0 31.29	 —0.097	
	21 34 37.6	7 18 25.4	1	1	1	1	1		+0 33.83	 —0.091	Bar. 25.78 in. Att. 52°5 Ext. 52.1
	21 39 36.7	7 23 23.7	1	1	1	1	1	+3 32.71	.....	+0.194	
	21 44 58.6	7 28 44.7	1	1	1	1	1	.....	+0 39.90	 —0.077	
	21 49 47.8	7 33 33.1	2	2	2	2	2		+3 27.02	 +0.072	
	21 55 1.5	7 38 46.0	2	2	2	2	2	—0 43.15	.....	+0.068	
	22 00 20.0	7 44 00.4	2	2	2	2	2	.....	+3 33.69	 +0.072	
	22 6 24.8	7 50 7.4	1	1	1	1	1		+0 53.21	 —0.059	
	22 12 43.8	7 56 25.4	1	1	1	1	1	+3 11.85	.....	+0.171	
	22 18 11.6	8 1 52.3	1	1	1	1	1	.....	+1 00.23	 —0.049	
	22 20 23.8	8 4 4.1	1	1	1	1	1		+1 1.41	 —0.047	
	22 25 18.7	8 8 58.2	1	1	1	1	1	+3 3.97	.....	+0.162	
	22 30 51.6	8 14 30.2	1	1	1	1	1	.....	+1 7.79	 —0.038	
	6 31 00.8	16 13 20.8	3	3	3	3	3		+2 1.73	 +0.057	Bar. 25.75 in. Att. 48°5 Ext. 49.0
	6 36 23.8	16 18 42.9	3	3	3	3	3	+1 23.55	.....	+0.002	
	6 41 9.1	16 23 27.4	3	3	3	3	3	.....	+2 6.31	 +0.059	
	7 2 43.1	16 44 57.9	3	3	3	3	3		+2 17.92	 +0.061	
	7 9 43.7	16 51 57.3	3	3	3	3	3	+1 4.13	.....	+0.017	
	7 15 47.4	16 58 00.0	3	3	3	3	3	.....	+2 23.45	 +0.063	
October 26	21 5 42.8	6 45 39.4	4	4	4	4	4		—0 24.58	 +0.003	Recorder, H. M. Reese.
	21 9 36.1	6 49 32.1	4	4	4	4	4	—0 18.38	.....	—0.027	
	21 13 35.4	6 53 30.8	4	4	4	4	4	.....	—0 20.01	 +0.007	
	21 15 40.6	6 55 35.6	4	4	4	4	4		—0 18.89	 +0.007	Bar. 25.83 in. Att. 50°5 Ext. 50.0
	21 19 15.1	6 59 9.5	4	4	4	4	4	—0 24.40	.....	—0.028	
	21 23 34.4	7 3 28.1	4	4	4	4	4	.....	—0 14.14	 +0.011	
	21 25 47.1	7 5 40.5	4	4	4	4	4		—0 12.91	 +0.011	Power, 520 for evening measures.
	21 29 25.6	7 9 18.3	4	4	4	4	4	—0 30.95	.....	—0.029	
	21 33 16.6	7 13 8.7	4	4	4	4	4	.....	—0 8.49	 +0.015	
	21 35 26.1	7 15 17.9	4	4	4	4	4		—0 7.20	 +0.015	
	21 39 6.6	7 18 57.8	4	4	4	4	4	—0 36.92	.....	—0.031	
	21 44 22.1	7 24 12.4	4	4	4	4	4	.....	—0 2.04	 +0.018	
	21 46 10.1	7 26 00.1	4	4	4	4	4		—0 1.10	 +0.018	
	21 50 19.5	7 30 8.8	4	4	4	4	4	—0 44.51	.....	—0.034	
	21 54 14.6	7 34 3.3	4	4	4	4	4	.....	+0 3.45	 +0.020	
	21 57 5.4	7 36 53.6	4	4	4	4	4		+0 4.93	 +0.020	
	22 1 5.7	7 40 53.3	4	4	4	4	4	—0 51.02	.....	—0.036	
	22 5 13.8	7 45 00.7	4	4	4	4	4	.....	+0 9.90	 +0.022	
	22 7 3.1	7 46 49.7	4	4	4	4	4		+0 10.83	 +0.022	
	22 10 9.6	7 49 55.7	4	4	4	4	4	—0 57.22	.....	—0.036	
	22 13 3.8	7 52 49.4	4	4	4	4	4	.....	+0 14.07	 +0.024	
	6 20 45.3	15 59 11.0	5	5	5	5	5		—0 54.10	 —0.032	Recorder, W. J. Hussey.
	6 27 21.0	16 5 45.6	5	5	5	5	5	—1 4.86	.....	—0.023	
	6 33 13.0	16 11 36.7	5	5	5	5	5	.....	—0 48.07	 —0.035	
	6 37 58.0	16 16 20.9	5	5	5	5	5		—0 45.81	 —0.037	Bar. 25.85 in. Att. 50°0 Ext. 49.6
	6 46 33.6	16 24 55.1	5	5	5	5	5	—1 17.45	.....	—0.037	
	6 53 18.3	16 31 38.7	5	5	5	5	5	.....	—0 38.96	 —0.041	
	6 59 22.3	16 37 41.7	5	5	5	5	5		—0 36.16	 —0.043	
	7 7 8.5	16 45 26.6	5	5	5	5	5	—1 30.84	.....	—0.056	
	7 14 11.3	16 52 28.3	5	5	5	5	5	.....	—0 29.47	 —0.048	

OBSERVATIONS BY W. J. HUSSEY.

Date. 1900	Mt. Hamilton		*	Eros—Star.		Corr. for refraction.		NOTES.
	Sidereal Time.	Mean Time.		Obs'd $\Delta\alpha$.	Obs'd $\Delta\delta$.	$\Delta\alpha$.	$\Delta\delta$.	
October 26	7 ^h 18 ^m 41 ^s .5	16 ^h 56 ^m 57 ^s .7	6	.. ' .."	—1' 28".73	.. " .."	—0".053	
	7 26 57.6	17 5 12.5	6	—1 7.98	.....	—0.015	.....	
	7 33 30.0	17 11 43.8	6	.....	—1 22.12	.....	—0.062	
	7 36 54.7	17 15 8.0	6	.....	—1 20.38	.....	—0.064	
	7 43 24.8	17 21 37.0	6	—1 18.43	.....	—0.036	.....	
	7 49 24.3	17 27 35.5	6	.....	—1 14.83	.....	—0.072	
	7 54 18.5	17 32 28.9	6	.....	—1 12.82	.....	—0.075	
	8 00 41.8	17 38 51.1	6	—1 29.39	.....	—0.054	.....	
	8 6 35.0	17 44 43.3	6	.....	—1 9.06	.....	—0.083	
November 1	22 40 59.7	7 57 5.3	7	—1 2.53	.....	—0.121	.....	Recorder, H. M. Reese.
	22 44 1.1	8 00 6.2	7	.....	—2 44.25	.....	—0.031	
	22 47 35.7	8 3 40.2	7	—1 7.38	.....	—0.122	.....	Bar. 25.94 in.
	22 50 18.7	8 6 22.6	7	.....	—2 42.11	.....	—0.024	Att. 52°5
	22 53 36.6	8 9 40.2	7	—1 12.00	.....	—0.124	.....	Ext. 52.0
	22 57 18.3	8 13 21.2	7	.....	—2 39.68	.....	—0.017	
	8 00 46.4	17 15 20.3	8	.....	+0 11.15	.....	+0.033	Recorder, W. J. Hussey.
	8 5 5.1	17 19 38.3	8	+0 34.57	.....	+0.030	.....	
	8 8 57.7	17 23 30.3	8	.....	+0 12.99	.....	+0.031	Bar. 25.92 in.
	8 12 21.4	17 26 53.4	8	.....	+0 14.01	.....	+0.030	Att. 52°3
	8 16 53.7	17 31 25.0	8	+0 26.03	.....	+0.023	.....	Ext. 52.0
	8 21 46.7	17 36 17.2	8	.....	+0 15.94	.....	+0.028	
	8 34 36.1	17 49 4.5	8	.....	+0 18.71	.....	+0.024	
	8 39 38.3	17 54 5.9	8	+0 9.82	.....	+0.010	.....	
	8 44 3.1	17 58 29.9	8	.....	+0 21.03	.....	+0.022	
November 5	6 31 36.0	15 30 40.9	9	.....	+2 28.69	.....	+0.061	Recorder, H. M. Reese.
	6 34 49.0	15 33 53.3	9	+0 7.66	.....	—0.072	.....	
	6 38 00.4	15 37 4.2	9	.....	+2 29.18	.....	+0.049	Bar. 26.00 in.
	6 39 36.0	15 38 39.6	9	.....	+2 29.67	.....	+0.044	Att. 59°5
	6 42 34.6	15 41 37.7	9	+0 1.44	.....	—0.086	.....	Ext. 58.5
	6 45 55.0	15 44 57.5	9	.....	+2 29.98	.....	+0.036	
	6 47 23.4	15 46 25.7	9	.....	+2 29.95	.....	+0.035	
	6 49 56.3	15 48 58.2	9	—0 4.66	.....	—0.086	.....	
	6 53 1.7	15 52 3.1	9	.....	+2 30.42	.....	+0.033	
	6 57 53.7	15 56 54.3	9	.....	+2 31.02	.....	+0.033	
	7 00 57.3	15 59 57.4	9	—0 12.97	.....	—0.092	.....	
	7 4 00.4	16 3 00.0	9	.....	+2 31.41	.....	+0.031	
	7 5 31.6	16 4 30.9	9	.....	+2 31.42	.....	+0.031	
	7 8 6.0	16 7 4.9	9	—0 18.33	.....	—0.097	.....	
	7 10 49.3	16 9 47.7	9	.....	+2 31.74	.....	+0.029	
	7 12 44.6	16 11 42.7	10	.....	+2 49.78	.....	+0.118	
	7 15 50.6	16 14 48.3	10	+2 7.82	.....	+0.021	.....	
	7 19 28.6	16 18 25.6	10	.....	+2 50.61	.....	+0.123	
	7 25 8.6	16 24 4.7	9	.....	+2 32.78	.....	+0.025	
	7 28 15.1	16 27 10.7	9	—0 33.94	.....	—0.105	.....	
	7 31 34.9	16 30 29.9	9	.....	+2 33.18	.....	+0.022	
	7 33 7.1	16 32 1.9	9	.....	+2 33.67	.....	+0.021	
	7 36 00.1	16 34 54.4	9	—0 39.68	.....	—0.113	.....	
	7 39 9.9	16 38 3.7	9	.....	+2 33.67	.....	+0.017	
	7 42 44.5	16 41 37.7	9	.....	+2 33.99	.....	+0.016	
	7 45 8.2	16 44 1.0	9	—0 46.73	.....	—0.123	.....	
	7 48 7.8	16 47 00.1	9	.....	+2 34.32	.....	+0.012	

1901110100B.....91H

OBSERVATIONS BY W. J. HUSSEY.

Date.	Mt. Hamilton			Eros—Star.		Corr. for refraction.		NOTES.
1900	Sidereal Time.	Mean Time.	*	Obs'd $\Delta\alpha$.	Obs'd $\Delta\delta$.	$\Delta\alpha$.	$\Delta\delta$.	
November 8	21 ^h 47 ^m 19 ^s .1	6 ^h 36 ^m 2 ^s .1	11	.. " "	—0' 39".49	.. " "	+0".019	Recorder, W. H. Wright.
	21 50 58.5	6 39 40.9	11	—1 24.88	.....	—0.088	.....	
	21 55 39.9	6 44 21.6	11	.....	—0 38.91	.....	+0.019	Bar. 25.88 in.
	21 58 36.6	6 47 17.8	11	.....	—0 38.80	.....	+0.019	Att. 51°0
	22 2 32.2	6 51 12.7	11	—1 33.66	.....	—0.092	.....	Ext. 51.5
	22 6 45.9	6 55 25.7	11	.....	—0 37.72	.....	+0.019	
	22 9 37.5	6 58 16.9	11	.....	—0 37.57	.....	+0.020	
	22 13 32.8	7 2 11.5	11	—1 42.74	.....	—0.096	.....	
	22 17 16.2	7 5 54.3	11	.....	—0 37.14	.....	+0.020	
	22 20 58.2	7 9 35.7	11	.....	—0 36.59	.....	+0.020	
	22 24 19.9	7 12 56.9	11	—1 51.34	.....	—0.100	.....	
	22 28 3.5	7 16 39.9	11	.....	—0 35.94	.....	+0.020	
November 12	21 34 39.2	6 7 40.7	12	.....	—0 21.19	.....	—0.082	Recorder, W. H. Wright.
	21 37 32.9	6 10 33.9	12	+3 24.40	.....	+0.143	.....	
	21 40 44.5	6 13 45.0	12	.....	—0 21.53	.....	—0.078	Bar. 26.02 in.
	21 42 7.0	6 15 7.3	12	.....	—0 21.43	.....	—0.076	Att. 67°5
	21 44 51.2	6 17 51.0	12	+3 19.26	.....	+0.137	.....	Ext. 67.0
	21 47 57.0	6 20 56.3	12	.....	—0 22.15	.....	—0.072	
	21 49 20.0	6 22 19.1	12	.....	—0 22.23	.....	—0.071	
	21 52 54.0	6 25 52.5	12	+3 12.62	.....	+0.131	.....	
	21 55 56.8	6 28 54.8	12	.....	—0 22.85	.....	—0.067	
	21 57 24.0	6 30 21.8	12	.....	—0 22.86	.....	—0.065	
	22 00 24.5	6 33 21.7	12	+3 7.05	.....	+0.125	.....	
	22 4 9.8	6 37 6.4	12	.....	—0 23.60	.....	—0.060	
	22 5 17.0	6 38 13.5	12	.....	—0 23.87	.....	—0.060	
	22 8 14.4	6 41 10.4	12	+3 00.85	.....	+0.118	.....	
	22 10 59.5	6 43 55.0	12	.....	—0 24.02	.....	—0.056	
	22 13 14.8	6 46 10.0	12	.....	—0 24.45	.....	—0.055	
	22 16 33.7	6 49 28.3	12	+2 54.73	.....	+0.112	.....	
	22 19 32.5	6 52 26.6	12	.....	—0 24.72	.....	—0.051	
	6 44 20.1	15 15 51.5	13	.....	—1 4.66	.....	—0.007	Recorder, W. H. Wright.
	6 47 1.8	15 18 32.8	13	+0 21.22	.....	+0.055	.....	
	6 49 32.5	15 21 3.1	13	.....	—1 5.86	.....	—0.009	Bar. 25.97 in.
	6 50 54.1	15 22 24.5	13	.....	—1 6.17	.....	—0.010	Att. 63°5
	6 53 52.1	15 25 22.0	13	+0 16.90	.....	+0.051	.....	Ext. 63.0
	6 56 46.8	15 28 16.2	13	.....	—1 7.63	.....	—0.012	
	6 58 59.3	15 30 28.3	13	.....	—1 8.00	.....	—0.014	
	7 2 4.7	15 33 33.2	13	+0 10.11	.....	+0.047	.....	
	7 4 52.8	15 36 20.9	13	.....	—1 9.37	.....	—0.017	
	7 6 51.1	15 38 18.8	13	.....	—1 9.86	.....	—0.017	
	7 9 13.2	15 40 40.5	13	+0 4.89	.....	+0.043	.....	
	7 11 44.1	15 43 11.0	13	.....	—1 10.85	.....	—0.020	
	7 27 9.1	15 58 33.5	13	.. " "	—1 14.58	.....	—0.029	
	7 30 29.5	16 1 53.4	13	—0 11.06	.....	+0.027	.....	
	7 33 35.3	16 4 58.7	13	.....	—1 16.24	.....	—0.033	
	7 35 23.3	16 6 46.4	13	.....	—1 16.32	.....	—0.035	
	7 38 5.8	16 9 28.4	13	—0 16.47	.....	+0.021	.....	
	7 40 47.1	16 12 9.5	13	.....	—1 17.80	.....	—0.039	
November 14	21 30 18.8	5 55 29.2	14	.....	+1 39.33	.....	+0.043	Recorder, W. W. Campbell.
	21 34 18.8	5 59 28.5	14	—0 41.50	.....	+0.011	.....	
	21 37 55.3	6 3 4.5	14	.....	+1 38.10	.....	+0.043	Bar. 25.83 in.
								Att. 51°7
								Ext. 48.6

OBSERVATIONS BY W. J. HUSSEY.

