ROYAL OBSERVATORY, GREENWICH.

SPECTROSCOPIC OBSERVATIONS

MADE AT THE

ROYAL OBSERVATORY, GREENWICH,

1884.

MEASURES of DISPLACEMENT of LINES in the SPECTRA of STARS, as compared with those of TERRESTRIAL ELEMENTS, and CONCLUDED MOTIONS in the LINE of SIGHT, from OBSERVATIONS at the ROYAL OBSERVATORY, GREENWICH, in the Year 1884.

Note.—The motion corresponding to the displacement actually observed may be inferred from the Concluded Motion by adding the Earth's Motion algebraically.

The "Half-prism" Spectroscope was used throughout. Each "Half-prism" is compound, and is composed of a flint "half-prism," (*i.e.*, the half of an isosceles prism, cut by a plane perpendicular to the base,) and a crown prism, cemented on the emergent face, so as to form the half of a direct-vision prism. With one such half-prism, a dispersion of about $18\frac{1}{2}°$ from A to H, equivalent to that produced by four flint prisms of 60°, is obtained; and with a train of two a dispersion of about 80°, equivalent to that produced by sixteen flint prisms of 60°. One half-prism was usually employed; when two half-prisms were used the fact is stated in the "Remarks." The dispersions have been inferred from measurements of the distance between b_1 and b_4 as compared with the wave-length measure.

$1^{rev.}$ of the micrometer corresponds, with one "half-prism" to 10·4 tenth-metres or 375 miles per second for the *b* lines, and to 7·91 tenth-metres or 304 miles per second for the F line; and with two "half-prisms" to 2·1 tenth-metres or 77 miles per second for *b*, and to 1·71 tenth-metres or 66 miles per second for F.

$1^{rev.}$ of the screw for opening the slit corresponds to 0·01 inch, or about 10″.

The slit lies north and south when the reading of the Position-Circle is 5°.

The day specified in the first column is the Mean Solar Day in ordinary astronomical reckoning; the hours and minutes are those of Greenwich Sidereal Time.

The velocity of light has been taken as 186,660 miles per second, and the distance of the Sun as 92,250,000 miles.

The estimations of displacements have been made by *indirect* comparison with the comparison-line, except where the contrary is expressly stated. The displacement is estimated in terms of the breadth of the comparison-line.

The sign + denotes a displacement towards the red or a motion of recession, — a displacement towards the blue or a motion of approach.

Date, 1884, Greenwich Sidereal Time.	Observer.	Object.	Line.	Width of Slit.	Displacement.		Earth's Motion in Miles per Second.	Concluded Motion of Stars in Miles per Second.		REMARKS.
					Measured.	Estimated.		Measured.	Estimated.	
d h m				r	r					
Jan. 24. 3. 55	M	Aldebaran	F	0·125	+0·100	+ $\frac{1}{3}$	+ 15·7	+ 14·7	+ 16·2	Spectrum tremulous. Definition only poor. Star-line seen with difficulty.
4. 10	M	,,	F	0·125	+0·118	+ $\frac{1}{3}$	+ 15·7	+ 20·1	+ 22·6	
4. 30	M	Rigel.....	F	0·125	+0·022	+ $\frac{1}{7}$	+ 12·3	— 5·6	— 3·2	Cloud passing; spectrum faint and star-line not well seen.
4. 50	M	,,	F	0·125	+0·024	+ $\frac{1}{7}$	+ 12·3	— 5·0	— 3·2	
5. 5	M	Sirius	F	0·125	—0·022	— $\frac{1}{7}$	+ 5·5	— 12·2	— 14·6	Spectrum very tremulous. Definition bad.
5. 20	M	,,	F	0·125	—0·048	— $\frac{1}{3}$	+ 5·5	— 20·1	— 18·2	Measures made with much difficulty.
6. 30	M	Castor.....	F	0·125	+0·031	+ $\frac{1}{3}$	+ 5·1	+ 4·3	+ 7·6	Light cloud constantly passing interrupted work. Star-line very difficult to see. Spectrum faint. The evening was very unfavourable for observation. Position Circle, 5°.
Jan. 28. 21. 0	M	Sky.....	F	0·125	+0·021			+ 6·4		The coincidence of the two spectra appeared perfect.
	M	,,	F	0·125	+0·023			+ 7·0		
	M	,,	F	0·125	+0·005			+ 1·5		
	M	,,	F	0·125	—0·011			— 3·3		
21. 20	M	,,	F	0·125	—0·007			— 2·1		
4. 35	M	Rigel	F	0·188	+0·104	+ $\frac{1}{3}$	+ 13·0	+ 18·6	+ 28·5	Spectrum very bright and fairly steady. Star-line fairly well defined.
4. 40	M	,,	F	0·188	+0·063	+ $\frac{1}{3}$	+ 13·0	+ 6·1	+ 20·2	
4. 45	M	γ Orionis	F	0·188	+0·023	+ $\frac{1}{7}$	+ 13·7	— 6·7	— 1·9	Spectrum bright and fairly steady.
4. 50	M	,,	F	0·188	+0·087	+ $\frac{1}{3}$	+ 13·7	+ 12·7	+ 19·5	
5. 0	M	β Tauri.....	F	0·188	—0·002	0	+ 13·9	— 14·5	— 13·9	Spectrum bright and fairly steady.
5. 5	M	,,	F	0·188	+0·016	+ $\frac{1}{10}$	+ 13·9	— 9·0	— 5·6	
5. 10	M	δ Orionis	F	0·188	—0·075	— $\frac{1}{3}$	+ 12·8	— 35·6	— 40·4	Cloud beginning to come up. Star only seen in glimpses.
5. 20	M	,,	F	0·188	—0·130	— $\frac{1}{3}$	+ 12·8	— 52·3	— 40·4	
5. 35	M	Sirius	F	0·188	+0·033	+ $\frac{1}{7}$	+ 6·4	+ 3·6	+ 5·4	Direct comparison failed to show displacement in either direction. Spectrum very tremulous. Cloud kept passing. Position Circle, 5°
5. 37	M	,,	F	0·188	+0·019	+ $\frac{1}{10}$	+ 6·4	— 0·6	+ 1·9	
5. 40	M	,,	F	0·188	—0·043	— $\frac{1}{4}$	+ 6·4	— 19·5	— 27·1	
Jan. 29. 21. 0	M	Sky	F	0·188	+0·018			+ 5·5		No displacement perceived.
	M	,,	F	0·188	+0·070			+ 21·3		
	M	,,	F	0·188	—0·035			— 10·6		
21. 15	M	,,	F	0·188	—0·014			— 4·3		Position Circle, 5°.

Date, 1884, Greenwich Sidereal Time.	Observer.	Object.	Line.	Width of Slit.	Displacement.		Earth's Motion in Miles per Second.	Concluded Motion of Stars in Miles per Second.		REMARKS.
					Measured.	Estimated.		Measured.	Estimated.	
d h m				r	r					
Feb. 2. 6. 5	N	β Aurigæ	F	0·185	−0·008	0	+ 12·4	− 14·8	− 12·4	A very doubtful measure. Spectrum faint. Sky cloudy.
6. 38	N	Moon	F	0·185	+0·017			+ 5·1		Moon in cloud. Position Circle, 5°.
Feb. 6. 7. 35	M	Aldebaran	F	0·135	+0·091	+ 3/4	+ 17·6	+ 10·0	+ 10·5	Spectrum tremulous and star-line ill-defined.
7. 45	M	,,	F	0·135	+0·084	+ 3/4	+ 17·6	+ 7·9	+ 10·5	
7. 50	M	Moon	F	0·135	−0·053			− 16·1		The coincidence of the two spectra appeared perfect.
	M	,,	F	0·135	−0·019			− 5·8		
	M	,,	F	0·135	+0·001			+ 0·3		
	M	,,	F	0·135	+0·001			+ 0·3		
7. 55	M	,,	F	0·135	+0·033			+ 10.0		
8. 0	M	Rigel	F	0·135	+0·013	+ 1/4	+ 14·3	− 10·3	− 2·6	Spectrum tremulous, but star-line fairly distinct.
8. 5	M	,,	F	0·135	+0·116	+ 1/2	+ 14·3	+ 21·0	+ 9·1	
8. 25	M	Sirius.....	F	0·135	−0·096	− 1/3	+ 8·4	− 37·5	− 24·0	Spectrum tremulous. Clouds passing.
8. 30	M	,,	F	0·135	−0·097	− 1/3	+ 8·4	− 37·9	− 24·0	
8. 32	M	,,	F	0·135	−0·027	− 1/4	+ 8·4	− 16·6	− 20·1	
8. 35	M	,,	F	0·135	−0·089	− 3/5	+ 8·4	− 35·4	− 36·5	
8. 40	M	Procyon.....	F	0·135	−0·002	0	+ 7·3	− 7·9	− 7·3	
8. 41	M	,,	F	0·135	+0·073	+ 1/2	+ 7·3	+ 14·9	+ 16·1	
8. 43	M	,,	F	0·135	+0·003	0	+ 7·3	− 6·4	− 7·3	
8. 45	M	,,	F	0·135	+0·034	+ 1/4	+ 7·3	+ 3·0	+ 4·4	
8. 55	M	Castor	F	0·135	+0·157	+ 3/4	+ 9·0	+ 38·7	+ 26·1	The F line in this spectrum is very ill-defined.
8. 58	M	,,	F	0·135	+0·030	+ 1/4	+ 9·0	+ 0·1	+ 2·7	
9. 2	M	,,	F	0·135	+0·024	+ 1/5	+ 9·0	− 1·7	+ 6·6	
9. 5	M	,,	F	0·135	+0·071	+ 1/2	+ 9·0	+ 12·6	+ 6·6	
9. 10	M	Pollux	F	0·135	−0·088	− 3/5	+ 8·0	− 34·7	− 36·1	
9. 15	M	,,	F	0·135	−0·113	− 1/2	+ 8·0	− 42·3	− 31·4	
9. 55	M	Regulus.....	F	0·180	+0·005	0	− 3·4	+ 4·9	+ 3·4	Spectrum tremulous; star-line ill-defined.
9. 57	M	,,	F	0·180	+0·012	+ 1/16	− 3·4	+ 7·0	+ 8·6	Measures difficult. Position Circle, 5°.
Feb. 11. 5. 30	M	Capella	F	0·090	+0·161	+ 3/4	+ 15·4	+ 33·5	+ 37·0	Spectrum bright and steady. Star-line well-defined.