Date.	Mt. Hamilton					Eros—Star.		Corr. for refraction.		NOTES.
1900	Sidereal Time.		Mean Time.		*	Obs'd $\Delta\alpha$.	Obs'd $\Delta\delta$.	$\Delta\alpha$.	$\Delta\delta$.	
November 14	21 ^h 39 ^m 41 ^s .7	6 ^h 4 ^m 50 ^s .5	14	' ' "	14	+1 38''20	" "	+0''043		
	21 42 53.9	6 8 2.0	14	—0 47.58	14	.....	+0.008	.....		
	21 46 35.2	6 11 42.9	14	.....	14	+1 36.60	.....	+0.043		
	21 48 31.7	6 13 39.1	14	.....	14	+1 35.59	.....	+0.042		
	21 52 18.7	6 17 25.5	14	—0 54.49	14	.....	+0.003	.....		
	21 55 58.5	6 21 4.7	14	.....	14	+1 34.67	.....	+0.042		
	21 59 1.5	6 24 7.2	14	.....	14	+1 32.95	.....	+0.042		
	22 3 16.8	6 28 21.8	14	—1 3.29	14	.....	0.000	.....		
	22 6 45.9	6 31 50.3	14	.....	14	+1 32.76	.....	+0.042		
	6 6 20.7	14 30 6.5	15	.....	15	+0 11.50	.....	+0.010	Recorder, W. W. Campbell.	
	6 9 20.0	14 33 5.3	15	+0 15.83	15	.....	+0.008	.....	Bar. 25.84 in.	
	6 12 14.7	14 35 59.6	15	.....	15	+0 9.86	.....	+0.008	Att. 48°0	
	6 13 54.2	14 37 38.8	15	.....	15	+0 8.95	.....	+0.008	Ext. 47.1	
	6 16 10.2	14 39 54.4	15	+0 11.38	15	.....	+0.005	.....		
	6 18 43.4	14 42 27.2	15	.....	15	+0 7.47	.....	+0.006		
	6 20 10.0	14 43 53.6	15	.....	15	+0 7.33	.....	+0.005		
	6 22 29.3	14 46 12.5	15	+0 5.94	15	.....	+0.002	.....		
	6 25 11.0	14 48 53.7	15	.....	15	+0 6.08	.....	+0.003		
	6 31 6.0	14 54 47.8	15	.....	15	+0 3.19	.....	+0.001		
6 34 40.8	14 58 22.0	15	—0 2.41	15	.....	—0.003	.....			
6 37 35.0	15 1 15.7	15	.....	15	+0 1.14	.....	—0.002			
6 43			$\Delta\delta$ too small to be measured with accuracy.							
6 45 22.2	15 9 1.6	15	—0 11.05	15	.....	—0.009	.....			
6 49 21.0	15 12 59.8	15	.....	15	—0 2.31	.....	—0.008			
6 50 50.2	15 14 28.8	15	.....	15	—1 2.24	.....	—0.009			
6 53 24.6	15 17 2.7	15	—0 16.09	15	.....	—0.013	.....			
6 55 36.0	15 19 13.8	15	.....	15	—0 3.79	.....	—0.011			
6 57 2.7	15 20 40.2	15	.....	15	—0 4.79	.....	—0.012			
6 59 38.0	15 23 15.1	15	—0 21.55	15	.....	—0.017	.....			
7 2 55.0	15 26 31.6	15	.....	15	—0 7.09	.....	—0.014			
7 5 44.4	15 29 20.5	15	.....	15	—0 6.20	.....	—0.016			
7 8 21.7	15 31 57.4	15	—0 26.82	15	.....	—0.022	.....			
7 10 56.0	15 34 31.2	15	.....	15	—0 8.22	.....	—0.018			
November 23	21 46 00.9	5 35 45.5	16	.....	16	—0 59.91	.....	—0.039	Recorder, W. H. Wright.	
	21 50 3.0	5 39 46.9	16	+1 29.05	16	.....	+0.035	.....	Bar. 25.98 in.	
	21 53 39.9	5 43 23.3	16	.....	16	—1 3.77	.....	—0.039	Att. 49°5	
	21 55 21.4	5 45 4.5	16	.....	16	—1 4.65	.....	—0.038	Ext. 50.0	
	21 59 31.5	5 49 13.9	16	+1 24.00	16	.....	+0.029	.....		
	22 3 13.2	5 52 55.0	16	.....	16	—1 8.90	.....	—0.038		
	22 6 50.2	5 56 31.4	16	.....	16	—1 11.06	.....	—0.037		
	22 11 11.6	6 00 52.1	16	+1 18.27	16	.....	+0.021	.....		
	22 14 29.9	6 4 9.8	16	.....	16	—1 15.00	.....	—0.036		
	22 16 32.2	6 6 11.8	16	.....	16	—1 16.14	.....	—0.036		
	22 20 37.8	6 10 16.7	16	+1 13.29	16	.....	+0.016	.....		
	22 24 10.2	6 13 48.6	16	.....	16	—1 20.27	.....	—0.035		
	22 25 41.9	6 15 20.0	16	.....	16	—1 20.72	.....	—0.034		
	22 28 43.0	6 18 20.6	16	+1 8.58	16	.....	+0.012	.....		
	22 32 3.4	6 21 40.5	16	.....	16	—1 24.21	.....	—0.034		
	6 7 19.4	13 55 41.9	17	.....	17	+1 16.93	.....	+0.098	Recorder, W. H. Wright.	
	6 11 59.2	14 00 20.9	17	+3 10.16	17	.....	+0.120	.....	Bar. 25.95 in.	
	6 16 20.4	14 4 41.4	17	.....	17	+1 10.96	.....	+0.102	Att. 47°0	

1901LicOB....91H

OBSERVATIONS BY W. J. HUSSEY.

1901LICOB...1...91H

Date.	Mt. Hamilton					Eros—Star.		Corr. for refraction.		NOTES.
1900	Sidereal Time.		Mean Time.			*	Obs'd $\Delta\alpha$.	Obs'd $\Delta\delta$.	$\Delta\alpha$.		$\Delta\delta$.
November 23	6 ^h 19 ^m 15 ^s .9	14 ^h 7 ^m 36 ^s .1	17	.. ' .."	+1 9 ^h 81	.. "	+0 ^h 10 3			
	6 23 22.0	14 11 41.9	17	+3 4.21		+0.122				
	6 27 32.4	14 15 51.6	17		+1 4.13		+0.107			
	6 29 47.4	14 18 6.2	17		+1 2.67		+0.108			
	6 33 24.6	14 21 42.8	17	+2 59.21		+0.125				
	6 37 7.9	14 25 25.5	17		+0 57.28		+0.110			
	6 41 44.6	14 30 1.4	17		+0 54.58		+0.111			
	6 47 32.0	14 35 47.9	17	+2 52.84		+0.128				
	6 51 47.6	14 40 2.8	17		+0 47.99		+0.113			
	6 53 56.4	14 42 11.2	17		+0 46.47		+0.113			
	6 58 14.4	14 46 28.5	17	+2 47.67		+0.130				
	7 2 52.4	14 51 5.8	17		+0 40.75		+0.115			
December 2	22 30 8.4	5 44 22.6	18	.....	+0 6.54	.....	+0.002	Recorder, W. W. Campbell.		
	22 33 21.2	5 47 34.9	18	+0 1.23	.....	+0.002	.....	Bar. 26.10 in. .		
	22 36 19.4	5 50 32.6	18	.....	+0 1.39	.....	0.000	Att. 60°0		
								Ext. 60.5		
	22 38 44.3	5 52 57.1	With power 520, the comparison star is lost in the rays of Eros. Appearances seemed to indicate that Eros was following the star when passing it in declination, but certainly within 0°5.							
	22 44 5.3	5 58 17.2	18	.....	—0 4.11	.....	—0.001			
	22 47 33.3	6 1 44.6	18	—0 1.22	.....	—0.002	.....	Power 520.		
	22 50 43.1	6 4 53.9	18	.....	—0 9.51	.....	—0.002			
	22 52 26.5	6 6 37.0	18	.....	—0 10.88	.....	—0.002			
	22 56 54.1	6 11 3.9	18	—0 3.10	.....	—0.004	.....	Power 520.		
	23 1 8.8	6 15 17.9	18	.....	—0 17.52	.....	—0.004			
	23 3 37.1	6 17 45.8	18	.....	—0 19.63	.....	—0.004			
	23 7 49.1	6 21 57.1	18	—0 5.10	.....	—0.007	.....			
	23 12 16.8	6 26 24.1	18	.....	—0 26.48	.....	—0.006			
	5 19 23.5	12 32 31.0	19	.....	+2 10.72	.....	+0.092	Recorder, W. J. Hussey.		
	5 26 54.6	12 40 00.6	19	+3 20.95	.....	+0.096	.....	Bar. 26.10 in.		
	5 33 48.2	12 46 53.0	19	.....	+1 57.75	.....	+0.094	Att. 61°0		
	5 39 1.4	12 52 5.3	19	.....	+1 53.03	.....	+0.096	Ext. 65.1		
	5 46 56.2	12 59 58.8	19	+3 18.16	.....	+0.104	.....			
	5 52 9.9	13 5 11.7	19	.....	+1 41.36	.....	+0.098			
	5 55 44.4	13 8 45.6	19	.....	+1 37.67	.....	+0.098	Recorder, H. M. Reese.		
	6 00 00.6	13 13 1.1	19	+3 15.96	.....	+0.108	.....			
	6 5 3.4	13 18 3.0	19	.....	+1 29.38	.....	+0.102			
	6 7 15.9	13 20 15.1	19	.....	+1 27.48	.....	+0.104			
	6 11 17.2	13 24 15.8	19	+3 14.90	.....	+0.120	.....			
	6 15 28.2	13 28 26.1	19	.....	+1 20.06	.....	+0.108			
	6 17 39.9	13 30 37.5	19	.....	+1 17.72	.....	+0.110			
	6 22 10.3	13 35 7.1	19	+3 13.20	.....	+0.133	.....			
	6 27 2.2	13 39 58.2	19	.....	+1 9.43	.....	+0.116			
	6 29 26.3	13 42 22.0	19	.....	+1 7.24	.....	+0.117			
	6 32 40.1	13 45 35.2	19	+3 12.14	.....	+0.141	.....			
	6 35 50.5	13 48 45.1	19	.....	+1 1.54	.....	+0.121			
	6 38 29.3	13 51 23.5	19	.....	+0 58.96	.....	+0.123			
	6 43 6.3	13 55 59.7	19	+3 10.77	.....	+0.150	.....			
	6 46 51.3	13 59 44.1	19	.....	+0 51.51	.....	+0.128			
	6 49 25.8	14 2 18.2	19	.....	+0 49.15	.....	+0.130			
	6 52 54.8	14 5 46.6	19	+3 9.94	.....	+0.158	.....			
	6 55 48.3	14 8 39.6	19	.....	+0 43.21	.....	+0.134			

OBSERVATIONS BY W. J. HUSSEY.

Date. 1900	Mt. Hamilton					*	Eros—Star.		Corr. for refraction.		NOTES.	
	Sidereal Time.		Mean Time.				Obs'd $\Delta\alpha$.	Obs'd $\Delta\delta$.	$\Delta\alpha$.	$\Delta\delta$.		
December 6	22 ^h 23 ^m 25 ^s .1	5 ^h 21 ^m 56 ^s .7	20								Recorder, W. H. Wright. Bar. 26.04 in. Att. 67°0 Ext. 65.2	
	22 27 9.7	5 25 40.6	20	+0 58.11	.....	.....	.....	+0.093	.....	.....		
	22 31 8.1	5 29 38.5	20	.....	.....	+3 34.47	.....	.....	+0.041	.....		
	22 34 11.5	5 32 41.4	20	.....	.....	+3 31.65	.....	.....	+0.041	.....		
	22 38 25.7	5 36 54.9	20	+0 57.73	.....	.....	.....	+0.086	.....	.....		
	22 41 42.8	5 40 11.4	20	.....	.....	+3 25.09	.....	.....	+0.040	.....		
	22 44 20.1	5 42 48.3	20	.....	.....	+3 23.16	.....	.....	+0.039	.....		
	22 48 46.5	5 47 14.0	20	+0 57.63	.....	.....	.....	+0.080	.....	.....		
	22 52 20.3	5 50 47.2	20	.....	.....	+3 16.16	.....	.....	+0.038	.....		
	22 55 13.8	5 53 40.2	20	.....	.....	+3 13.59	.....	.....	+0.038	.....		
	22 58 43.8	5 57 9.6	20	+0 57.64	.....	.....	.....	+0.074	.....	.....		
	23 1 50.3	6 00 15.6	20	.....	.....	+3 7.84	.....	.....	+0.037	.....		
	23 4 6.0	6 2 31.0	20	.....	.....	+3 5.65	.....	.....	+0.037	.....		
	23 7 24.7	6 5 49.1	20	+0 57.41	.....	.....	.....	+0.070	.....	.....		
	23 10 42.0	6 9 5.9	20	.....	.....	+2 59.92	.....	.....	+0.036	.....		
	5 42 52.5	12 40 12.1	21	.....	.....	+0 1.41	.....	.....	+0.032	Recorder, W. H. Wright. Bar. 26.00 in. Att. 59°8 Ext. 58.0		
	5 46 18.2	12 43 37.3	21	+1 41.70				+0.066				
	5 49 24.7	12 46 43.3	21			—0 5.07			+0.032			
	5 52 30.9	12 49 49.0	21			—0 8.05			+0.032			
	5 57 2.9	12 54 20.2	21	+1 42.12				+0.076				
6 00 6.5	12 57 23.3	21	.....	.....	—0 15.26	.....	.....	+0.032	.....			
6 2 33.5	12 59 49.9	21	.....	.....	—0 18.08	.....	.....	+0.032	.....			
6 5 57.7	13 3 13.6	21	+1 42.63	.....	.....	.....	+0.084	.....	.....			
6 9 17.7	13 6 33.0	21	.....	.....	—0 24.79	.....	.....	+0.033	.....			
6 11 12.5	13 8 27.5	21	.....	.....	—0 26.31	.....	.....	+0.033	.....			
6 14 52.5	13 12 6.9	21	+1 42.81	.....	.....	.....	+0.090	.....	.....			
6 18 32.5	13 15 46.3	21	.....	.....	—0 33.51	.....	.....	+0.034	.....			
6 20 39.7	13 17 53.1	21	.....	.....	—0 35.74	.....	.....	+0.035	.....			
6 23 42.1	13 20 55.0	21	+1 43.25	.....	.....	.....	+0.096	.....	.....			
6 26 33.2	13 23 45.7	21	.....	.....	—0 42.13	.....	.....	+0.036	.....			
6 30 36.7	13 27 48.5	21	.....	.....	—0 45.30	.....	.....	+0.036	.....			
6 34 54.1	13 32 5.2	21	+1 44.15	.....	.....	.....	+0.103	.....	.....			
6 38 32.7	13 35 43.2	21	.....	.....	—0 53.06	.....	.....	+0.038	.....			
6 40 23.7	13 37 33.9	21	.....	.....	—0 55.26	.....	.....	+0.038	.....			
6 43 16.8	13 40 26.5	21	+1 44.53	.....	.....	.....	+0.110	.....	.....			
6 47 23.7	13 44 32.8	21	.....	.....	—1 2.23	.....	.....	+0.039	.....			
6 50 4.9	13 47 13.5	21	.....	.....	—1 4.73	.....	.....	+0.040	.....			
6 52 38.2	13 49 46.4	21	+1 45.19	.....	.....	.....	+0.118	.....	.....			
6 56 10.5	13 53 18.1	21	.....	.....	—1 10.77	.....	.....	+0.040	.....			
December 12	5 35 22.7	12 9 8.1	22	.....	.....	—0 59.52	.....	.....	—0.072	Recorder, W. H. Wright. Bar. 25.80 in. Att. 50°0 Ext. 50.0		
	5 41 39.7	12 15 24.1	22	—3 3.91				—0.096				
	5 46 12.5	12 19 56.1	22			—0 48.10			—0.066			
1901												
January 16	2 4 52.3	6 21 35.3	23	.....	.....	+5 21.18	.....	.....	+0.078	Recorder, W. J. Hussey. Bar. 26.00 in. Att. 52°0 Ext. 52.0 Bar. 26.04 in. Att. 51°5 Ext. 49.5		
	2 12 32.0	6 29 13.7	23	+0 23.51				+0.006				
	2 21 37.3	6 38 17.5	23			+5 4.06			+0.074			
	6 58 9.3	11 14 4.2	24			—3 20.22			—0.085			
	7 6 6.6	11 22 00.2	24	—1 1.84				—0.034				
	7 13 0.3	11 28 52.8	24			—3 36.54			—0.088			
	7 14 26.4	11 2 47.3	25			+4 6.30			+0.119			
January 23	7 1 6.4	10 49 29.5	25	.....	.....	+4 20.74	.....	.....	+0.104	Recorder, W. J. Hussey. Bar. 25.86 in. Att. 44°0 Ext. 41.1		
	7 7 6.4	10 55 28.5	25	+1 58.01				+0.059				
	7 14 26.4	11 2 47.3	25			+4 6.30			+0.119			

1901LICOB...91H

OBSERVATIONS BY W. J. HUSSEY.

Date.	Mt. Hamilton		Eros—Star.		Corr. for refraction.		NOTES.
1901	Sidereal Time.	Mean Time.	*	Obs'd $\Delta\alpha$.	Obs'd $\Delta\delta$.	$\Delta\alpha$. $\Delta\delta$.	
January 23	7 ^h 18 ^m 37 ^s .4	11 ^h 6 ^m 57 ^s .6	25	..''.....	+4' 1''90	..''..... +0''124	
	7 24 42.6	11 13 1.8	25	+2 30.97	.....	+0.099	
	7 30 49.0	11 19 7.2	25	.....	+3 48.31	 +0.138	
	7 37 11.7	11 25 28.9	25	.....	+3 42.00	 +0.146	
	7 44 43.1	11 32 59.0	25	+3 6.84	.....	+0.141	
	7 50 27.2	11 38 42.2	25	.....	+3 27.37	 +0.162	

APPROXIMATE MEAN PLACES FOR 1900 AND 1901 OF COMPARISON STARS.—W. J. H.