5. 35	M	,,	F	0·090	+0·088	+ 3/4	+ 15·4	+ 11·3	+ 37·0	
5. 40	M	Rigel	F	0·090	+0·203	+ 1	+ 14·9	+ 46·8	+ 54·9	
5. 45	M	,,	F	0·090	+0·189	+ 1	+ 14·9	+ 42·5	+ 54·9	
5. 55	M	γ Orionis.....	F	0·090	+0·163	+ 1/2	+ 16·1	+ 33·4	+ 18·8	The star-line was much more distinctly seen during the second and third observations than during the first and last.
5. 58	M	,,	F	0·090	+0·062	+ 1/3	+ 16·1	+ 2·7	+ 7·2	
6. 0	M	,,	F	0·090	+0·059	+ 1/3	+ 16·1	+ 1·8	+ 7·2	
6. 5	M	,,	F	0·090	+0·049	+ 1/4	+ 16·1	− 1·2	+ 1·4	
6. 10	M	β Tauri	F	0·090	−0·059	− 1/3	+ 16·5	− 34·4	− 39·8	Spectrum steady. Star-line well defined.
6. 15	M	,,	F	0·090	−0·086	− 3/5	+ 16·5	− 42·6	− 44·5	
6. 25	M	δ Orionis	F	0·090	+0·036	+ 1/5	+ 15·2	− 4·3	− 1·2	Spectrum tremulous. Star-line very faint and ill-defined.
6. 35	M	,,	F	0·090	−0·033	− 1/10	+ 15·2	− 25·2	− 22·2	
6. 40	M	ε Orionis	F	0·090	+0·014	+ 1/10	+ 15·0	− 11·3	− 8·0	Spectrum tremulous. Star-line very faint and ill-defined.
6. 45	M	,,	F	0·090	−0·048	− 1/5	+ 15·0	− 29·6	− 29·0	
6. 50	M	ζ Orionis	F	0·090	−0·001	0	+ 14·7	− 15·0	− 14·7	Spectrum tremulous. Star-line very faint and ill-defined.
6. 55	M	,,	F	0·090	−0·078	− 2/5	+ 14·7	− 38·4	− 42·7	
7. 5	M	κ Orionis	F	0·090	+0·043	+ 1/5	+ 13·4	− 0·3	+ 14·6	Spectrum and star-line too faint to be observed satisfactorily.
7. 10	M	,,	F	0·090	−0·013	0	+ 13·4	− 17·4	− 13·4	
7. 20	M	Sirius.....	F	0·090	−0·031	− 1/4	+ 9·4	− 24·9	− 26·9	
7. 23	M	,,	F	0·090	−0·151	− 1/2	+ 9·4	− 55·2	− 44·3	
7. 26	M	,,	F	0·090	−0·068	− 1/3	+ 9·4	− 30·1	− 32·7	
7. 30	M	,,	F	0·090	−0·091	− 1/3	+ 9·4	− 37·0	− 32·7	
7. 50	M	Procyon.....	F	0·090	+0·030	+ 1/3	+ 8·7	+ 0·4	+ 14·6	Spectrum bright. Star-line very well seen.
7. 52	M	,,	F	0·090	+0·107	+ 3/5	+ 8·7	+ 23·8	+ 37·9	
7. 54	M	,,	F	0·090	+0·103	+ 3/5	+ 8·7	+ 22·6	+ 33·2	
7. 56	M	,,	F	0·090	+0·086	+ 1/2	+ 8·7	+ 17·4	+ 26·2	
8. 0	M	Castor	F	0·090	+0·046	+ 1/3	+ 10·4	+ 3·6	+ 12·9	
8. 5	M	,,	F	0·090	+0·043	+ 1/4	+ 10·4	+ 2·7	+ 7·1	
8. 10	M	Pollux	F	0·090	−0·118	− 1/2	+ 9·4	− 45·2	− 44·3	
8. 15	M	,,	F	0·090	−0·071	− 1/3	+ 9·4	− 31·0	− 32·7	