*	Mag.	α	δ	AUTHORITY.
1	11	2 ^h 26 ^m 37 ^s .2	+52° 39'.2	Where no authority is given the comparison star's position has been obtained by connecting it with some neighboring DM. star.
2	12½	2 27 4.0	52 35.5	
3	11	2 26 12.6	52 42.7	
4	12	2 25 34.6	52 54.3	
5	12	2 24 55.9	52 57.2	
6	11½	2 24 52.0	+52 58.2	DM. +53°509.
7	9.5	2 14 44.2	53 54.1	
8	10	2 13 44.5	53 53.8	
9	11±	2 5 52.7	54 13.4	
10	11±	2 5 35.3	54 13.1	
11	11	2 0 43.4	+54 21.8	DM. +52°398.
12	10	1 52 4.4	54 15.5	
13	12½	1 51 35.8	54 14.8	
14	12	1 48 37.5	54 4.5	
15	10	1 47 49.6	54 3.9	
16	9.5	1 33 44.9	+52 38.2	DM. +28°514.
17	9.5	1 33 4.1	52 31.0	
18	13	1 26 49.2	50 1.1	
19	10	1 26 18.2	49 55.8	
20	11	1 26 27.1	48 33.6	
21	12	1 26 22.5	+48 30.5	
22	10	1 30 4±	46 14±	
23	12	2 48 13.7	31 21.0	
24	11	2 48 56.2	31 22.7	
25	8.7	3 12 28.6	28 21.0	

OBSERVATIONS BY R. G. AITKEN.

Date. 1900	Mt. Hamilton				*	Eros—Star.		Corr. for refraction.		NOTES.
	Sidereal Time.	Mean Time.				Obs'd $\Delta\alpha$.	Obs'd $\Delta\delta$.	$\Delta\alpha$.	$\Delta\delta$.	
November 2	20 ^h 55 ^m 43 ^s .1	6 ^h 8 ^m 10 ^s .2			1		+2' 44".80		+0".059	Recorder, W. W. Campbell. 9:00 p.m., Nov. 2. Bar. 25.925 in. Att. 58° Ext. 56.6
	20 58 59.8	6 11 26.3				—0 24.92	.....	+0.066	.....	
	21 2 54.8	6 15 20.7				.....	+2 47.35	.....	+0.060	
	21 7 53.5	6 20 18.5				—0 31.42	.....	+0.064	.....	
	21 12 6.8	6 24 31.2					+2 50.27		+0.063	S.E. wind, 30 miles per hour. Seeing not very good. Sky clear. Temp. in Dome 56°5
	21 14 43.3	6 27 7.1			2	.....	+1 44.00	.....	—0.028	
	21 17 55.6	6 30 19.0				+1 49.91	.....	+0.148	.....	
	21 20 58.3	6 33 21.2				.....	+1 46.49	.....	—0.023	
	21 25 23.5	6 37 45.6				+1 44.15		+0.144		
	21 29 36.0	6 41 57.5				.....	+1 48.70	.....	—0.020	
	21 37 1.7	6 49 21.8			2	.....	+1 51.83	.....	—0.012	
	21 39 49.0	6 52 8.8				+1 32.71	.....	+0.134	.....	
	21 44 34.3	6 56 53.3					+1 54.02		—0.008	
	21 48 2.7	7 0 1.1				+1 26.95	.....	+0.129	.....	
	21 51 32.3	7 3 50.1				.....	+1 56.44	.....	—0.004	
	21 56 46.2	7 9 3.2			2	+1 20.41	.....	+0.124	.....	
	22 0 21.0	7 12 37.4					+1 59.47		0.000	
	22 3 54.5	7 16 10.4				+1 15.06	.....	+0.120	.....	
	22 7 34.3	7 19 49.6			2	.....	+2 1.79	.....	+0.005	
	22 11 43.2	7 23 57.8				+1 8.80	.....	+0.116	.....	
	22 16 17.7	7 28 31.6					+2 4.17		+0.010	
	22 20 21.5	7 32 34.7				+1 2.21	.....	+0.108	.....	
	22 23 59.3	7 36 11.9				.....	+2 7.30	.....	+0.013	
	6 7 54.6	15 18 51.1			3	.....	+0 40.02	.....	—0.010	
	6 11 38.1	15 22 34.0				—1 7.20		—0.072		
	6 15 27.2	15 26 22.5				.....	+0 41.62	.....	—0.013	
	6 19 25.9	15 30 20.6				—1 13.32	.....	—0.077	.....	
	6 22 56.9	15 33 51.0				.....	+0 42.98	.....	—0.016	
	6 27 49.6	15 38 42.9			3		+0 44.10		—0.019	
	6 31 33.4	15 42 26.1				—1 22.34	.....	—0.087	.....	
	6 35 12.2	15 46 4.3				.....	+0 45.86	.....	—0.022	
	6 38 51.0	15 49 42.5				—1 28.07	.....	—0.095	.....	
	6 42 45.2	15 53 26.1					+0 47.10		—0.025	
	6 44 59.9	15 55 50.4			4	.....	—0 47.75	.....	—0.003	
	6 48 23.1	15 59 13.0				+0 19.81	.....	+0.042	.....	
	6 51 27.9	16 2 17.3				.....	—0 46.55	.....	—0.004	
	6 54 41.6	16 5 30.5				+0 15.23		+0.037		
	6 57 23.2	16 8 11.6				.....	—0 45.31	.....	—0.006	
	6 59 3.6	16 9 51.8			4	.....	—0 44.93	.....	—0.006	
	7 2 50.3	16 13 37.9				+0 9.05	.....	+0.032	.....	
	7 5 43.9	16 16 31.0					—0 43.72		—0.007	
	7 10 11.1	16 20 57.5				+0 3.45	.....	+0.026	.....	
	7 13 58.2	16 24 44.0				.....	—0 42.19	.....	—0.011	
	7 20 43.1	16 31 27.7			3	.....	+0 54.62	.....	—0.049	
	7 24 57.9	16 35 41.8				—2 2.44		—0.139		
	7 29 7.1	16 39 50.3				.....	+0 56.08	.....	—0.058	
	7 33 20.8	16 44 3.3				—2 8.68	.....	—0.148	.....	
	7 37 0.1	16 47 42.0				.....	+0 57.62	.....	—0.065	
	7 47 17.4	16 57 57.6			4		—0 35.68		—0.027	
	7 50 39.0	17 1 18.7				—0 26.65	.....	—0.006	.....	
	7 53 27.0	17 4 6.2				.....	—0 34.25	.....	—0.033	
	7 56 35.6	17 7 14.3				—0 31.08	.....	—0.012	.....	
	7 59 56.4	17 10 34.6					—0 33.42		—0.039	
	8 6 38.7	17 17 15.8			5	.....	+0 52.13	.....	+0.157	
	8 11 9.3	17 21 45.7				+2 55.31	.....	+0.160	.....	
	8 15 14.4	17 25 50.1				.....	+0 53.30	.....	+0.164	
	8 19 33.8	17 30 8.8				+2 49.44		+0.164		Temp. in Dome 56°3 7:00 a.m., Nov. 3. Bar. 25.953 in. Att. 57° Ext. 57.8
	8 23 22.0	17 33 56.4				.....	+0 54.44	.....	+0.174	

1901LICOB...91H

OBSERVATIONS BY R. G. AITKEN.

1901LICOB...

Date.	Mt. Hamilton						Eros—Star.		Corr. for refraction.		NOTES.	
1900	Sidereal Time.			Mean Time.			*	Obs'd $\Delta\alpha$.	Obs'd $\Delta\delta$.	$\Delta\alpha$.	$\Delta\delta$.	
November 3	20 ^h 49 ^m 9 ^s .3	5 ^h 57 ^m 41 ^s .4					6	.. ' "	—1' 32".92	.. "	+0".032	Recorder, H. M. Reese.
	20 55 36.8	6 4 7.9						—1 43.23	.....	—0.147	.....	9:00 p.m., Nov. 3.
	20 59 35.0	6 8 5.4						.....	—1 30.40	.....	+0.036	Bar. 25.975 in.
	21 2 36.3	6 11 6.2						—1 48.51	.....	—0.148	.....	Att. 61°
	21 5 8.0	6 13 37.5						.....	—1 28.46	.....	+0.035	Ext. 60.8
												Seeing 2
	21 6 49.6	6 15 18.8					6	.....	—1 27.92	.....	+0.035	
	21 9 28.2	6 17 57.0						—1 53.50	.....	—0.146	.....	
	21 12 10.0	6 20 38.3						.....	—1 26.31	.....	+0.035	
	21 15 21.8	6 23 49.6						—1 58.14	.....	—0.151	.....	
	21 18 27.0	6 26 54.3						.....	—1 24.63	.....	—0.038	
	21 21 48.6	6 30 15.4					6	.....	—1 23.78	.....	+0.036	
	21 24 58.3	6 33 24.6						—2 5.31	.....	—0.149	.....	
	21 28 16.0	6 36 41.8						.....	—1 21.67	.....	+0.036	
	21 31 22.0	6 39 47.3						—2 10.28	.....	—0.153	.....	
	21 34 15.0	6 42 39.8						.....	—1 19.93	.....	+0.037	
	21 36 24.5	6 44 48.9					7	.....	—2 34.69	.....	—0.055	
	21 39 5.5	6 47 29.4						+0 39.18	.....	—0.052	.....	
	21 41 40.2	6 50 3.7						.....	—2 32.98	.....	—0.052	
	21 45 34.3	6 53 57.2						+0 34.07	.....	—0.055	.....	
	21 48 46.5	6 57 8.8						.....	—2 30.81	.....	—0.047	
	21 50 2.9	6 58 25.1					7	.....	—2 30.60	.....	—0.047	
	21 52 47.5	7 1 9.2						+0 28.64	.....	—0.061	.....	
	21 55 24.5	7 3 45.8						.....	—2 28.96	.....	—0.045	
	21 58 16.6	7 6 37.5						+0 24.51	.....	—0.063	.....	
	22 0 52.5	7 9 12.9						.....	—2 27.23	.....	—0.043	Temp. in Dome, 59°9
	6 8 35.2	15 15 36.6					8	.....	—1 14.75	.....	—0.034	Recorder, R. G. Aitken.
	6 14 52.0	15 21 52.4						—0 40.06	.....	+0.010	.....	
6 21 17.8	5 28 17.1						.....	—1 12.66	.....	—0.038		
6 27 53.7	15 34 51.9						—0 50.15	.....	—0.002	.....		
6 34 35.8	15 41 32.9						.....	—1 10.65	.....	—0.043		
6 42 33.2	15 49 28.1					8	.....	—1 9.13	.....	—0.048		
6 51 23.1	15 58 16.5						—1 8.23	.....	—0.020	.....	The sky was hazy during	
6 58 20.8	16 5 13.1						.....	—1 6.89	.....	—0.057	the morning observations;	
7 5 13.4	16 12 4.6						—1 18.36	.....	—0.033	.....	and clouds interfered at	
7 12 47.1	16 19 37.0						.....	—1 4.83	.....	—0.068	times.	
7 20 31.1	16 27 20.5					9	.....	—0 39.22	.....	+0.035		
7 27 4.5	16 33 52.8						+1 13.46	.....	+0.099	.....		
7 33 28.1	16 40 15.4						.....	—0 37.18	.....	+0.035		
7 42 59.4	16 49 45.1						+1 1.56	.....	+0.089	.....		
7 50 35.4	16 57 19.8						.....	—0 34.40	.....	+0.035		
7 56 31.1	17 3 13.9					9	.....	—0 33.54	.....	+0.029	7 a.m. Nov. 4.	
8 3 4.0	17 9 45.8						+0 46.43	.....	+0.074	.....	Bar. 25.950 in.	
8 9 8.4	17 15 49.2						.....	—0 31.21	.....	+0.025	Att. 59°	
8 16 13.6	17 22 53.2						+0 36.77	.....	+0.063	.....	Ext. 59.6	
8 23 13.7	17 29 52.1						.....	—0 29.10	.....	+0.019		
November 9	21 16 7.2	6 0 59.4					10	.....	+3 13.05	.....	+0.107	Recorder, H. M. Reese.
	21 22 22.2	6 7 13.4						—2 18.99	.....	+0.032	.....	Seeing 2. East wind
	21 27 40.2	6 12 30.6						.....	+3 13.43	.....	+0.106	sways telescope tube
	21 32 27.1	6 17 16.7						—2 26.38	.....	+0.023	.....	slightly.
	21 37 37.8	6 22 26.5						.....	+3 14.09	.....	+0.105	Temp. in Dome, 56°7
	21 40 10.8	6 24 59.2					11	.....	—2 52.88	.....	—0.100	
	21 43 44.2	6 28 32.0						+2 33.79	.....	+0.024	.....	Nov. 9, 7:30 p.m.
	21 46 53.8	6 31 41.1						.....	—2 52.70	.....	—0.095	Bar. 25.900 in.
	21 51 1.4	6 35 48.0						+2 27.41	.....	+0.019	.....	Att. 57°0
21 54 27.5	6 39 13.5						.....	—2 52.20	.....	—0.090	Ext. 55.8	

OBSERVATIONS BY R. G. AITKEN.

Date. 1900	Mt. Hamilton		* Obs'd $\Delta\alpha$.	Eros—Star. Obs'd $\Delta\delta$.	Corr. for refraction.		NOTES.
	Sidereal Time.	Mean Time.			$\Delta\alpha$.	$\Delta\delta$.	
November 9	21 ^h 56 ^m 4 ^s 5	6 ^h 40 ^m 50 ^s 3	11	.....	.....	.....	
	21 59 12.1	6 43 57.4		.....	.....	.....	
	22 2 24.8	6 47 9.5		.....	.....	.....	
	22 6 4.6	6 50 48.7		.....	.....	.....	
	22 9 10.2	6 53 53.8		.....	.....	.....	
	22 14 58.5	6 59 41.2	11	.....	.....	.....	
	22 18 32.8	7 3 14.9		.....	.....	.....	
	22 21 35.5	7 6 17.1		.....	.....	.....	
	22 24 50.3	7 9 31.4		.....	.....	.....	
	22 28 18.8	7 12 59.3		.....	.....	.....	
	6 1 9.9	14 44 36.2	12	.....	.....	.....	
	6 7 28.4	14 50 53.6		.....	.....	.....	
	6 13 44.9	14 57 9.1		.....	.....	.....	
	6 21 15.6	15 4 8.6		.....	.....	.....	
	6 29 25.9	15 12 47.5		.....	.....	.....	
	6 38 34.2	15 21 54.4	12	.....	.....	.....	
	6 45 26.2	15 28 45.3		.....	.....	.....	
	6 52 20.6	15 35 38.5		.....	.....	.....	
	7 0 52.8	15 44 9.3		.....	.....	.....	
	7 7 35.2	15 50 50.6		.....	.....	.....	
	7 13 48.1	15 57 2.5	12	.....	.....	.....	
	7 21 6.9	16 4 20.1		.....	.....	.....	
	7 27 53.1	16 11 5.2		.....	.....	.....	
	7 35 21.6	16 18 32.4		.....	.....	.....	
	7 42 12.5	16 25 22.2		.....	.....	.....	
November 10	21 11 39.5	5 52 36.6	13	.....	.....	.....	
	21 14 39.6	5 55 36.2		.....	.....	.....	
	21 17 20.5	5 58 16.7		.....	.....	.....	
	21 19 57.2	6 0 53.0		.....	.....	.....	
	21 22 39.1	6 3 34.4		.....	.....	.....	
	21 26 0.8	6 6 55.6	13	.....	.....	.....	
	21 28 51.3	6 9 45.6		.....	.....	.....	
	21 31 42.5	6 12 36.3		.....	.....	.....	
	21 34 49.5	6 15 42.8		.....	.....	.....	
	21 37 44.8	6 18 37.6		.....	.....	.....	
	21 40 34.7	6 21 27.0	13	.....	.....	.....	
	21 43 38.8	6 24 30.6		.....	.....	.....	
	21 46 25.0	6 27 16.3		.....	.....	.....	
	21 49 45.6	6 30 36.4		.....	.....	.....	
	21 52 11.7	6 33 2.1		.....	.....	.....	
	5 49 44.0	14 29 16.3	14	.....	.....	.....	
	5 52 58.1	14 32 29.8		.....	.....	.....	
	5 56 33.7	14 36 4.8		.....	.....	.....	
	6 0 37.2	14 40 7.7		.....	.....	.....	
	6 3 44.3	14 43 14.3		.....	.....	.....	
	6 11 55.7	14 51 24.3	14	.....	.....	.....	
	6 15 9.3	14 54 37.4		.....	.....	.....	
	6 18 40.7	14 58 8.2		.....	.....	.....	
	6 22 19.7	15 1 46.6		.....	.....	.....	
	6 25 44.3	15 5 10.7		.....	.....	.....	
	6 33 34.2	15 12 59.2	14	.....	.....	.....	
	6 36 39.4	15 16 3.9		.....	.....	.....	
	6 39 38.9	15 19 3.0		.....	.....	.....	
	6 43 18.0	15 22 41.5		.....	.....	.....	
	6 47 0.9	15 26 23.8		.....	.....	.....	

OBSERVATIONS BY R. G. AITKEN.

Date. 1900	Mt. Hamilton		*	Eros—Star.		Corr. for refraction.		NOTES.
	Sidereal Time.	Mean Time.		Obs'd $\Delta\alpha$.	Obs'd $\Delta\delta$.	$\Delta\alpha$.	$\Delta\delta$.	
November 10	6 ^h 50 ^m 33 ^s .2	15 ^h 29 ^m 56 ^s .2	15	.....	+0' 48".72	.....	+0'.105	
	6 54 45.6	15 34 7.2		+3 6.33	.....	+0.137	.....	
	6 58 39.6	15 38 0.6		.....	+0 47.32	.....	+0.107	
	7 2 21.2	15 41 41.6		+3 0.45	.....	+0.135	.....	
	7 6 14.6	15 45 34.3		.....	+0 46.16	.....	+0.110	
	7 8 58.6	15 48 17.9	15	.....	+0 46.09	.....	+0.112	
	7 13 10.9	15 52 29.5		+2 52.53	.....	+0.134	.....	
	7 17 5.6	15 56 23.5		.....	+0 45.34	.....	+0.115	
	7 21 22.9	16 0 40.1		+2 45.97	.....	+0.132	.....	
	7 25 15.6	16 4 32.2		.....	+0 44.31	.....	+0.117	
November 13	21 19 24.6	5 48 32.6	16	.....	—1 27.65	.....	—0.052	Recorder, H. M. Reese.
	21 22 15.6	5 51 23.1		+1 13.46	.....	+0.011	.....	Haze and occasional light
	21 25 1.3	5 54 8.4		.....	—1 28.32	.....	—0.049	clouds interfere with
	21 28 52.6	5 51 59.1		+1 8.92	.....	+0.006	.....	work. Seeing poor.
	21 32 2.6	6 1 8.5		.....	—1 29.16	.....	—0.045	
	21 33 25.6	6 2 31.3	16	.....	—1 29.11	.....	—0.044	
	21 37 32.9	6 6 37.9		+1 1.94	.....	0.000	.....	
	21 40 48.6	6 9 53.1		.....	—1 30.21	.....	—0.042	
	21 44 4.6	6 13 8.6		+0 57.89	.....	—0.003	.....	
	21 47 29.6	6 16 33.0		.....	—1 30.66	.....	—0.040	
	21 50 26.2	6 19 29.2	17	.....	+0 47.21	.....	—0.053	Temp. in Dome, 61°7
	21 53 59.0	6 23 1.4		+3 17.94	.....	+0.171	.....	
	21 57 15.2	6 26 17.1		.....	+0 46.13	.....	—0.048	
	22 3 44.1	6 32 44.9		+3 10.26	.....	+0.162	.....	
	22 7 7.2	6 36 7.4		.....	+0 44.96	.....	—0.043	
	22 11 45.9	6 40 45.3	16	.....	—1 34.38	.....	—0.033	Nov. 13, 7:00 M. T.
	22 14 52.8	6 43 51.7		+0 33.85	.....	—0.022	.....	Bar. 25.880 in.
	22 17 38.5	6 46 37.0		.....	—1 35.05	.....	—0.031	Att. 64°
	22 23 30.4	6 52 27.9		+0 27.67	.....	—0.026	.....	Ext. 62.6
	22 26 21.2	6 55 18.2		.....	—1 36.16	.....	—0.028	
	5 29 29.3	13 57 17.0	18	.....	+1 25.92	.....	+0.043	Recorder, R. G. Aitken.
	5 36 28.6	14 4 15.2		+1 22.55	.....	+0.017	.....	Images faint in haze.
	5 42 32.6	14 10 18.2		.....	+1 22.69	.....	+0.042	Seeing, good.
	5 51 54.0	14 19 38.0		+1 10.84	.....	+0.011	.....	Temp. in Dome, 58°1
	5 58 46.6	14 26 29.5		.....	+1 18.18	.....	+0.041	Work stopped by clouds.
	6 42 22.6	15 9 58.4	18	.....	+1 6.60	.....	+0.034	Nov. 13, 15:30 M. T.
	6 48 38.5	15 16 13.3		+0 28.85	.....	—0.012	.....	Bar. 25.850 in.
								Att. 58°
								Ext. 57.1
November 27	22 11 38.8	5 45 35.6	19	.....	+1 42.93	.....	+0.019	Recorder, H. M. Reese.
	22 14 37.0	5 48 33.4		+0 25.17	.....	+0.052	.....	Seeing, 2+ to 3, growing
	22 17 25.8	5 51 21.7		.....	+1 39.22	.....	+0.019	poorer toward the close.
	22 20 16.0	5 54 11.4		+0 23.13	.....	+0.049	.....	
	22 22 57.8	5 56 52.8		.....	+1 35.19	.....	+0.019	
	22 23 57.0	5 57 51.8	19	.....	+1 34.51	.....	+0.019	Nov. 27, 7:00 M. T.
	22 26 54.3	6 0 48.6		+0 20.36	.....	+0.044	.....	Bar. 25.930 in.
	22 29 20.0	6 3 14.0		.....	+1 31.14	.....	+0.018	Att. 55°
	22 33 37.1	6 7 30.4		+0 17.65	.....	+0.041	.....	Ext. 54.5
	22 36 3.7	6 9 56.5		.....	+1 26.49	.....	+0.017	
	22 43 14.7	6 17 6.3	19	.....	+1 21.82	.....	+0.017	
	22 46 34.7	6 20 25.8		+0 12.53	.....	+0.034	.....	
	22 49 22.3	6 23 12.8		.....	+1 17.96	.....	+0.017	
	22 52 32.4	6 26 22.5		+0 10.05	.....	+0.030	.....	
	22 55 21.7	6 29 11.3		.....	+1 13.20	.....	+0.016	

OBSERVATIONS BY R. G. AITKEN.

Date. 1900	Mt. Hamilton					Eros—Star.		Corr. for refraction.		NOTES.			
	Sidereal Time.		Mean Time.		*	Obs'd $\Delta\alpha$.	Obs'd. $\Delta\delta$.	$\Delta\alpha$.	$\Delta\delta$				
November 27	5 ^h	54 ^m	42 ^s .6	13 ^h	27 ^m	23 ^s .5	20		—1' 37.89		+0.005	Haze reduced light of Eros and star fully 2 magnitudes during this set of measures. Temp. in Dome, 52°9 Nov. 27, 15:00 M.T. Bar. 25.945 Att. 53° Ext. 52.4	
	6	0	15.6	13	32	55.6		+0.067					
	6	3	37.6	13	36	17.1			—1 10.73		+0.002		
	6	6	50.2	13	39	29.2		+0.069					
	6	10	39.9	13	43	18.2			—1 16.32		—0.001		
	6	15	7.6	13	47	45.3	20		—1 19.65		—0.002		
	6	21	42.3	13	54	18.9		+0.071					
	6	25	40.3	15	58	16.2			—1 27.85		—0.006		
	6	31	23.8	14	3	58.8		+0.073					
	6	37	36.9	14	10	10.9			—1 37.41		—0.010		
	21	59	37.1	5	29	39.9	21		—2 13.72		—0.028		Recorder, H. M. Reese. The comparison star is a double (=A. 112). Three nights' measures give 332°3 0'90 1900.92. Settings were made on the brighter component. Seeing good. Temp. in Dome, 53°2 Nov. 28, 6:45 M.T. Bar. 25.990 Att. 52° Ext. 52°1 Recorder, R. G. Aitken. Sky hazy in morning. Work interrupted by passing clouds. Seeing 3. No wind. Temp. in Dome, 54°3
	22	2	36.8	5	32	39.2		—0.066					
	22	6	3.4	5	36	5.2			—2 17.82		—0.028		
	22	9	23.5	5	39	24.7		—0.068					
	22	12	55.7	5	42	56.4			—2 22.65		—0.028		
22	14	34.7	5	44	35.1	21	.....	—2 23.69	.....	—0.029			
22	17	33.1	5	47	33.0		—0.069	.....					
22	20	17.1	5	50	16.5		.....	—2 27.33	.....	—0.030			
22	23	12.7	5	53	11.6		—0.070	.....					
22	26	3.7	5	56	2.2		.....	—2 31.44	.....	—0.031			
22	30	41.1	6	0	38.8	21	.....	—2 34.73	.....	—0.032			
22	33	53.2	6	3	50.4		—0.072	.....					
22	36	47.4	6	6	44.1		.....	—2 38.97	.....	—0.033			
22	40	15.7	6	10	11.9		—0.074	.....					
22	43	9.7	6	13	5.4		.....	—2 43.42	.....	—0.034			
6	0	14.1	13	28	58.2	22	.....	—0 53.68	.....	—0.008			
6	6	24.2	13	35	7.3		+0.033	.....					
6	12	24.5	13	41	6.6		.....	—1 3.62	.....	—0.013			
6	18	39.7	13	47	20.8		+0.035	.....					
6	24	56.8	13	53	36.9		.....	—1 13.78	.....	—0.018			
6	46	49.1	14	15	26.5	22	.....	—1 31.63	.....	—0.033			
7	1	35.3	14	30	9.4		+0.035	.....					
7	7	12.8	14	35	46.0		.....	—1 48.59	.....	—0.042			
7	13	42.8	14	42	14.9		+0.029	.....					
7	19	49.8	14	48	20.9		.....	—1 58.89	.....	—0.053			
7	23	1.8	14	51	32.3	22	.....	—2 1.68	.....	—0.056			
7	29	27.2	14	57	56.7		+0.019	.....					
7	35	36.8	15	4	5.3		.....	—2 11.88	.....	—0.071			
7	42	47.8	15	11	15.1		+0.008	.....					
7	49	37.8	15	18	4.0		.....	—2 23.22	.....	—0.088			
December 5	22	24	30.1	5	26	57.5	23		+1 3.69		+0.011	Recorder, H. M. Reese. The second $\Delta\delta$ is probably 0.3 rev. in error (= 2'97), and $\Delta\delta$ should be + 0' 59'33 instead of + 1' 2'30.	
	22	27	5.4	5	29	32.4		+0.029					
	22	29	50.1	5	32	16.6			+1 2.30		+0.011		
	22	32	38.6	5	35	4.6		+0.027					
	22	35	10.8	5	37	36.4			+0 54.69		+0.010		
	22	36	51.1	5	39	16.4	24		—1 6.45		+0.004		
	22	39	43.8	5	42	8.6		—0.088					
	22	42	24.1	5	44	48.5			—1 11.44		+0.004		
	22	45	10.8	5	47	34.8		—0.088					
	22	48	16.1	5	50	39.5			—1 16.42		+0.004		

OBSERVATIONS BY R. G. AITKEN.

Date. 1900	Mt. Hamilton				Eros—Star.		Corr. for refraction.		NOTES.
	Sidereal Time.		Mean Time.	*	Obs'd $\Delta\alpha$.	Obs'd $\Delta\delta$.	$\Delta\alpha$.	$\Delta\delta$.	
December 5	22 ^h 50 ^m 35 ^s .8		5 ^h 52 ^m 58 ^s .9	24		—1' 18"39		+0'003	Temp. in Dome, 61°7
	22 53 8.1		5 55 30.7		—2 13.34	.....	—0.089	.....	
	22 55 54.8		5 58 17.1		.....	—1 22.84	.....	+0.002	
	22 59 19.6		6 1 41.3		—2 13.75		—0.090		Dec. 5, 6:30 M. T. Bar. 26.035 in. Att. 64° Ext. 61.8
	23 10 7.1		6 12 27.0		.....	—1 34.99	.....	0.000	
	23 11 45.1		6 14 4.7	23		+0 23.62		+0.003	
	23 14 10.6		6 16 29.8		+0 19.57	.....	+0.015	.....	
	23 16 45.5		6 19 4.3		.....	+0 19.50	.....	+0.003	
	23 19 30.6		6 21 49.0		+0 19.43		+0.013		
	23 23 15.5		6 25 33.2		.....	+0 13.86	.....	+0.002	
	5 15 16.6		12 16 36.7	25		—1 29.14		—0.034	
	5 18 23.1		12 19 42.7		—0 58.10	.....	—0.004	.....	
	5 20 51.0		12 22 10.1		.....	—1 34.48	.....	—0.037	
	5 23 53.3		12 25 11.9		—0 58.35		—0.003		
	5 27 11.6		12 28 29.7		.....	—1 40.54	.....	—0.040	
	5 28 51.0		12 30 8.9	25		—1 42.12		—0.042	
	5 31 55.0		12 33 12.4		—0 58.62	.....	—0.001	.....	
	5 34 53.6		12 36 10.5		.....	—1 48.40	.....	—0.045	
	5 38 7.8		12 39 24.2		—0 58.75		0.000		
	5 41 15.0		12 42 30.9		.....	—1 53.99	.....	—0.048	
	5 45 4.3		12 46 19.5	25		—1 58.36		—0.049	
	5 48 5.6		12 49 20.3		—0 58.81	.....	+0.003	.....	
	5 51 1.6		12 52 15.8		.....	—2 3.61	.....	—0.052	
	5 54 5.6		12 55 19.3		—0 58.62		+0.005		
	5 57 7.3		12 58 20.5		.....	—2 9.43	.....	—0.054	
	5 59 31.6		13 0 44.5	26		—0 39.51		+0.020	
	6 2 53.1		13 4 5.4		+1 30.54	.....	+0.081	.....	
	6 5 53.3		13 7 5.1		.....	—0 45.61	.....	+0.022	
	6 9 13.2		13 10 24.5		+1 30.77		+0.085		
	6 12 11.0		13 13 21.8		.....	—0 51.66	.....	+0.024	
	6 18 50.9		13 20 0.6	26		—0 57.68		+0.024	Dec. 5, 14:00 M. T. Bar. 26.030 in. Att. 61° Ext. 60.8
	6 21 57.8		13 23 7.0		+1 30.49	.....	+0.092	.....	
	6 24 37.2		13 25 46.0		.....	—1 3.58	.....	+0.026	
	6 28 4.7		13 29 12.9		+1 30.92		+0.096		
	6 31 6.9		13 32 14.6		.....	—1 9.98	.....	+0.028	
December 7	22 27 29.1		5 22 4.2	27		—0 58.02		+0.010	Recorder, H. M. Reese.
	22 30 20.2		5 24 54.8		—1 53.38	.....	—0.076	.....	
	22 32 48.8		5 27 23.0		.....	—1 2.80	.....	+0.007	
	22 36 27.6		5 31 1.2		—1 53.04		—0.076		Seeing poor. Temp. in Dome, 57°6
	22 39 14.8		5 33 47.9		.....	—1 8.51	.....	+0.004	
	22 42 24.1		5 36 56.7	27		—1 11.30		+0.002	
	22 45 21.6		5 39 53.8		—1 52.76	.....	—0.076	.....	
	22 48 14.1		5 42 45.8		.....	—1 16.37	.....	—0.001	
	22 51 0.3		5 45 31.5		—1 52.48		—0.076		
	22 54 6.0		5 48 36.7		.....	—1 21.36	.....	—0.003	
	22 56 13.0		5 50 43.4	27		—1 23.29		—0.004	Dec. 7, 6:30 M. T. Bar. 25.980 in. Att. 60° Ext. 59.0
	22 59 20.8		5 53 50.7		—1 52.31	.....	—0.076	.....	
	23 2 6.3		5 56 35.7		.....	—1 28.50	.....	—0.006	
	23 4 56.7		5 59 25.6		—1 52.21		—0.076		
	23 7 44.3		6 2 12.8		.....	—1 33.57	.....	—0.007	
	5 18 19.8		12 11 47.6	28		—0 43.35		+0.036	
	5 21 46.0		12 15 13.2		+2 49.56	.....	+0.121	.....	
	5 24 44.2		12 18 11.0		.....	—0 49.50	.....	+0.038	
	5 28 21.9		12 21 48.1		+2 50.08		+0.126		
	5 33 1.5		11 26 26.9		.....	—0 58.02	.....	+0.038	

OBSERVATIONS BY R. G. AITKEN.