Date, 1884, Greenwich Sidereal Time.	Observer.	Object.	Line.	Width of Slit.	Displacement.		Earth's Motion in Miles per Second.	Concluded Motion of Stars in Miles per Second.		REMARKS.
					Measured.	Estimated.		Measured.	Estimated.	
d h m				r	r					
Feb. 11. 8. 20	M	Moon.....	F	0·090	+0·017			+ 5·1		
	M	,,	F	0·090	+0·032			+ 9·7		
	M	,,	F	0·090	−0·022			− 6·7		
	M	,,	F	0·090	+0·003			+ 0·9		
8. 25	M	,,	F	0·090	+0·004			+ 1·2		Position Circle, 5°.
Feb. 12. 6. 42	N	Sirius.....	F	0·204	−0·041	− 1/7	+ 9·6	− 22·0	− 22·2	Spectrum tremulous. Wind high.
6. 45	N	,,	F	0·204	−0·106	− 1/3	+ 9·6	− 41·8	− 38·9	
7. 10	N	Rigel.....	F	0·204	+0·136	+ 3/8	+ 15·0	+ 26·3	+ 17·9	
7. 13	N	,,	F	0·204	+0·106	+ 1/3	+ 15·0	+ 17·2	+ 14·3	
7. 38	N	β Tauri	F	0·204	−0·057	− 1/5	+ 16·7	− 34·0	− 34·2	
7. 42	N	,,	F	0·204	+0·028	0	+ 16·7	− 8·2	− 16·7	
8. 5	N	Procyon.....	F	0·204	+0·127	+ 3/5	+ 9·0	+ 29·6	+ 26·1	
8. 9	N	,,	F	0·204	+0·179	+ 5/5	+ 9·0	+ 45·4	+ 61·7	
8. 49	N	Moon.....	F	0·204	−0·028			− 8·5		The coincidence of the two spectra appeared perfect. The moon was in light cloud.
8. 52	N	,,	F	0·204	−0·011			− 3·3		Position Circle, 5°.
Feb. 15. 4. 50	M	β Tauri	F	0·161	+0·046	+ 1/10	+ 17·1	− 3·1	− 8·5	Definition fair.
4. 55	M	,,	F	0·161	+0·012	+ 1/10	+ 17·1	− 13·5	− 8·5	
5. 0	M	,,	F	0·161	−0·022	− 1/10	+ 17·1	− 23·8	− 25·7	
5. 10	M	,,	F	0·161	+0·004	0	+ 17·1	− 15·9	− 17·1	
5. 20	M	γ Orionis.....	F	0·161	+0·023	+ 1/10	+ 16·6	− 9·6	− 8·0	Definition good.
5. 30	M	,,	F	0·161	+0·098	+ 1/2	+ 16·6	+ 13·2	+ 26·4	
5. 35	M	Rigel.....	F	0·161	+0·128	+ 1/2	+ 15·3	+ 23·6	+ 27·7	Spectrum tremulous, but definition very good.
5. 40	M	,,	F	0·161	+0·103	+ 1/3	+ 15·3	+ 16·0	+ 19·1	
5. 45	M	δ Orionis	F	0·161	+0·049	+ 1/5	+ 15·7	− 0·8	+ 5·8	Spectrum tremulous. Star-line faint, but seen well by glimpses.
5. 50	M	,,	F	0·161	+0·119	+ 2/5	+ 15·7	+ 20·4	+ 18·7	
5. 55	M	ε Orionis	F	0·161	+0·172	+ 3/5	+ 15·5	+ 36·8	+ 41·8	Spectrum tremulous. Star-line faint, but seen well by glimpses.
5. 58	M	,,	F	0·161	+0·089	+ 1/3	+ 15·5	− 11·5	+ 13·1	
6. 0	M	ζ Orionis	F	0·161	+0·008	+ 1/10	+ 15·2	− 12·8	− 6·6	Spectrum tremulous. Star-line faint, but seen well by glimpses.
6. 5	M	,,	F	0·161	+0·014	+ 1/10	+ 15·2	− 10·9	− 6·6	
6. 10	M	κ Orionis	F	0·161	+0·067	+ 1/5	+ 13·9	+ 6·5	+ 3·3	Spectrum tremulous. Star-line faint, but seen well by glimpses.