Date. 1900	Mt. Hamilton						Eros—Star.		Corr. for refraction.		NOTES.	
	Sidereal Time.			Mean Time.			*	Obs'd $\Delta\alpha$.	Obs'd $\Delta\delta$.	$\Delta\alpha$.		$\Delta\delta$.
	5 ^h 35 ^m 56 ^s .5	12 ^h 29 ^m 21 ^s .4					29	.. ' ' '.....	—1' 1'22	.. '.....	—0'002	
	5 39 43.6	12 33 7.9						+0 41.68	.....	+0.051	.....	
	5 43 20.5	12 36 44.2						.....	—1 8.66	.....	—0.003	
	5 46 48.2	12 40 11.3						+0 42.23	.....	+0.054	.....	
	5 50 15.5	12 43 38.1						.....	—1 15.73	.....	—0.004	
	5 51 59.8	12 45 22.0					29	.....	—1 17.36	.....	—0.005	Seeing 2. Sky hazy toward
	5 54 49.3	12 48 11.1						+0 43.17	.....	+0.057	.....	close of measures.
	5 57 50.2	12 51 11.5						.....	—1 23.02	.....	—0.006	
	6 1 54.2	12 55 14.8						+0 43.59	.....	+0.061	.....	
	6 5 34.5	12 58 54.5						.....	—1 31.00	.....	—0.007	Dec. 7, 14 ^h 00 M.T.
	6 11 0.5	13 4 19.6					30	.....	+0 42.22	.....	+0.067	Bar. 25.945
	6 14 50.0	13 8 8.5						+2 13.23	.....	+0.088	.....	Att. 57°
	6 18 18.2	13 11 36.2						.....	+0 34.90	.....	+0.070	Ext. 55.6
	6 22 24.7	13 15 42.0						+2 13.94	.....	+0.095	.....	
	6 26 14.1	13 19 30.8						.....	+0 27.11	.....	+0.072	
December 8	22 43 54.9	5 34 31.4					31	.....	—0 3.32	.....	—0.014	Recorder, H. M. Reese.
	22 48 34.1	5 39 9.8						+1 23.18	.....	+0.040	.....	Seeing good.
	22 53 13.6	5 43 48.5						.....	—0 12.02	.....	—0.015	Temp. in Dome, 53°1
	22 58 22.5	5 48 56.6						+1 24.20	.....	+0.038	.....	Dec. 8, 6:15 M.T.
	23 1 50.2	5 52 23.7						.....	—0 19.40	.....	—0.016	Bar. 25.860
	23 4 3.6	5 54 36.7					31	.....	—0 21.79	.....	—0.016	Att. 55°
	23 6 21.5	5 56 54.2						+1 24.79	.....	+0.036	.....	Ext. 53.6
	23 8 54.6	5 59 26.9						.....	—0 26.17	.....	—0.017	Sky clouded over at mid-
	23 11 48.7	6 2 20.6						+1 25.26	.....	+0.035	.....	night.
	23 14 17.2	6 4 48.6						.....	—0 31.33	.....	—0.018	
December 22	23 38 57.1	5 34 21.8					32	.....	+0 39.01	.....	+0.014	Recorder, H. M. Reese.
	23 41 23.8	5 36 48.1						—0 39.28	.....	—0.011	.....	Seeing 2. Sky very clear.
	23 43 42.1	5 39 6.0						.....	+0 33.50	.....	+0.012	North wind.
	23 47 9.6	5 42 32.9						—0 35.14	.....	—0.010	.....	Temp. in Dome, 40°1
	23 49 38.1	5 45 1.0						.....	+0 27.58	.....	+0.010	Dec. 22, 6:15 M.T.
	23 50 48.4	5 46 11.1					32	.....	+0 26.37	.....	+0.009	Bar. 25.870
	23 53 32.6	5 48 54.9						—0 30.38	.....	—0.009	.....	Att. 41°
	23 58 6.7	5 53 28.2						—0 27.06	.....	—0.008	.....	Ext. 39.2
	24 0 33.8	5 55 54.9						.....	+0 16.02	.....	+0.005	
	5 49 10.8	11 43 34.9					33	.....	—2 2.32	.....	—0.052	
	5 52 20.6	11 46 44.2						—1 4.31	.....	—0.012	.....	
	5 54 50.5	11 49 13.6						.....	—2 8.72	.....	—0.054	
	5 57 48.4	11 52 11.0						—1 0.09	.....	—0.010	.....	
	6 0 33.8	11 54 56.0						.....	—2 14.82	.....	—0.056	
	6 4 16.5	11 58 38.0					34	.....	+0 29.63	.....	+0.052	Seeing 2. North wind. Tel-
	6 7 10.1	12 1 31.1						+2 9.01	.....	+0.077	.....	lescope swaying slightly.
	6 10 23.1	12 4 43.6						.....	+0 22.88	.....	+0.054	
	6 13 40.2	12 8 0.2						+2 14.07	.....	+0.085	.....	Temp. in Dome, 42°1
	6 16 49.8	12 11 9.2						.....	+0 15.63	.....	+0.058	Dec. 22, 13:30 M.T.
	6 19 22.1	12 13 41.1					35	.....	+0 50.22	.....	—0.001	Bar. 25.905
6 22 27.0	12 16 45.5						—0 39.22	.....	—0.035	.....	Att. 41°	
6 24 44.1	12 19 2.3						.....	+0 43.85	.....	—0.002	Ext. 43.0	
6 27 47.1	12 22 4.8						—0 35.10	.....	—0.032	.....		
6 30 40.1	12 24 57.3						.....	+0 37.24	.....	—0.003		
6 34 21.5	12 28 38.1					35	.....	+0 33.34	.....	—0.003		
6 37 2.3	12 31 18.4						—0 27.44	.....	—0.026	.....		
6 39 37.1	12 33 52.8						.....	+0 27.38	.....	—0.003		
6 42 21.7	12 36 37.0						—0 23.50	.....	—0.023	.....		
6 45 4.1	12 39 18.9						.....	+0 21.34	.....	—0.004		

OBSERVATIONS BY R. G. AITKEN.

Date. 1900	Mt. Hamilton		Eros—Star.		Corr. for refraction.		NOTES.
	Sidereal Time.	Mean Time.	*	Obs'd $\Delta\alpha$.	Obs'd $\Delta\delta$.	$\Delta\alpha$. $\Delta\delta$.	
December 23	5 ^h 51 ^m 12 ^s .9	11 ^h 41 ^m 40 ^s .7	36	.....	—2' 54".67	 —0'.064	Recorder, H. M. Reese.
	5 54 13.0	11 44 40.3		—0 55.96	.....	+0.003	Clouds prevented measures
	5 56 53.6	11 47 20.5		.....	—3 0.57	 —0.065	of Eros east of meridian
	5 59 4.0	11 49 30.5		—0 50.91	.....	+0.006	and interfered with those
	6 3 11.9	11 53 37.7		.....	—3 7.86	 —0.066	west. Images quite faint.
							Temp. in Dome, 45°7
	6 5 6.3	11 55 31.8	37	.....	+0 13.75	 +0.072	Dec. 23, 12:30 M.T.
	6 8 12.1	11 58 37.1		+3 27.74	.....	+0.139	Bar. 26.005
	6 12 38.3	12 3 2.6		.....	+0 5.48	 +0.080	Att. 45°
	6 20 34.4	12 10 57.4		+3 37.92	.....	+0.156	Ext. 46.9
December 28	0 7 0.0	5 38 44.6	38	.....	+2 8.69	 +0.024	Recorder, H. M. Reese.
	0 9 48.8	5 41 33.0		+1 26.67	.....	+0.044	Seeing poor. Clouds pre-
	0 12 11.7	5 43 45.5		.....	+2 3.04	 +0.023	vented measures west of
	0 15 21.4	5 47 14.6		+1 31.71	.....	+0.043	meridian.
	0 18 7.7	5 49 50.5		.....	+1 57.04	 +0.022	Temp. in Dome, 44°2
							Dec. 28, 9:00 M.T.
	0 19 22.0	5 51 4.6	38	.....	+1 55.36	 +0.022	Bar. 25.965
	0 22 5.7	5 53 47.9		+1 38.94	.....	+0.043	Att. 42°
	0 24 48.3	5 56 30.0		.....	+1 50.24	 +0.021	Ext. 42.8
	0 27 47.9	5 59 29.1		+1 43.78	.....	+0.042	
1901 January 1	0 30 46.0	6 2 26.7		.....	+1 43.66	 +0.020	Recorder, H. M. Reese.
	7 6 43.9	12 21 36.1	39	.....	+0 7.68	 +0.047	Clouds prevented measures
	7 10 4.3	12 24 55.9		+1 28.78	.....	+0.072	east of meridian. Seeing
	7 12 43.2	12 27 34.4		.....	+0 0.12	 +0.054	good.
	7 16 38.6	12 31 29.2		+1 36.94	.....	+0.087	
	7 20 9.2	12 24 59.2		.....	—0 7.38	 +0.061	Jan. 1, 13:00 M.T.
							Bar. 25.800
	7 21 57.9	12 36 47.6	39	.....	—0 9.63	 +0.063	Att. 28°
	7 25 2.4	12 39 51.6		+1 47.09	.....	+0.103	Ext. 27.5
	7 27 49.2	12 42 38.0		.....	—0 15.97	 +0.070	Temp. in Dome, 28°8
	7 31 15.7	12 46 3.9		+1 54.85	.....	+0.116	
	7 34 31.9	12 49 19.6		.....	—0 23.45	 +0.077	

APPROXIMATE MEAN PLACES FOR 1900 OF COMPARISON STARS.—R. G. A.

*	α	δ	Estimated Magnitude.	*	α	δ	Estimated Magnitude.
1	2 ^h 12 ^m 51 ^s	+53° 56'.5	10½–11	21	1 ^h 28 ^m 56 ^s	51° 19'.5	9.0
2	2 12 34	53 57.4	10½–11	22	1 28 32	51 12.0	10½
3	2 12 3	54 1.2	9.5	23	1 26 25	48 57.8	9½
4	2 11 50	54 2.8	11	24	1 26 40	48 59.8	9.1
5	2 11 30	54 0.8	10	25	1 26 31	48 54.1	9½
6	2 11 2	54 6.3	8.4	26	1 26 16	48 52.6	11½
7	2 10 42	54 7.6	10	27	1 26 57	48 16.1	9½–10
8	2 10 5	54 8.2	10½	28	1 26 30	48 9.5	8.9
9	2 9 46	54 7.8	10	29	1 26 43	48 9.5	10½
10	1 58 49	54 17.7	10½	30	1 26 35	48 7.2	9½–10
11	1 58 14	54 24.1	12	31	1 26 54	47 53.0	10
12	1 57 43	54 22.9	9.3	32	1 42 28	42 8.9	10
13	1 56 42	54 23.4	11½	33	1 42 55	42 5.4	10½
14	1 55 47	54 19.0	11½	34	1 42 39	42 2.6	10
15	1 55 17	54 18.6	9.0	35	1 42 55	42 2.0	11
16	1 50 22	54 12.5	11½	36	1 44 43	41 40.4	9.5
17	1 50 5	54 10.2	10½	37	1 44 21	41 36.8	8.8
18	1 49 36	54 8.4	9½–10	38	1 54 24	39 33.2	9½
19	1 29 38	51 32.8	11	39	2 4 45	+ 37 45.5	9½–10
20	1 29 29	51 28 ±	11				

PHOTOGRAPHIC OBSERVATIONS OF EROS

The following negatives were secured with the Crossley Reflector belonging to the Lick Observatory. This instrument is located on a peak southwest of the main observatory building, its position being,

L $8^{\text{h}} 6^{\text{m}} 35^{\text{s}}.3$ West of Greenwich.
 $\phi + 37^{\circ} 20' 13''$

The aperture of the telescope is $36\frac{1}{2}$ inches and its focal length 17 feet 6 inches. A few minor changes were made in the photographic eye-end to adapt it to the work of making short exposures. A light metal flap was inserted as close to the plate as possible. This flap is operated by a milled head on the outside of the tube, and can be fastened by engaging a slot in the head over a stationary tongue. Short exposures can thus be made without danger of jarring the instrument.

Preliminary experiments showed that measurable images of Eros could be obtained near opposition in 2^{s} or 3^{s} , but, as the field in which round star images could be obtained was very small, longer exposures were adopted in order to include the requisite number of comparison stars. The collimation of the mirrors was tested frequently throughout the work. The focus was carefully adjusted with a high-power eyepiece before each series of exposures. As a series of exposures usually covered but little over a half-hour, it was seldom necessary to make any change in this adjustment during the series. In setting the telescope, Eros was placed as close to the optical axis as possible. Several images (usually five) were impressed on each plate by giving the plate a slight displacement after each exposure. This displacement was effected by means of the screw for moving the plate-holder in declination. The last image was separated from the preceding one by double the usual interval, in order to identify it the more easily. On several plates of each series the stars on a part of the plate were allowed to trail, for orientation in measurement, if necessary.

The temperature readings previous to September 26th were taken from the standard thermometer used for the regular observations situated in the Meridian Circle House. Beginning with September 26th, the temperatures are from a standard thermometer placed in the Crossley Dome. The thermometers used require no sensible correction.

The barometer readings previous to October 6th are the readings of the standard barometer in the Meridian Circle House, taken at 7:00 a.m., corrected to the altitude of the Crossley Dome. A correction of $+0.13$ inch has been applied. As all the observations during this period are close to the meridian there will be no sensible error in using such values of the barometer readings.

Beginning on October 6th, the readings are from a barometer placed in the Crossley Dome.

The times of the exposures were obtained from the beats of Clock No. 7 on a sounder in the dome. This clock carries mean time of the 120th meridian, 8 hours slow of Greenwich. As it is compared daily and its error kept down to a small fraction of a second, no correction need be applied.

One or more chart plates were taken each night with an exposure sufficiently long to show a trail for the asteroid. These were for the ready identification of Eros. Some plates were taken of intervening regions to enable plates of different nights to be connected together for a differential determination of the rate of motion of the asteroid. Cramer Crown plates of the most rapid emulsion obtainable were used throughout the work. They were developed with the ordinary Hydrochinon developer used at the Lick Observatory.

An attempt was made to obtain the most accurate scale value possible for a plate by impressing instantaneous images of a moderately bright star at known intervals of time. The method did not give the expected accuracy, probably owing to the unstable mounting of the telescope.

The greater number of short exposures are uniform so far as the seconds are concerned, the minutes alone differing. These are marked O.K. The hour and minute preceding the first exposure are given. The seconds are as follows:

10^{s} to 20^{s} ; 30^{s} to 40^{s} ; 50^{s} to 65^{s} ; 70^{s} to 90^{s} ; 100^{s} to 120^{s} .

A few plates were given but four exposures and were marked 4 X. The seconds for this schedule are as follows:

10^{s} to 30^{s} ; 40^{s} to 60^{s} ; 70^{s} to 90^{s} ; 100^{s} to 120^{s} .

Following is a summary of the results printed in the tables:

MERIDIAN OBSERVATIONS.—344 plates were secured on 63 nights between September 16, 1900, and January 29, 1901.

PARALLAX OBSERVATIONS.—511 plates were obtained on 37 nights between October 6 and December 28, 1900.

CHARTS AND CONNECTING PLATES.—110 plates were obtained on 63 nights between September 16, 1900, and January 29, 1901.

The total number of plates is thus 965. Of these 854 are of short exposures for measurement, and contain over four thousand images of the asteroid.

Mr. H. K. PALMER, Fellow in Astronomy, rendered efficient assistance in the work.

C. D. PERRINE.

December, 10, 1901.

1901LicOB....1. 91H

MERIDIAN OBSERVATIONS.

Date. 1900	No. of Plate.	P. S. T.			REMARKS.
Sept. 16	2	15 ^h	5 ^m	5 ^s to 10 ^s	
		6	14	" 24	
		7	6	" 26	
	3	15	30	25 " 35	Seeing poor on last plate.
		32	6	" 26	Wind N. Shakes tel-
		33	4	" 34	escope at times. Sky
					good.
18	5	14	38	10 " 13	
				32 " 37	
				42 " 48	
				52 " 62	
	6	14	43	0 " 3	
				10 " 15	
				20 " 26	
				31 " 38	
				41 " 48	
				50 " 60	
	7	14	47	10 " 13	
				20 " 24	
				30 " 35	
				40 " 46	
				50 " 60	Trails.
	8	14	59	0 " 4	
				10 " 15	
				20 " 26	
				30 " 37	
				40 " 48	
				50 " 60	
	9	15	2	0 " 4	Seeing 3-4.
				10 " 15	
				20 " 26	
				30 " 34	
				40 " 43	
				50 " 51	Trails.
19	11	14	37	1 " 6	Reversed—glass side next
				16 " 22	mirror.
				32 " 42	
				52 " 62	
		38	15	" 25	
				30 " 50	
	12	14	41	0 " 5	Wind.
				10 " 15	
				20 " 30	
				30 " 40	
		42	5	" 20	
				30 " 50	
	13	14	45	15 " 20	
				26 " 31	
				40 " 50	
				52 " 62	
		46	10	" 25	
				20 " 50	Trails.
14	14	56	0	" 4	
				10 " 15	
				20 " 30	
				40 " 50	
		57	0	" 15	
				20 " 40	

MERIDIAN OBSERVATIONS.