6. 15	M	,,	F	0·161	+0·117	+ 2/5	+ 13·9	+ 21·6	+ 20·5	
6. 25	M	η Tauri.....	F	0·161	−0·110	− 2/5	+ 18·8	− 52·2	− 53·2	Star-line somewhat broad and diffused.
6. 30	M	,,	F	0·161	−0·034	− 1/10	+ 18·8	− 29·1	− 27·4	Measures made with difficulty, and considered rough.
6. 35	M	γ Persei	F	0·161	−0·087	− 1/3	+ 15·5	− 41·9	− 44·1	Star-line broad, faint, and very diffused; a
6. 40	M	,,	F	0·161	−0·134	− 1/2	+ 15·5	− 56·2	− 58·5	very difficult object to measure satisfactorily.
6. 45	M	β Persei	F	0·161	−0·017	− 1/10	+ 17·4	− 22·5	− 26·0	Star-line broad and dark and somewhat difficult to bisect with accuracy. There seems however no doubt but that the displacement is towards the blue.
6. 50	M	,,	F	0·161	−0·148	− 2/5	+ 17·4	− 62·4	− 69·0	
6. 52	M	,,	F	0·161	−0·145	− 2/5	+ 17·4	− 61·4	− 69·0	
6. 55	M	,,	F	0·161	−0·040	− 1/4	+ 17·4	− 29·5	− 38·9	
7. 0	M	α Persei	F	0·161	−0·176	− 2/5	+ 16·2	− 69·7	− 67·8	Star-line broad and dark and somewhat difficult to bisect with accuracy. There seems however no doubt but that the displacement is towards the blue.
7. 5	M	,,	F	0·161	−0·156	− 2/5	+ 16·2	− 63·6	− 67·8	
7. 10	M	Aldebaran	F	0·161	+0·095	+ 2/5	+ 18·4	+ 10·4	+ 16·0	Spectrum bright, and definition good.
7. 15	M	,,	F	0·161	+0·083	+ 2/5	+ 18·4	+ 6·8	+ 16·0	
7. 30	M	Orion Nebula..	F	0·161	−0·021	− 1/10	+ 15·0	− 21·4	− 23·6	Measures purely tentative. The part of the Nebula examined was that immediately around the Trapezium.
7. 32	M	,,	F	0·161	−0·124	− 2/5	+ 15·0	− 52·7	− 49·4	
7. 34	M	,,	F	0·161	−0·041	− 1/7	+ 15·0	− 27·4	− 27·3	
7. 35	M	,,	F	0·161	−0·058	− 1/10	+ 15·0	− 32·6	− 23·6	
7. 43	M	Sirius.....	F	0·161	−0·097	− 1/3	+ 10·1	− 39·6	− 38·7	Direct comparison showed the star-line to be displaced towards the blue, but only by a small amount.
7. 45	M	,,	F	0·161	−0·020	− 1/10	+ 10·1	− 16·2	− 18·7	
7. 46	M	,,	F	0·161	−0·105	− 1/3	+ 10·1	− 42·0	− 38·7	
7. 47	M	,,	F	0·161	−0·079	− 1/5	+ 10·1	− 34·1	− 27·3	
7. 55	M	Capella	F	0·161	+0·034	+ 1/5	+ 15·9	+ 0·5	+ 12·7	Spectrum steady. Star-line very well defined.
8. 0	M	,,	F	0·161	+0·128	+ 3/5	+ 15·9	+ 23·0	+ 12·7	
8. 2	M	β Aurigæ	F	0·161	+0·017	+ 1/10	+ 14·8	− 9·7	− 6·2	Spectrum steady. Star-line very broad, but measures considered good.
8. 4	M	,,	F	0·161	+0·060	+ 1/5	+ 14·8	+ 3·4	+ 2·4	
8. 12	M	Procyon.....	F	0·161	+0·024	+ 1/10	+ 9·8	− 2·5	− 1·2	Spectrum steady.
8. 15	M	,,	F	0·161	+0·005	0	+ 9·8	− 8·3	− 9·8	

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					Measured.	Estimated.		Measured.	Estimated.	
d h m				r	r					
Feb. 15. 8. 20	M	γ Geminorum..	F	0·161	−0·029	− 1/10	+ 14·2	− 23·0	− 22·8	Spectrum steady. Star-line very broad, but measures considered good.
8. 22	M	,,	F	0·161	−0·080	− 1/4	+ 14·2	− 38·5	− 35·7	
8. 27	M	Castor.....	F	0·161	+0·123	+ 1/2	+ 11·5	+ 25·9	+ 31·5	Spectrum steady. Observations considered good.
8. 30	M	,,	F	0·161	+0·108	+ 1/2	+ 11·5	+ 21·3	+ 31·5	
8. 35	M	Pollux	F	0·161	−0·170	− 3/5	+ 10·5	− 62·1	− 62·1	Spectrum steady. Observations considered good.
8. 36	M	,,	F	0·161	−0·207	− 3/5	+ 10·5	− 73·4	− 62·1	
8. 38	M	,,	F	0·161	−0·153	− 2/3	+ 10·5	− 57·0	− 67·8	
8. 40	M	,,	F	0·161	−0·151	− 1/2	+ 10·5	− 56·3	− 53·5	
										Position Circle, 5°.
Feb. 16. 22. 0	M	Sky.....	F	0·161	−0·019			− 5·8		The coincidence of the two spectra appeared perfect.
	M	,,	F	0·161	+0·037			+ 11·3		
	M	,,	F	0·161	+0·024			+ 7·3		
	M	,,	F	0·161	+0·010			+ 3·0		
22. 20	M	,,	F	0·161	−0·015			− 4·6		
										Position Circle, 5°.
Feb. 18. 4. 55	M	Orion Nebula .	F	0·175	−0·161		+ 15·3	− 64·2		The F line in the spectrum of the Nebula was faint, very much fainter than the line at λ 5005. The measures, therefore, are not trustworthy. The two-prism train was also tried, but it was not found possible to obtain any satisfactory measures with it. The line λ 5005 was examined with this latter dispersion, the slit being very narrow, and was seen to be a single line. None of the lines in the spectrum of the Nebula, are however, very sharp. λ 5005 showed a faint fringe mainly on the side nearer the blue.
4. 58	M	,,	F	0·175	−0·100		+ 15·3	− 45·7		
5. 2	M	,,	F	0·175	−0·126		+ 15·3	− 53·6		
5. 5	M	,,	F	0·175	−0·090		+ 15·3	− 42·6		
5. 44	M	Rigel.....	F	0·175	+0·133	+ 1/10	+ 15·5	− 6·8	− 6·1	Spectrum faint and tremulous. Star-line difficult to see. Definition poor. Two prism train.
5. 46	M	,,	F	0·175	+0·346	+ 1/4	+ 15·5	+ 7·2	+ 7·9	
5. 50	M	γ Orionis	F	0·175	+0·267	+ 1/4	+ 17·0	+ 0·5	+ 6·4	Two prism train. Spectrum fairly steady, but star-line faint.
5. 55	M	,,	F	0·175	−0·097	− 1/10	+ 17·0	− 23·8	− 26·8	
6. 0	M	β Tauri	F	0·175	−0·176	− 1/5	+ 17·4	− 29·0	− 36·1	Two prism train. Spectrum fairly steady, but star-line faint.
6. 5	M	,,	F	0·175	−0·042	− 1/10	+ 17·4	− 20·2	− 26·8	
6. 15	M	δ Orionis.....	F	0·175	+0·320	+ 1/5	+ 16·0	+ 5·0	+ 2·7	Two prism train. Spectrum fairly steady, but star-line exceedingly faint. Measures very doubtful.
6. 17	M	,,	F	0·175	+0·619	+ 1/2	+ 16·0	+ 24·6	+ 30·8	
6. 22	M	ε Orionis.....	F	0·175	+0·368	+ 1/3	+ 15·9	+ 8·3	+ 15·3	Two prism train. Spectrum fairly steady, but star-line faint. Definition fair.
6. 25	M	,,	F	0·175	+0·270	+ 1/4	+ 15·9	+ 1·8	+ 7·5	
6. 33	M	ζ Orionis	F	0·175	+0·075	+ 1/10	+ 15·6	− 10·7	− 6·2	Two prism train. Spectrum fairly steady but star-line faint. Definition fair.
6. 35	M	,,	F	0·175	+0·327	+ 1/5	+ 15·6	+ 5·9	+ 3·1	
6. 43	M	Sirius	F	0·175	−0·069	− 1/10	+ 10·6	− 15·1	− 20·0	Two prism train. The F line in the spectrum of Sirius is not only broad and diffused, but it is not at all dark. Measures considered satisfactory.
6. 46	M	,,	F	0·175	+0·030	0	+ 10·6	− 8·6	− 10·6	
6. 47	M	,,	F	0·175	−0·342	− 3/10	+ 10·6	− 33·1	− 38·7	
6. 50	M	,,	F	0·175	−0·047	− 1/10	+ 10·6	− 13·7	− 20·0	
										Position Circle, 5°.
Feb. 21. 5. 41	M	Venus.....	F	0·216	−0·085	− 2/5		− 25·8	− 36·6	Calculated motion −6·4 miles per second. Measures not considered satisfactory. Planet obscured by cloud.
5. 42	M	,,	F	0·216	−0·068	− 1/3		− 20·7	− 30·5	
6. 5	M	β Arietis.....	F	0·216	−0·145	− 1/2	+ 17·6	− 61·6	− 63·3	
6. 8	M	,,	F	0·216	−0·101	− 1/3	+ 17·6	− 48·3	− 48·1	
6. 31	M	γ Persei	F	0·216	+0·163	+ 1/2	+ 15·4	+ 34·1	+ 30·3	Star-line faint and very ill-defined.
6. 33	M	,,	F	0·216	+0·147	+ 1/2	+ 15·4	+ 29·3	+ 30·3	
6. 46	M	Aldebaran	F	0·216	+0·142	+ 1/2	+ 18·6	+ 24·5	+ 27·1	Definition very bad.
6. 47	M	,,	F	0·216	+0·096	+ 1/5	+ 18·6	+ 10·5	+ 18·0	
6. 54	M	β Tauri.....	F	0·216	−0·034	− 1/5	+ 17·7	− 28·0	− 36·0	Star-line well seen.
6. 55	M	,,	F	0·216	−0·044	− 1/4	+ 17·7	− 31·1	− 40·5	