Date. 1900	No. of Plate.	P. S. T.			REMARKS.
Sept. 19	15	15 ^h	0 ^m	0 ^s to 5 ^s	Seeing 2-3. North wind
				10 " 15	interferes.
				20 " 30	
				40 " 50	
		1	0	" 15	
				20 " 40	Trails.
24	17	14	30	OK	
	18	14	34	"	
	19	14	38	"	Trails.
	20	14	50	30 ^s to 40 ^s	Shutter open until 13 ^s
				52 " 62	One group probably 1 ^m in
		52	10	" 25	error.
				30 " 50	
	21	14	57	10 " 20	
				30 " 40	
				50 " 65	
		58	10	" 30	
				40 " 45	Trails.
25	23	14	12	OK	
	24	14	15	12 ^s to 20 ^s	
				30 " 40	
				50 " 65	
		16	10	" 30	
				40 " 60	
	25	14	19	9 " 20	
				30 " 40	
				50 " 60	
		20	10	" 25	
				40 " 60	Trails.
	26	14	29	34 " 60	
				31 0 " 15	
				20 " 35	
				40 " 50	
		32	0	" 10	
	27	14	34	OK	Trails.
	28	14	44	"	
26	31	14	13	10 ^s to 20 ^s	
				30 " 40	
				50 " 65	
		14	11	" 26	
				40 " 60	
	32	14	16	OK	
	33	14	20	"	Trails.
	34	14	29	"	
	35	14	32	"	Trails. Seeing 3. Lt. wind
	36	14	41	"	from NW. Cloudy
					early part of night.
27	39	14	4	"	
	40	14	7	"	
	41	14	10	"	Trails.
	42	14	21	"	
	43	14	24	"	Trails.
	44	14	33	"	
	45	14	36	"	Trails

MERIDIAN OBSERVATIONS.

Date. 1900	No. of Plate.	P. S. T.			REMARKS.
Sept. 28	48	13 ^h	55 ^m	OK	
	49	13	59	"	
	50	14	3	"	Trails.
	51	14	12	"	
	52	14	15	"	Trails.
	53	14	23	"	
	54	14	26	"	Trails.
	55	14	35	"	
	56	14	38	"	Trails.
29	59	14	2	"	
	60	14	5	"	
	61	14	8	"	Trails.
	62	14	19	"	Seeing 4. Quiet.
	63	14	22	"	Trails. Air very smoky.
30	66	13	53	"	
	67	13	56	"	
	68	13	59	"	Trails.
	69	14	7	"	
	70	14	10	"	Trails.
Oct. 1	73	13	50	"	
	74	13	53	"	
	75	13	56	10 ^s to 20 ^s	Trails.
			30	" 40	
			50	" 65	
		57	10	" 30	
			41	" 61	Trails.
	76	14	6	10 " 20	
				30 " 42	
				50 " 65	
		7	10	" 30	
				40 " 60	
	77	14	10	10 " 20	
				30 " 42	
				50 " 65	
		11	10	" 30	
				40 " 60	Trails.
	78	14	19	OK	
	79	14	23	"	Trails.
5	82	13	25	"	
	83	13	29	"	
	84	13	34	"	Trails.
	85	13	44	"	
	86	13	48	10 ^s to 20 ^s	Trails.
				30 " 40	
				50 " 65	
		49	10	" 30	
				42 " 62	
	87	13	57	12 " 22	
				32 " 42	
				52 " 67	
		58	12	" 32	
				42 " 62	
	88	14	1	OK	Trails.
	89	14	10	"	Gusty N. to NW. wind.
	90	14	14	"	Trails. Seeing 1-2. Air clear.

MERIDIAN OBSERVATIONS.

Date. 1900 Oct.	No. of Plate.	P. S. T.				REMARKS.
6	98	13 ^h	33 ^m	OK		
	99	13	36	“		
	100	13	42	“	Trails.	
	101	13	52	“		
	102	13	56	“	Trails.	
7	109	13	34	“		
	110	13	37	“		
	111	13	41	10 ^s to 20 ^s		
				30 “ 40		
				51 “ 66		
			42	10 “ 30		
				40 “ 60	Trails.	
	112	13	49	OK		
	113	13	52	“	Seeing 3.	
8	116	13	29	“		
	117	13	33	10 ^s to 20 ^s		
				30 “ 41		
				50 “ 65		
			34	10 “ 30		
				40 “ 60		
	118	13	38	OK	Trails.	
	119	13	49	“		
	9	122	13	26	“	
123		13	29	“		
124		13	32	“	Trails.	
125		13	40	“		
126		13	44	“	Trails. Seeing 4.	
10	129	13	29	“		
	130	13	32	“		
	131	13	35	“	Trails. Seeing 4.	
12	142	13	43	“		
	143	13	46	10 ^s to 20 ^s		
				30 “ 40		
				50 “ 65		
			47	10 “ 30		
				38 “ 58		
144	13	49	OK			
13	156	13	7	“		
	157	13	10	“		
	158	13	13	“	Trails.	
	159	13	21	“		
	160	13	24	10 ^s to 20 ^s		
			30 “ 40			
			50 “ 65			
		25	10 “ 31			
			40 “ 60	Trails.		
14	180	13	1	10 “ 20		
				30 “ 43		
				50 “ 65		
			2	10 “ 30		
				40 “ 60		

MERIDIAN OBSERVATIONS.						MERIDIAN OBSERVATIONS.					
Date. 1900	No. of Plate.	P. S. T.			REMARKS.	Date. 1900	No. of Plate.	P. S. T.			REMARKS.
Oct. 14	181	13 ^h	5 ^m	OK		2	383	11 ^h	22 ^m	OK	
	182	13	8	"	Trails.		384	11	25	10 ^s to 20 ^s	
	183	13	16	"						30 " 40	
	184	13	19	"	Trails. Seeing 4. Lt. N.					50 " 65	
										26 10 " 30	
	15 204	12	55	"	wind.					40 " 61	
	205	12	58	"			385	11	28	OK	Trails.
	206	13	2	"	Trails.		386	11	36	"	
	207	13	10	"			387	11	38	54 ^s to 64 ^s	
	208	13	13	"	Trails. Seeing 4. No wind.					39 14 " 24	
Oct. 16	209	13	20	"					34 " 49		
									54 " 74		
	232	12	51	"					40 24 " 44	Trails.	
	233	12	54	"		388	11	54	OK	24 in. diaphragm.	
	234	12	57	"	Trails.	389	12	0	"	Trails. 30 in. diaphragm.	
	235	13	7	"							
	236	13	10	"	Trails.						
	21 256	12	24	"		Nov. 3 408	11	9	"		
	257	12	27	10 ^s to 20 ^s		409	11	12	"		
				30 " 40		410	11	15	"	Trails.	
			54 " 65		411	11	22	"			
			28 10 " 30		412	11	25	"	Trails.		
			40 " 60		413	11	32	"			
					414	11	35	"	Trails. Seeing 4. S. wind.		
	258	12	30	OK	Trails.	4	439	11	3	"	
	259	12	38	"		440	11	6	"		
	260	12	41	"	Trails.	441	11	10	"	Trails.	
	261	12	48	"		442	11	18	"	Eros off center.	
	262	12	51	"	Seeing 3. Wind 15-20 miles, N. and N.W.	443	11	23	"	Trails. Seeing 4. Thick	
23 272	12	26	15 ^s to 25 ^s		444	11	33	10 ^s to 30 ^s	haze. No wind.		
			30 " 40					38 10 " 30			
			50 " 65					43 10 " 30			
		27	10 " 30		5	445	10	57	OK		
			40 " 60		446	11	1	"			
	273	12	29	OK		447	11	4	"	Trails.	
24 282	12	4	"		448	11	13	"			
283	12	7	"		449	11	16	"	Trails.		
284	12	10	"	Trails.	450	11	23	"			
285	12	19	"		451	11	26	"	Trails.		
286	12	22	"	Trails.	9	464	10	40	"	Clouds.	
287	12	31	"		465	10	45	20 ^s to 30 ^s			
288	12	34	"	Seeing 2-3. N. wind, 20 miles.				40 " 50			
								46 0 " 15			
25 311	12	2	"	Seeing 3. Wind rising.				20 " 40			
312	12	5	"					50 " 70			
313	12	9	"	Trails. [slightly.							
314	12	17	"	Wind shaking telescope	466	10	48	10 " 20	Trails.		
315	12	20	"	Trails.				34 " 44			
316	12	27	"	Seeing 1-2. Gusty N. wind.				50 " 65			
								49 10 " 30			
26 329	12	1	"					40 " 60			
330	12	4	"								
331	12	7	"	Trails.	467	11	2	OK			
332	12	16	"								
333	12	19	"	Seeing 3. Quiet.	10	484	10	21	"		
					485	10	26	"			
29 353	11	51	"		486	10	29	"	Trails.		
354	11	54	"		487	10	36	"			
355	11	57	"	Trails. Seeing 2. N. wind, 20+ miles.	488	10	39	"	Trails.		
Nov. 1 360	11	38	"		489	10	46	"			
361	11	41	"		490	10	49	"	Trails.		
362	11	44	"	Trails. Seeing 3. Quiet.	491	10	56	"			
					492	10	59	"	Trails. Seeing 4. Fresh S.E. wind.		

MERIDIAN OBSERVATIONS.				MERIDIAN OBSERVATIONS.			
Date. 1900	No. of Plate.	P. S. T.	REMARKS.	Date. 1900	No. of Plate.	P. S. T.	REMARKS.
Nov. 12	518	10 ^h 15 ^m OK		Dec. 3	698	8 ^h 35 ^m OK	
	519	10 18 "			699	8 38 "	
	520	10 21 "			700	8 41 "	
	521	10 28 "			701	8 44 "	
	522	10 31 "	Trails.		702	8 47 "	
	523	10 38 "			703	8 50 "	Trails.
	524	10 41 "	Trails. Seeing 3.				
13	538	10 8 "		5	725	8 17 "	
	539	10 11 "			726	8 20 "	
	540	10 14 "	Trails.		727	8 23 "	
	541	10 22 "			728	8 26 "	
	542	10 25 "	Trails.		729	8 29 "	
	543	10 32 "			730	8 32 "	Seeing 1-3. Strong E.
	544	10 35 "	Trails.		731	8 35 "	Trails. wind.
	545	10 42 "	Seeing 3.				
13	556	10 7 "		6	756	8 13 "	
	557	10 10 "			757	8 16 "	
14	558	10 13 "	Trails. Cloud. Light W. to NW. wind.		758	8 19 "	
23	571	9 16 "			759	8 22 "	
	572	9 19 "			760	8 25 "	
	573	9 22 "	Trails.		761	8 28 "	
	574	9 31 10 ^s to 20 ^s			762	8 31 "	Trails. Seeing 4. Light SE. wind.
		30 " 40		7	787	8 10 "	
		50 " 64			788	8 13 "	
		32 10 " 30			789	8 16 "	
		40 " 60			790	8 19 "	
	575	9 34 OK	Trails.		791	8 22 "	
	576	9 42 "			792	8 25 "	
24	588	9 36 "	Cloudy.		793	8 28 "	Seeing 4. Some haze. Cen- tral part of mirror cov- ered with diaphragm 24 inches in diameter.
27	601	8 57 "			795	8 51 "	
	602	9 0 "		8	819	8 14 "	
	603	9 3 "			820	8 17 "	
	604	9 6 "			821	8 20 10 ^s to 20 ^s	
	605	9 9 "				40 " 50	
	606	9 12 "				21 0 " 10	
	607	9 15 "				20 " 30	
	608	9 18 "	Trails. Seeing 3. Haze.			40 " 60	
28	627	8 55 "			822	8 23 OK	
	628	8 58 "			823	8 26 "	
	629	9 1 "					
	630	9 4 "			824	8 29 "	
	631	9 7 "			825	8 32 "	Trails.
	632	9 10 "					
	633	9 13 "	Trails. Seeing 4.	10	827	8 7 "	
29	660	8 50 "			828	8 10 "	
	661	8 53 "			829	8 13 "	
	662	8 56 "			830	8 16 "	
	663	8 59 "			831	8 19 "	
	664	9 2 "			832	8 22 "	
	665	9 5 "			833	8 25 "	Trails. Seeing 3.
	666	9 8 "	Trails. Seeing 4.				
Dec. 2	679	8 37 "		11	847	8 4 "	
	680	8 40 "			848	8 7 "	
	681	8 43 "			849	8 10 "	
	682	8 46 "			850	8 13 "	
	683	8 49 "			851	8 16 "	
	684	8 52 "			852	8 19 "	
	685	8 55 "	Trails. Seeing 3. Haze.		853	8 22 "	Trails. Seeing 3. Strong SE. wind.

MERIDIAN OBSERVATIONS.

Date. 1900	No. of Plate.	P. S. T.			REMARKS.
Dec. 12	854	8 ^h	5 ^m	OK	
	855	8	8	"	
	856	8	11	"	Trails.
22	877	7	37	"	
	878	7	40	"	
	879	7	43	"	
	880	7	46	"	
	881	7	49	"	Trails.
23	889	7	35	"	
	890	7	38	"	
	891	7	41	"	
	892	7	44	"	
	993	7	47	"	Trails.
24	903	7	34	"	
	904	7	37	10 ^s to 20 ^s	
				30 " 40	
				50 " 70	
		38	12	" 30	
				40 " 60	
	905	7	40	OK	
	906	7	43	"	
	907	7	46	10 ^s to 20 ^s	
				30 " 40	
				50 " 67	
				12 " 22	
				42 " 60	Trails.
26	920	7	35	OK	
	921	7	38	OK	
	922	7	41	"	

MERIDIAN OBSERVATIONS.

Date. 1900	No. of Plate.	P. S. T.			REMARKS.
Dec. 28	930	7 ^h	25 ^m	OK	
	931	7	27	2 ^s to 12 ^s	
				22 " 32	
				42 " 57	
		28	2	" 22	
				32 " 52	
	932	7	31	OK	
	933	7	37	"	High wind. Seeing 1-2.
1901 Jan. 13	935	7	14	OK	
	936	7	17	"	
	937	7	20	"	Seeing 2-3.
15	939	7	8	"	
	940	7	11	"	
	941	7	14	"	High N. wind. Seeing 1-3.
16	942	7	4	"	
	943	7	7	"	
	944	7	10	"	
	945	7	16	"	
	946	7	19	"	Trails.
18	948	7	3	"	
	949	7	6	"	
	950	7	9	"	
	951	7	12	"	
	952	7	15	"	Trails.
26	954	6	59	"	
	955	7	2	"	
	956	7	5	"	
	957	7	8	"	
	958	7	11	"	Trails.
29	960	6	58	"	
	961	7	1	"	
	962	7	4	"	
	963	7	7	"	
	964	7	10	"	Trails.

PARALLAX OBSERVATIONS.

Date. 1900	No. of Plate.	P. S. T.			Elonga- tion.	REMARKS.
Oct. 6	92	8 ^h	27 ^m	OK	E	
	93	8	30	"	"	
	94	8	33	"	"	Trails.
	95	8	42	"	"	
	96	8	45	"	"	Trails.
	104	16	41	"	W	
	105	16	45	10 ^s to 20 ^s	"	
			30	" 40		
			50	" 65		
		46	10	" 31		
			40	" 60		
	106	16	49	OK	W	Trails.
	107	16	59	"	"	
	108	17	2	"	"	Trails. Seeing 3. Full moon.
12	134	7	25	"	E	
	135	7	28	"	"	
	136	7	31	"	"	Trails.
	137	7	39	"	"	
	138	7	43	"	"	Trails.
	139	7	52	10 ^s to 40 ^s	"	
			50	" 80		
			53	30 " 60		
			54	10 " 40		
	140	7	56	10 " 40	E	Trails.
			56	50 " 80		
			57	30 " 60		
			58	10 " 40		
			58	50 " 80		
	145	16	39	OK	W	
	146	16	43	"	"	Trails.
	147	16	51	10 ^s to 20 ^s	"	
			30	" 40		
			50	" 64		
			10	" 30		
			40	" 60		
	148	16	57	OK	W	Trails.
13	150	7	14	"	E	[wind.
	151	7	18	"	"	Seeing 2. Gusty N.
	152	7	21	"	"	Trails. Seeing 1.
	153	7	34	"	"	
	154	7	37	"	"	Trails.
	163	16	46	10 ^s to 20 ^s	W	
			30	" 40		
			51	" 66		
		47	10	" 30		
			40	" 60		
	164	16	49	OK	W	
	165	16	52	"	"	Trails.
	166	17	0	10 ^s to 20 ^s	"	
			30	" 40		
			52	" 67		
		1	10	" 30		
			40	" 60		

PARALLAX OBSERVATIONS.

Date. 1900	No. of Plate.	P. S. T.			Elonga- tion.	REMARKS.
Oct. 13	167	17 ^h	3 ^m	OK	W	Trails.
	168	17	11	"	"	
	169	17	14	"	"	Trails.
14	170	7	29	"	E	
	171	7	32	"	"	
	172	7	36	"	"	Trails.
	173	7	49	"	"	
	174	7	52	"	"	Trails.
	175	8	1	"	"	
	176	8	4	"	"	Trails.
	177	8	14	"	"	
	178	8	17	"	"	Trails. Seeing 2.
	187	16	37	"	W	
	188	16	40	"	"	
	189	16	44	17 ^s to 32 ^s	"	Trails.
			42	" 62		
			46	10 " 20		
			30	" 42		
			50	" 70		
	190	16	56	OK	W	
	191	16	59	"	W	Trails.
	192	17	7	"	W	Trails.
	193	17	10	"	W	Trails. Seeing 4. Light wind.
15	194	7	26	"	E	
	195	7	29	"	"	
	196	7	33	"	"	Trails.
	197	7	43	"	"	
	198	7	46	"	"	Trails.
	199	7	53	"	"	
	200	7	56	"	"	Trails.
	201	8	4	"	"	Seeing 4. No wind.
	202	8	7	"	"	Trails. Some smoke in air.
	213	16	36	"	W	
	214	16	39	"	"	
	215	16	42	"	"	Trails.
	216	16	51	"	"	
	217	16	54	"	"	Trails.
	218	17	2	"	"	
	219	17	5	"	"	Trails.
	220	17	12	"	"	
	221	17	15	"	"	Trails. Seeing 3. Light S. wind.
16	222	7	17	"	E	
	223	7	20	10 ^s to 40 ^s	"	
			50	" 80		
			21	30 " 60		
			22	10 " 40		
			50	" 80		
	224	7	25	10 " 40	E	Trails.
			50	" 80		
		26	30	" 60		
		27	10	" 40		
			50	" 80		
	225	7	35	OK	E	
	226	7	39	"	"	Trails.
	227	7	46	"	"	
	228	7	49	"	"	Trails.
	229	7	57	"	"	Seeing 4. Very little wind, and that from S.
	230	8	0	"	"	

PARALLAX OBSERVATIONS.

Date. 1900	No. of Plate.	P. S. T.	Elonga- tion.	REMARKS.
Oct. 16	239	16 ^h 51 ^m OK	w	
	240	16 54 "	"	
	241	17 0 "	"	Trails.
	242	17 6 — to 20 ^s	"	About 40 ^s . Shutter
		30 ^s to 40		open in begin-
		50 " 65		ning.
		7 10 " 39		
		40 " 60		
	243	17 9 OK	"	Trails.
	244	17 15 "	"	
	245	17 18 "	"	Trails.
21	246	7 0 10 ^s to 20 ^s	E	
		30 " 40		
		50 " 64		
		1 10 " 30		
		40 " 60		
	247	7 3 OK	E	
	248	7 6 "	"	Trails.
	249	7 16 "	"	
	250	7 19 "	"	Trails.
	251	7 25 "	"	
	252	7 28 "	"	Trails.
	253	7 36 "	"	
	254	7 39 "	"	Seeing 4. Very little
				breeze.
	264	16 39 "	w	
	265	16 42 "	"	
	266	16 45 "	"	Trails.
	267	16 53 "	"	
	268	16 56 "	"	Trails.
	269	17 4 "	"	
	270	17 7 10 ^s to 20 ^s	"	Trails.
		8 30 " 40		
		50 " 65		
		9 10 " 30		
		40 " 60		
	271	17 14 OK	w	Seeing 3. Wind 20
				miles, N.W.
24	275	7 6 "	E	Damp.
	276	7 9 "	"	
	277	7 12 "	"	Trails.
	278	7 20 "	"	
	279	7 23 "	"	Trails.
	280	7 30 "	"	Seeing 1-2. Wind
	281	7 33 "	"	Trails. interferes.
				20-25 miles, N.
	291	16 28 10 ^s to 20 ^s	w	
		30 " 40		
		50 " 64		
		29 10 " 30		
		40 " 60		
	292	16 31 OK	w	
	293	16 34 "	"	Trails.
	294	16 43 "	"	
	295	16 46 "	"	Trails.
	296	16 54 "	"	
	297	16 57 "	"	Trails.
	298	17 4 "	"	Seeing 4. No wind.
				Sky good.

PARALLAX OBSERVATIONS.

Date. 1900	No. of Plate.	P. S. T.	Elonga- tion.	REMARKS.
Oct. 25	299	6 ^h 47 ^m OK	E	
	300	6 51 "	"	
	301	6 54 "	"	Trails.
	302	7 0 "	"	
	303	7 3 "	"	Trails.
	304	7 10 "	"	
	305	7 13 "	"	Trails.
	306	7 20 "	"	
	307	7 23 "	"	Trails.
	308	7 29 "	"	
	309	7 32 "	"	Seeing 4. No wind.
26	319	6 51 10 ^s to 20 ^s	E	
		30 " 40		
		54 " 65		
		52 10 " 30		
		40 " 60		
	320	6 54 OK	E	
	321	6 57 "	"	Trails.
	322	7 3 "	"	
	323	7 6 "	"	Trails.
	324	7 12 "	"	
	325	7 15 "	"	Trails.
	326	7 22 "	"	
	327	7 25 "	"	Seeing 4. No wind.
	336	16 38 "	w	
	337	16 41 "	"	
	338	16 44 "	"	Trails.
	339	16 52 10 ^s to 20 ^s	"	
		30 " 40		
		50 " 65		
		53 10 " 30		
		40 " 58		
	340	16 55 OK	w	Trails.
	341	17 2 "	"	
	342	17 5 "	"	Trails.
	343	17 13 "	"	
	344	17 16 "	"	Trails. Seeing 3.
				No wind.
29	345	6 48 "	E	
	346	6 51 "	"	
	347	6 54 "	"	Trails.
	348	7 1 "	"	
	349	7 4 "	"	Trails.
	350	7 11 "	"	
	351	7 14 "	"	Trails. Seeing 2.
				Wind 20 miles,
				N.W.
	357	16 52 "	w	
	358	16 55 "	"	Seeing 2. Wind 15 to
	359	16 59 "	"	Trails. 20 miles N.
Nov. 1	364	16 48 "	"	
	365	16 51 "	"	
	366	16 54 "	"	Trails.
	367	17 3 "	"	
	368	17 6 "	"	Trails.
	369	17 12 "	"	
	370	17 15 "	"	Trails.
	371	17 21 "	"	
	372	17 24 "	"	Seeing 2. A little
				wind at times.

PARALLAX OBSERVATIONS.

Date. 1900	No. of Plate.	P. S. T.	Elonga- tion.	REMARKS.
Nov. 2	373	6 ^h 34 ^m "	E	
	374	6 37 "	"	
	375	6 40 "	"	Trails.
	376	6 48 "	"	
	377	6 51 "	"	Trails.
	378	6 59 "	"	
	379	7 2 "	"	Trails.
	380	7 9 14 st to 24 ^s	"	
		30 " 40		
		50 " 65		
		10 10 " 30		
		40 " 60		
	381	7 12 OK	E	Trails.
	392	16 52 "	W	Some wind.
	393	16 55 "	"	
	394	17 5 "	"	
	395	17 24 "	"	Seeing 2 and 3. Wind of 20-30 miles all night from S.E.
3	396	6 27 "	E	
	397	6 30 "	"	
	398	6 33 "	"	Trails.
	399	6 40 "	"	
	400	6 43 "	"	Trails.
	401	6 49 "	"	
	402	6 52 "	"	Trails.
	403	6 59 "	"	
	404	7 2 "	"	Trails.
	405	7 9 "	"	
	406	7 12 "	"	Seeing 4. S.E. wind.
	417	16 55 "	W	
	418	16 58 "	"	
	419	17 1 "	"	Trails.
	420	17 6 "	"	
	421	17 9 "	"	Trails.
	422	17 15 "	"	
	423	17 18 "	"	
	424	17 23 "	"	
	425	17 26 "	"	
	426	17 29 "	"	Seeing 3.
4	427	6 19 "	E	
	428	6 22 "	"	
	429	6 25 10 st to 20 ^s	"	Trails.
		30 " 40		
		52 " 65		
		26 10 " 30		
		40 " 60		
	430	6 31 OK	E	
	431	6 34 "	"	Trails.
	432	6 41 "	"	Very hazy.
	433	6 47 "	"	Trails.
	434	6 54 "	"	
	435	6 57 "	"	Trails.
	436	7 3 "	"	
	437	7 6 "	"	Trails.
5	453	16 28 "	W	
	454	16 31 "	"	
	455	16 34 "	"	Trails.
	456	16 41 "	"	
	457	16 44 "	"	Trails.
	458	17 2 "	"	
	459	17 5 "	"	Trails.

PARALLAX OBSERVATIONS.

Date. 1900	No. of Plate.	P. S. T.	Elonga- tion.	REMARKS.
Nov. 9	460	7 ^h 15 ^m 20 st to 30 ^s	E	
		40 " 50		
		16 0 " 30		
		40 " 60		
	461	7 18 OK	E	
	462	7 23 10 st to 30 ^s	"	Trails.
		40 " 50		
		24 0 " 10		
		20 " 35		
		40 " 60		
	469	16 44 OK	W	
	470	16 47 "	"	
	471	16 50 10 st to 20 ^s	"	Trails.
		30 " 40		
		50 " 65		
		51 10 " 30		
		42 " 60		
	10 472	6 16 OK	E	
	473	6 19 "	"	
	474	6 22 10 st to 20 ^s	"	Trails.
		30 " 40		
		54 " 65		
		23 10 " 30		
		40 " 60		
	475	6 29 OK	E	
	476	6 32 "	"	Trails.
	477	6 38 "	"	
	478	6 41 "	"	Trails.
	479	6 47 "	"	
	480	6 50 "	"	Trails.
	481	6 58 "	"	
	482	7 1 "	"	Trails. Seeing 4. S.E. wind—light.
	495	15 55 "	W	
	496	15 58 "	"	
	497	16 1 "	"	Trails.
	498	16 7 "	"	
	499	16 10 "	"	Trails.
	500	16 16 "	"	
	501	16 19 "	"	Trails.
	502	16 25 "	"	
	503	16 28 "	"	Trails.
	504	16 36 "	"	
	505	16 39 "	"	Trails. Seeing 3. Strong S.E. wind.
	12 506	6 15 "	E	
	507	6 18 "	"	
	508	6 21 "	"	Trails.
	509	6 28 "	"	
	510	6 31 "	"	Trails.
	511	6 37 "	"	
	512	6 40 "	"	Trails.
	513	6 46 "	"	
	514	6 49 "	"	Trails.
	515	6 55 "	"	
	516	6 58 "	"	Trails. Seeing 4. Lt. S.E. wind.

PARALLAX OBSERVATIONS.

Date. 1900	No. of Plate.	P. S. T.	Elonga- tion.	REMARKS.
Nov. 13	526	6 ^h 9 ^m "	"	
	527	6 12 "	"	
	528	6 15 "	"	Trails.
	529	6 22 "	"	
	530	6 25 "	"	Trails.
	531	6 32 "	"	
	532	6 36 "	"	Trails.
	533	6 42 "	"	
	534	6 45 "	"	Trails.
	535	6 51 "	"	
	536	6 54 "	"	Seeing 3.
14	548	6 17 "	"	
	549	6 20 "	"	
	550	6 23 "	"	Trails.
	551	6 29 "	"	
	552	6 32 "	"	Trails.
	553	6 39 "	"	
	554	6 42 "	"	Trails. Seeing 3. Clouds.
23	559	5 52 "	"	
	560	5 55 "	"	
	561	5 58 10 ^s to 20 ^s		
		30 " 46		
		50 " 65		
		59 10 " 30		
		40 " 60		
	562	6 6 OK	E	
	563	6 9 "	"	
	564	6 12 "	"	
	565	6 15 "	"	
	566	6 18 "	"	
	567	6 21 "	"	
	568	6 24 "	"	
	569	6 27 "	"	Trails.
	578	14 34 "	w	
	579	14 37 "	"	
	580	14 40 "	"	Trails.
	581	14 50 "	"	Trails. Focus ad-
	582	14 57 "	"	justed.
	583	15 0 "	"	Trails.
	584	15 8 "	"	
	585	15 11 "	"	Trails.
	586	15 17 "	"	Trails.
	587	15 20 10 ^s " 15 ^s		
		20 " 25		
		30 " 35		
		40 " 45		
		50 " 60		
		21 10 " 20		
		25 " 35		
		40 " 50		
		55 " 66		Trails.
27	589	5 43 OK	E	
	590	5 46 "	"	
	591	5 49 "	"	
	592	5 52 "	"	
	593	5 55 "	"	
	594	5 58 "	"	
	595	6 1 "	"	

PARALLAX OBSERVATIONS.

Date. 1900	No. of Plate.	P. S. T.	Elonga- tion.	REMARKS.
Nov. 27	596	6 ^h 4 ^m OK	E	
	597	6 7 "	"	
	598	6 10 "	"	
	599	6 13 "	"	Trails. Seeing 3. Lt. breeze—S.
	610	14 18 "	w	
	611	14 21 "	"	
	612	15 10 4 X	"	
	613	15 13 4 X	"	
	614	15 16 4 X	"	Trails. Seeing 3. Lt. NW. wind. Clouds.
28	615	5 56 OK	E	
	616	5 59 "	"	
	617	6 2 "	"	
	618	6 5 "	"	
	619	6 8 "	"	
	620	6 11 "	"	
	621	6 14 "	"	
	622	6 17 "	"	
	623	6 20 "	"	
	624	6 23 "	"	
	625	6 26 "	"	Trails. Seeing 3. Lt. S. wind.
	635	14 3 "	w	
	636	14 6 "	"	
	637	14 9 "	"	
	638	14 12 "	"	
	639	14 15 "	"	
	640	14 18 "	"	
	641	14 21 "	"	
	642	14 24 4 X	"	Passing cloud.
	643	14 40 OK	"	
	644	14 43 "	"	
	645	14 46 "	"	
	646	14 49 "	"	
	647	14 52 "	"	Seeing 3. Trails.
29	648	5 47 "	E	
	649	5 50 "	"	
	650	5 53 "	"	
	651	5 56 "	"	
	652	5 59 "	"	
	653	6 2 "	"	
	654	6 5 "	"	
	655	6 8 "	"	
	656	6 11 "	"	
	657	6 14 "	"	
	658	6 17 "	"	Trails. Seeing 4.
	668	13 57 "	w	
	669	14 0 "	"	
	670	14 3 "	"	
	671	14 6 "	"	
	672	14 9 "	"	
	673	14 12 "	"	
	674	14 16 "	"	
	675	14 19 "	"	
	676	14 22 "	"	
	677	14 25 "	"	
	678	14 28 "	"	Trails. Seeing 4.

PARALLAX OBSERVATIONS.

PARALLAX OBSERVATIONS.

Date. 1900	No. of Plate.	P. S. T.	Elonga- tion.	REMARKS.	Date. 1900	No. of Plate.	P. S. T.	Elonga- tion.	REMARKS.
Dec. 2	687	13 ^b 49 ^m	OK	W	Dec. 7	775	5 ^b 42 ^m	OK	E
	688	13 52	"	"		776	5 45	"	"
	689	13 55	"	"		777	5 48	"	"
	690	13 58	"	"		778	5 51	"	"
	691	14 1	"	"		779	5 54	"	"
	692	14 5	"	"		780	5 58	"	"
	693	14 8	"	"		781	6 1	"	"
	694	14 11	"	"		782	6 4	"	"
	695	14 14	"	"		783	6 7	"	"
	696	14 17	"	"		784	6 10	"	"
	697	14 20	"	" Trails. Seeing 3.		785	6 13	"	" Trails. Seeing 4.
				Haze.					
4	705	5 49	"	E		796	13 3	"	W
	706	5 52	"	"		797	13 6	"	"
	707	5 56	"	"		798	13 9	"	"
	708	5 59	"	"		799	13 12	"	"
	709	6 2	"	"		800	13 15	4 X	
	710	6 5	"	"		801	13 18	4 X	
	711	6 8	"	" Gusty north wind.		802	13 21	4 X	
				Seeing 1-3.		803	13 24	4 X	
5	713	5 43	"	"		804	13 27	4 X	
	714	5 46	"	"		805	13 30	4 X	Seeing 4. Clouds.
	715	5 49	"	"		806	13 33	4 X	Trails.
	716	5 52	"	"					
	717	5 55	"	"					
	718	5 58	"	"	8	807	5 47	"	E
	719	6 1	"	"		808	5 50	"	"
	720	6 4	"	"		809	5 53	"	"
	721	6 7	"	"		810	5 56	"	"
	722	6 10	"	"		811	5 59	10 ^s to 20 ^s	"
	723	6 13	"	" Trails. Seeing 3.				30 " 40	
				Lt. SE. wind.				50 " 65	
	733	13 20	"	W			6 0	10 " 20	
	734	13 23	"	"				30 " 40	
	735	13 26	"	"				52 " 60	
	736	13 29	"	"		812	6 2	OK	E
	737	13 32	"	"		813	6 5	"	"
	738	13 35	"	"		814	6 8	"	"
	739	13 38	"	"		815	6 11	"	"
	740	13 41	"	"		816	6 14	"	"
	741	13 44	"	"		817	6 17	"	" Trails.
	742	13 47	"	"					
	743	13 50	"	" Seeing 3. Lt. SE.	11	835	5 46	"	"
				wind.		836	5 49	"	"
6	744	5 40	"	E		837	5 52	"	"
	745	5 43	"	"		838	5 55	"	"
	746	5 46	"	"		839	5 58	"	"
	747	5 49	"	"		840	6 1	"	"
	748	5 52	"	"		841	6 4	"	"
	749	5 55	"	"		842	6 7	"	"
	750	5 58	"	"		843	6 10	"	"
	751	6 1	"	"		844	6 13	"	"
	752	6 4	"	"		845	6 16	"	" Trails. Seeing 4.
	753	6 7	"	"					Lt. S.E. wind.
	754	6 10	"	" Trails. Seeing 4.	13	857	5 44	"	"
				S.E. breeze.		858	5 47	"	"
	764	13 14	"	W		859	5 50	"	"
	765	13 17	"	"		860	5 53	"	"
	766	13 20	"	"		861	5 56	"	"
	767	13 23	"	"		862	5 59	"	"
	768	13 26	"	"		863	6 2	"	"
	769	13 29	"	"		864	6 5	"	"
	770	13 32	"	"		865	6 8	"	"
	771	13 35	"	"		866	6 11	"	"
	772	13 38	"	"		867	6 14	"	"
	773	13 41	"	"					
	774	13 44	"	" Trails. Seeing 4.					
				Lt. S.E. wind.					