Date, 1884, Greenwich Sidereal Time.	Observer.	Object.	Line.	Width of Slit.	Displacement.		Earth's Motion in Miles per Second.	Concluded Motion of Stars in Miles per Second.		REMARKS.
					Measured.	Estimated.		Measured.	Estimated.	
d h m				r	r					
Feb. 21. 7. 0	M	γ Orionis	F	0·216	+0·050	+ $\frac{1}{5}$	+ 17·2	− 2·0	+ 1·1	Spectrum tremulous. Star-line fairly well seen.
7. 2	M	,,	F	0·216	+0·069	+ $\frac{1}{4}$	+ 17·2	+ 3·8	+ 5·6	
7. 8	M	Rigel.....	F	0·216	+0·116	+ $\frac{2}{3}$	+ 15·7	+ 19·6	+ 20·9	Spectrum very tremulous. Star-line only well seen by glimpses.
7. 12	M	,,	F	0·216	+0·116	+ $\frac{2}{3}$	+ 15·7	+ 19·6	+ 20·9	Position Circle, 5°.
Feb. 29. 6. 54	N	Venus.....	F	0·216	−0·154	− $\frac{1}{2}$		− 46·8	− 45·7	Calculated motion −6·8 miles per second.
6. 57	N	,,	F	0·216	−0·172	− $\frac{1}{2}$		− 52·2	− 45·7	Sky hazy.
7. 15	N	Moon	F	0·216	−0·034			− 10·3		Spectrum faint. Sky hazy.
7. 20	N	,,	F	0·216	−0·020			− 6·1		
7. 58	N	Capella.....	F	0·216	+0·047	+ $\frac{1}{6}$	+ 17·0	− 2·7	− 1·8	Measures doubtful. Sky hazy.
8. 7	N	,,	F	0·216	+0·016	0	+ 17·0	− 21·9	− 17·0	Position Circle, 5°.
Mar. 10. 7. 0	M	Orion Nebula .	F	..	..	..	..	..	..	With neither one nor two prism trains, after very careful direct comparison (the light from the comparison tube being weakened until it could be compared directly with the light from the Nebula), could any displacement be detected; the coincidence of the two spectra was evidently very close.
7. 59	M	γ Orionis	F	0·215	−0·011	0	+ 17·8	− 14·5	− 17·8	Star-line fairly well defined.
8. 1	M	,,	F	0·215	+0·057	+ $\frac{1}{5}$	+ 17·8	− 0·5	− 3·6	
8. 12	M	β Tauri	F	0·215	−0·112	− $\frac{1}{3}$	+ 18·5	− 52·5	− 42·2	Star-line fairly well defined.
8. 14	M	,,	F	0·215	−0·020	− $\frac{1}{10}$	+ 18·5	− 24·6	− 25·6	
8. 28	M	Sirius	F	0·215	−0·089	− $\frac{1}{3}$	+ 13·3	− 40·3	− 37·0	Spectrum very tremulous. Star-line very ill-defined.
8. 30	M	,,	F	0·215	−0·017	− $\frac{1}{10}$	+ 13·3	− 18·4	− 20·4	
8. 31	M	,,	F	0·215	−0·088	− $\frac{2}{5}$	+ 13·3	− 40·0	− 41·7	
8. 32	M	,,	F	0·215	−0·111	− $\frac{2}{5}$	+ 13·3	− 47·0	− 41·7	
8. 36	M	Procyon	F	0·215	−0·071	− $\frac{1}{4}$	+ 14·9	− 36·5	− 32·7	Star-line very well defined. Displacement towards the blue, but only very slight.
8. 38	M	,,	F	0·215	−0·014	− $\frac{1}{10}$	+ 14·9	− 19·2	− 22·0	
8. 39	M	,,	F	0·215	−0·044	− $\frac{1}{10}$	+ 14·9	− 28·3	− 22·0	
8. 40	M	,,	F	0·215	−0·021	− $\frac{1}{7}$	+ 14·9	− 21·3	− 25·0	
8. 59	M	γ Geminorum .	F	0·215	+0·178	+ $\frac{3}{5}$	+ 17·7	+ 36·4	+ 25·0	
9. 2	M	,,	F	0·215	+0·042	+ $\frac{1}{10}$	+ 17·7	− 5·0	+ 3·6	
9. 8	M	Moon	F	0·215	+0·010			+ 3·0		The coincidence of the two spectra appeared perfect.
	M	,,	F	0·215	−0·019			− 5·8		
	M	,,	F	0·215	−0·006			− 1·8		
	M	,,	F	0·215	−0·003			− 0·9		
9. 20	M	,,	F	0·215	+0·014			+ 4·3		Position Circle, 5°.
Mar. 12. 7. 35	M	Aldebaran	F	0·226	+0·185	+ $\frac{2}{3}$	+ 17·9	+ 38·3	+ 18·7	Definition very bad.
7. 40	M	,,	F	0·226	+0·240	+ $\frac{3}{5}$	+ 17·9	+ 55·0	+ 37·0	
7. 55	M	Rigel	F	0·226	+0·151	+ $\frac{1}{3}$	+ 15·8	+ 30·0	+ 14·7	Spectrum very tremulous. Star-line difficult to see.
8. 0	M	,,	F	0·226	+0·109	+ $\frac{2}{3}$	+ 15·8	+ 17·3	+ 20·8	
8. 30	M	Orion Nebula..	F	..	..	..	..	..	..	Spectrum too faint to obtain any measures. The hydrogen spectrum was brought down to almost exactly the same intensity as the light from the Nebula, and direct comparison with one prism train showed coincidence as complete as could be detected considering the faintness of the two spectra. The line at λ 5005 being very much brighter than the F line, it was carefully bisected, when the stars of the trapezium were on the slit, and then by means of the slow motion rods other parts of the Nebula were brought on to the slit. No part of the Nebula, which was sufficiently bright to show the pointer well on the 5005 line,