PARALLAX OBSERVATIONS.

Date. 1900	No. of Plate.	P. S. T.			Elonga- tion.	REMARKS.
Dec. 22	869	5 ^h	50 ^m	OK	E	
	870	5	53	"	"	
	871	5	56	"	"	
	872	5	59	"	"	
	873	6	2	"	"	
	874	6	5	"	"	
	875	6	8	"	"	Trails.
	882	12	40	"	W	
	883	12	43	"	"	
	884	12	46	"	"	
24	885	12	49	"	"	
	886	12	52	"	"	
	887	12	55	"	"	
	888	12	58	"	"	
	895	5	47	"	E	
	896	5	50	"	"	
	897	5	53	"	"	
	898	5	56	"	"	
	899	5	59	"	"	
	900	6	2	"	"	
	901	6	5	"	"	Trails.

PARALLAX OBSERVATIONS.

Date. 1900	No. of Plate.	P. S. T.			Elonga- tion.	REMARKS.
	908	12 ^h	34 ^m	OK	W	
	909	12	37	"	"	
	910	12	40	"	"	
	911	12	44	"	"	
	912	12	47	"	"	
	913	12	50	"	"	
	914	12	53	"	"	Trails.
26	915	5	59	"	E	
	916	6	5	"	"	
	917	6	8	"	"	
	918	6	11	"	"	
	919	6	14	"	"	Trails.
28	924	5	47	"	"	
	925	5	50	"	"	
	926	5	53	"	"	
	927	6	0	"	"	
	928	6	3	"	"	
	929	6	6	"	"	Seeing 2-3.

CHARTS AND CONNECTING OBSERVATIONS.

Date. 1900	No. of Plate.	P. S. T.				REMARKS.
Sept. 16	1	14 ^h	38 ^m	to	14 ^h 59 ^m	
17	4	15	52	"	16 7	
18	10	15	11	"	15 31	
19	16	15	11	"	15 31	
24	22	15	9	"	15 29	
25	29	14	51.5	"	15 11.5	
	30	15	15	"	15 25	C
26	37	14	45	"	15 5	
	38	15	8	"	15 18	C
27	46	14	45	"	15 5	
	47	15	9	"	15 19	C
28	57	14	48	"	15 8	
	58	15	13	"	15 23	C
29	64	14	35	"	14 55	
	65	15	4	"	15 14	C
30	71	14	30	"	14 51	
	72	14	56	"	15 6	C
Oct. 1	80	14	33	"	14 53	
	81	14	59	"	15 9	C
5	91	14	22	"	14 42	
6	97	8	55	"	9 5	
	103	14	5	"	14 15	
	103½	14	21	"	14 31	C
7	114	14	1	"	14 11	
	115	14	15	"	14 25	C
8	120	13	53	"	14 3	
	121	14	15	"	20 0	
9	127	14	0	"	14 16±	Light faint. One exposure of 5± min. and 2 short ones.
	128	14	25	"	14 27	Series of 5 exposures same as asteroid without guiding.
10	132	13	44	"	13 52±	Clouds interfere.
		13	55	"	13 58±	
	133	14	6	"	14 11	C
12	141	8	6	"	8 16	
	149	17	4	"	17 14	
13	155	7	46	"	7 56	
	161	13	33	"	13 43	
	162	13	47	"	13 52	C
14	179	8	24	"	8 34	
	185	13	28	"	13 38	
	186	13	42	"	13 47	C
15	203	8	14	"	8 24	
	210	13	24	"	13 34	
	211	13	46	"	13 52	C
	212	13	57	"	14 2	
16	231	8	7	"	8 17	
	237	13	18	"	13 28	
	238	13	31	"	13 36	C
21	255	7	59	"	8 9	
	263	13	17	"	13 27	
23	274	12	40	"	12 50	
24	289	13	3	"	13 13	
	290	13	16	"	13 21	Trails. C
25	310	7	52	"	8 2	
	317	12	31	"	12 41	
	318	12	49	"	12 54	C

CHARTS AND CONNECTING OBSERVATIONS.

Date. 1900	No. of Plate.	P. S. T.				REMARKS.
Oct. 26	328	7 ^h	49 ^m	to	7 ^h 59 ^m	
	334	12	41	"	12 51	
	335	12	54	"	12 59	
29	352	7	21	"	7 31	
	356	12	8	"	12 18	
Nov. 1	363	11	53	"	12 3	
2	382	7	19	"	7 30	
	390	12	10	"	12 20	
	391	12	23	"	12 28	C
3	407	7	37	"	7 47	
	415	11	44	"	11 54	
	416	11	58	"	12 3	C
4	438	7	13	"	7 23	
5	452	11	34	"	11 44	
9	463	7	35	"	7 45	
	468	11	11	"	11 21	
10	483	7	8	"	7 18	
	493	11	8	"	11 18	
	494	11	22	"	11 28	
12	517	7	6	"	7 16	
	525	11	1	"	11 11	
13	537	7	18	"	7 28	
	546	10	46	"	10 56	
	547	11	0	"	11 5	C
14	555	7	3	"	7 13	
23	570	6	37	"	6 47	
	577	9	46	"	9 56	
27	600	6	22	"	6 32	
	609	9	26	"	9 36	
28	626	6	34	"	6 44	
	634	9	22	"	9 32	
29	659	6	26	"	6 36	
	667	9	16	"	9 26	
Dec. 2	686	9	4	"	9 14	
3	704	8	58	"	9 8	
4	712	6	11	"	6 21	
5	724	6	23	"	6 33	
	732	8	45	"	8 55	
6	755	6	17	"	6 27	
	763	8	39	"	8 49	
7	786	6	21	"	6 31	
	794	8	37	"	8 47	
8	818	6	29	"	6 39	
	826	8	40	"	8 20	
10	834	8	36	"	8 46	
11	846	6	25	"	6 35	
13	868	6	24	"	6 34	
22	876	6	16	"	6 26	
23	894	7	56	"	8 6	
24	902	6	14	"	6 24	
26	923	7	50	"	8 0	
28	934	7	40	"	7 50	
1901						
Jan. 13	938	7	29	"	7 39	Trails.
16	947	7	30	"	7 40	
18	953	7	23	"	7 33	
26	959	7	20	"	7 30	
29	965	7	20	"	7 30	

"Connecting" plates are indicated by "C."

METEOROLOGICAL OBSERVATIONS.

Date.	P. S. T.	Thermometer.		Att. Ther.	Barometer.
		Dry.	Wet.		
1900					
Sept. 16	16 ^h	46°7 F	43°4 F		Inches.
	19			47° F	26.02
17		51.0	43.7		
	19			53	26.00
18	15 50 ^m	60.2	49.0		
	19			60	26.04
19	15	59.0			
	19			54	25.95
24	17 15	48.0			
	19			46	25.85
25	15 35	50.7			
	19			48	26.00
26	15 20	54.5			
	19			58	26.10
27	12 35	57.0			
	15 57	56.1			
	19			56	26.13
28	16 0	58.3			
	19			60	26.12
29	15 15	59.0			
	19			60	25.95
30	15 6	52.0		52	25.79
Oct. 1	13 0	36.7	35.0		
	15 10	40.3			
	19			40	25.76
5	14 47	46.5			
	15 5			44	25.97
6	9 7	57.8	43.8	53	26.05
	14 32	55.0	42.5	54	26.08
	17 10	54.1	42.0	53	26.07
7	14 26	57.0	45.0	57	26.13
8	14 22	64.6	49.5	62	26.11
9	14 30	60.0	50.1	64	25.99
10	14 15	56.0	47.1		
	14 33			60	25.79
12	8 18	52.8	48.9	55	25.80
	14 5	51.4	47.5	63	25.80
	17 15	51.0	46.8	56	25.82
13	7 58	53.0	46.1	56	25.88
	13 53	55.5	46.8	57	25.92
	17 20	55.1	47.2	56	25.91
14	7 18	58.0	48.0	58	25.99
	8 25	57.6	47.6	59	26.01
	12 20	58.3	47.0	57	26.12
	13 50	58.5	46.2	59	26.16
	16 25	58.8	47.2	58	26.14
	17 15	59.4	47.2	58	26.13
15	8 25	61.2	49.4	63	26.13
	14 5	57.8	47.9	62	26.15
	17 20	57.0	49.0	60	26.13
16	8 20	62.1	53.0	65	26.10
	13 40	62.0	52.2	64	26.10
	17 25	61.0	51.0	63	26.09
20	8 0	53.2	45.7	52	25.95
21	7 51	59.1	52.1	59	25.98
	13 10	56.0	51.7	58	25.97
	17 25	54.0	50.0	57	25.93
23	13 20	41.8	38.8	46	25.97
24	6 30	46.8	37.2	45	25.95
	8 10	46.2	35.5	46	25.95
	12 0	45.3	34.8	44	25.97
	13 25	46.9	36.5	47	26.00

METEOROLOGICAL OBSERVATIONS.

Date.	P. S. T.	Thermometer.		Att. Ther.	Barometer.
		Dry.	Wet.		
1900					
Oct. 24	16 ^h 15 ^m	44°6 F	36°0 F	44° F	Inches.
	17 20	44.0	36.0	48	25.96
25	6 30	52.6	43.6	51	25.94
	7 50	52.8	43.8	53	25.95
	11 40	53.0	39.0	50	25.95
	12 55	50.2	41.2	51	25.95
26	6 45	51.0	43.5	51	25.95
	8 0	49.8	43.5	52	25.95
	11 50	51.1	42.0	49	25.96
	13 0	50.0	42.0	52	25.94
	16 15	46.6	41.0	47	25.93
	17 25	46.7	40.7	52	25.97
29	6 40	38.3	35.0	37	25.99
	7 35	39.0	34.0	39	25.99
	11 45	38.9	33.5	36	25.99
	12 20	38.8	33.0	38	26.00
	16 50	39.9	33.0	38	25.99
Nov. 1	11 30	49.2	46.0	48	26.05
	12 35	50.3	46.6	52	26.05
	16 25	50.6	46.2	49	26.03
	17 37	51.0	46.4	52	26.05
2	6 25	58.2	49.0	55	26.04
	7 45	57.7	49.0	55	26.04
	10 55	57.5	47.0	55	26.05
	12 30	57.2	47.2	58	26.05
	16 28	57.9	47.7	55	26.06
	17 30	58.2	48.0	58	26.06
3	6 15	61.3	48.6	60	26.08
	7 50	61.0	48.7	60	26.03
	10 55	59.8	48.8	60	26.10
	12 5	59.5	49.0	60	26.09
	17 35	59.3	46.3	62	26.08
4	6 10	60.3	50.5	62	26.09
	7 5	58.6	49.5	63	26.08
	10 55	56.6	45.8	58	26.10
	11 45	56.1	46.3	60	26.12
5	10 45	58.7	47.6	59	26.10
	11 55	57.3	48.0	61	26.10
	16 20	57.0	47.0	58	26.09
	17 10	57.1	47.1	60	26.10
9	8 5	56.4	47.0	55	26.07
	10 30	57.8	46.1	54	26.05
	11 25	54.1	46.1	56	26.05
	17 5	54.6	45.0	54	26.05
10	6 10	59.3	48.5	59	26.08
	7 20	58.3	28.0	60	26.07
	10 10	58.7	48.8	58	26.07
	11 30	59.2	49.0	60	26.08
	15 40	58.9	48.6	58	26.07
	16 45	59.8	48.0	60	26.08
12	6 5	64.3	51.2	65	26.12
	7 20	6.34	49.8	66	26.13
	9 55	60.0	48.9	62	26.13
	11 15	60.0	48.5	63	26.11
13	6 5	61.6	49.8	63	26.05
	7 30	61.7	46.8	64	26.05
	10 0	59.5	45.8	60	26.05
	11 10	59.6	46.4	62	26.05
14	6 10	54.0	46.0	57	26.01
	7 15	53.2	45.7	59	26.02
	10 0	52.3	49.0	55	26.02
	10 30	53.0	49.0	57	26.03

METEOROLOGICAL OBSERVATIONS.

Date.	P. S. T.	Thermometer.		Att. Ther.	Barometer.
1900		Dry.	Wet.		Inches.
Nov. 23	5 ^h 20 ^m	47°4 F	41°2 F	44° F	26.00
	6 50	48.3	39.2	43	26.03
	8 55	48.0	39.0	43	26.05
	10 0	46.2	38.8	44	26.00
	14 20	48.4	40.0	43	26.09
	15 30	47.0	41.0	44	26.04
24	9 50	48.0	44.1	50	26.07
27	5 30	54.0	42.6	51	26.03
	6 35	53.0	42.8	51	26.02
	8 45	50.2	42.0	48	26.03
	9 40	50.6	42.4	49	26.04
	14 10	49.9	41.7	47	26.04
	15 25	51.5	43.0	52	26.05
28	5 50	54.0	40.2	50	26.06
	6 45	53.0	40.0	52	26.07
	8 45	52.3	41.8	50	26.04
	9 35	53.0	42.0	55	26.09
	14 0	49.5	40.4	48	26.06
	15 0	51.8	40.8	52	26.10
29	5 45	56.6	47.2	54	26.11
	6 40	56.0	46.8	55	26.11
	8 45	54.0	46.8	53	26.11
	9 30	54.0	46.8	56	26.13
	13 50	53.0	46.0	52	26.11
	14 35	54.5	46.1	55	26.12
Dec. 2	5 40	60.0	45.3	56	26.14
	6 40	61.0	44.1	57	26.17
	8 30	60.0	45.0	58	26.09
	9 15	60.0	45.3	58	26.07
	13 45	58.4	44.3	57	26.16
	14 25	57.4	44.1	60	26.15
3	8 30	58.5	42.8	57	26.17
	9 10	58.0	43.6	58	26.17
4	5 40	59.0	43.8	56	26.16
	6 30	58.1	43.4	59	26.14
5	5 35	61.0	49.3	61	26.14
	6 35	61.0	47.0	63	26.15
	8 10	59.7	45.2	60	26.14
	9 0	58.1	46.0	61	26.15
	13 15	57.8	46.3	58	26.16
	14 0	58.0	46.0	60	26.15
6	5 35	61.5	48.2	62	26.14
	6 30	60.2	46.3	62	26.15
	7 55	59.9	46.8	60	26.16
	8 50	59.9	47.0	61	26.15
	13 5	57.9	46.1	58	26.13

METEOROLOGICAL OBSERVATIONS.

Date.	P. S. T.	Thermometer.		Att. Ther.	Barometer.	
1900		Dry.	Wet.		Inches.	
Dec. 6	13 ^h 50 ^m	57°2 F	45°4 F	60° F	26.13	
	7	5 40	58.6	48.6	60	26.12
		6 35	58.0	46.0	62	26.12
	7 55	55.8	46.1	58	26.12	
	8 55	56.0	46.5	60	26.10	
	13 0	56.3	47.0	57	26.10	
	13 40	56.2	46.7	58	26.12	
8	5 35	53.5	45.8	56	26.06	
8	6 40	52.0	45.0	59	26.04	
	8 0	53.0	46.0	56	26.03	
	8 50	52.0	45.6	57	26.03	
10	8 0	46.5	40.4	44	26.00	
	8 50	46.5	40.0	49	26.02	
11	5 38	48.5	41.0	48	26.04	
	6 35	48.0	40.4	49	26.06	
	8 0	47.8	40.0	46	26.03	
	8 30	48.0	40.1	48	26.03	
12	8 4	46.0	44.6	45	26.03	
13	5 40	49.3	39.9	47	26.01	
	6 40	48.0	40.0	49	26.03	
22	5 45	41.7	37.9	40	26.00	
	6 30	41.0	36.5	44	26.02	
	7 30	42.0	33.1	39	26.01	
	12 35	43.8	33.0	39	26.03	
	13 5	44.5	33.0	41	26.03	
23	7 25	47.9	37.0	43	26.06	
24	5 45	48.6	44.0	46	26.09	
	6 30	48.3	44.1	49	26.09	
	7 30	49.0	44.0	47	26.12	
	12 30	47.7	44.5	46	26.09	
	13 0	48.0	44.4	47	26.10	
26	5 35	49.8	38.3	46	26.00	
	6 20	49.0	38.0	50	26.00	
	7 30	48.6	38.2	46	26.01	
28	5 30	45.1	35.6	42	26.07	
	6 17	45.2	35.3	42	26.08	
	7 12	43.9	34.5	41	26.07	
	7 55	43.6	34.3	43	26.08	
1901						
Jan. 13	7 50	46.9	41.4	43	26.05	
	15	7 41	44.9	36.2	41	26.03
	16	6 47	49.4	41.4	46	26.11
	7 45	49.1	40.9	49	26.12	
	18	7 35	47.5	39.4	49	25.98
	26	6 50	44.5	37.5	38	25.95
	29	6 50	43.0	36.0	40	25.94