Date, 1884, Greenwich Sidereal Time.	Observer.	Object.	Line.	Width of Slit.	Displacement. Measured.	Displacement. Estimated.	Earth's Motion in Miles per Second.	Concluded Motion of Stars in Miles per Second. Measured.	Concluded Motion of Stars in Miles per Second. Estimated.	REMARKS.
d h m				r	r					
Mar. 12. 8. 30 —*cont.*										showed any *marked* displacement, but at a point a little preceding the trapezium it was thought that the pointer did not seem perfectly central on the line, but a little (perhaps $\frac{1}{10}$, certainly not more) towards the red.
8. 40	M	γ Orionis	F	0·226	−0·018	− $\frac{1}{10}$	+ 17·8	− 23·3	− 26·9	Spectrum very tremulous. Definition poor.
8. 45	M	,,	F	0·226	+0·068	+ $\frac{1}{4}$	+ 17·8	+ 2·9	+ 5·0	
8. 55	M	β Tauri.....	F	0·226	+0·022	0	+ 18·5	− 11·8	− 18·5	Spectrum tremulous. Definition poor.
9. 0	M	,,	F	0·226	−0·029	0	+ 18·5	− 27·3	− 18·5	
9. 15	M	Sirius	F	0·226	+0·070	+ $\frac{1}{10}$	+ 13·5	+ 7·8	− 4·4	Spectrum *very* tremulous. Star in much mist, and spectrum faint. The measures, however, which were wholly independent, were unusually accordant, and the star-line, perhaps on account of the faintness of the spectrum, appeared better defined at the edges than usual.
9. 20	M	,,	F	0·226	+0·041	+ $\frac{1}{10}$	+ 13·5	− 1·1	− 4·4	
9. 23	M	,,	F	0·226	+0·065	+ $\frac{1}{5}$	+ 13·5	+ 6·2	+ 4·8	
9. 25	M	,,	F	0·226	+0·045	+ $\frac{1}{5}$	+ 13·5	+ 0·2	+ 4·8	
9. 55	M	Moon	F	0·226	−0·010			− 3·0		The coincidence of the two spectra appeared very satisfactory.
10. 0	M	,,	F	0·226	−0·008			− 2·4		Position Circle, 5°.
Mar. 15. 7. 50	M	Sirius	F	0·209	+0·077	+ $\frac{1}{3}$	+ 13·7	+ 9·7	+ 8·6	Spectrum tremulous but very bright, and star-line well seen. The observations seemed to show that there was very little displacement, what there was being towards the red.
8. 0	M	,,	F	0·209	−0·045	− $\frac{1}{10}$	+ 13·7	− 27·4	− 20·4	
8. 10	M	,,	F	0·209	+0·023	+ $\frac{1}{20}$	+ 13·7	− 6·7	− 10·4	
8. 20	M	,,	F	0·209	+0·050	+ $\frac{1}{5}$	+ 13·7	+ 1·5	− 0·3	
8. 40	M	γ Geminorum..	F	0·209	−0·031	− $\frac{1}{7}$	+ 18·0	− 27·4	− 27·6	Spectrum steady, and star-line well seen, but a *most* difficult one to bisect.
8. 50	M	,,	F	0·209	−0·025	− $\frac{1}{7}$	+ 18·0	− 25·6	− 27·6	
9. 5	M	Procyon	F	0·209	−0·030	− $\frac{1}{7}$	+ 15·7	− 24·8	− 25·3	Spectrum steady, but star-line somewhat faint. Definition good.
9. 10	M	,,	F	0·209	−0·106	− $\frac{1}{2}$	+ 15·7	− 47·9	− 49·1	
9. 15	M	,,	F	0·209	−0·026	− $\frac{1}{10}$	+ 15·7	− 23·6	− 22·4	
9. 20	M	,,	F	0·209	−0·070	− $\frac{1}{3}$	+ 15·7	− 37·0	− 38·0	
9. 35	M	Pollux	F	0·209	−0·096	− $\frac{1}{2}$	+ 16·4	− 45·5	− 49·8	Spectrum bright and steady, but star-line very faint.
9. 45	M	,,	F	0·209	−0·038	− $\frac{1}{5}$	+ 16·4	− 28·0	− 29·8	
9. 55	M	Castor.....	F	0·209	+0·032	+ $\frac{1}{7}$	+ 16·8	− 7·1	− 7·2	Spectrum bright and steady, but star-line difficult to bisect.
10. 5	M	,,	F	0·209	+0·070	+ $\frac{1}{4}$	+ 16·8	+ 4·5	− 0·1	
10. 15	M	Mars.....	F	0·209	+0·054	+ $\frac{1}{5}$		+ 16·4	+ 13·4	Calculated motion +8·1 miles per second. Spectrum bright and steady. Planet-line very faint and difficult to see.
10. 25	M	,,	F	0·209	+0·060	+ $\frac{1}{5}$		+ 18·2	+ 13·4	
10. 45	M	Regulus	F	0·209	+0·097	+ $\frac{2}{5}$	+ 8·6	+ 20·9	+ 18·1	Spectrum bright and steady. Star-line somewhat difficult to bisect from its breadth and diffused edges. The two measures secured seemed quite satisfactory.
10. 55	M	,,	F	0·209	+0·091	+ $\frac{2}{5}$	+ 8·6	+ 19·0	+ 18·1	
										Throughout the evening the spectra were bright and steady, but the definition of the lines in the star-spectra was only poor. Position Circle, 5°.
Mar. 20. 8. 8	N	Capella	b_1	0·120	+0·026	+ $\frac{1}{10}$	+ 16·8	− 7·1	− 4·6	Spectrum tremulous. Wind high. Measures made with difficulty.
8. 40	N	,,	b_1	0·120	+0·054	+ $\frac{1}{5}$	+ 16·8	+ 3·5	+ 7·5	
9. 14	N	Aldebaran	b_1	0·120	+0·024	+ $\frac{1}{10}$	+ 17·0	− 8·0	− 4·8	
9. 25	N	,,	b_1	0·120	+0·081	+ $\frac{1}{4}$	+ 17·0	+ 13·4	+ 13·4	
9. 51	N	α Orionis	b_4	0·120	+0·180	+ $\frac{3}{5}$	+ 17·7	+ 49·9	+ 46·5	Star-line broad and diffused. The b_1 line could not be detected.
10. 2	N	,,	b_4	0·120	+0·118	+ $\frac{2}{5}$	+ 17·7	+ 26·6	+ 25·1	
10. 5	N	,,	b_4	0·120	+0·093	+ $\frac{1}{3}$	+ 17·7	+ 17·2	+ 18·0	Position Circle, 5°.
Mar. 24. 8. 38	M	Venus.....	b_1	0·090	−0·107	− $\frac{1}{2}$		− 40·1	− 40·9	Calculated motion −7·6 miles per second. Planet-lines faint. Displacement clearly to blue.
8. 39	M	,,	b_1	0·090	−0·083	− $\frac{1}{3}$		− 31·2	− 27·3	
8. 40	M	,,	b_1	0·090	−0·170	− $\frac{1}{2}$		− 63·9	− 40·9	
8. 41	M	,,	b_1	0·090	−0·100	− $\frac{1}{3}$		− 37·5	− 27·3	
8. 50	M	Aldebaran	b_1	0·090	+0·098	+ $\frac{1}{2}$	+ 16·4	+ 20·4	+ 24·5	Spectrum and star-line very faint.
8. 53	M	,,	b_1	0·090	+0·132	+ $\frac{1}{2}$	+ 16·4	+ 33·1	+ 24·5	

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					Measured.	Estimated.		Measured.	Estimated.	
d h m				r	r					
Mar. 24. 9. 3	M	α Orionis	b_1	0·090	+0·144	+ 3/3	+ 17·6	+ 36·5	+ 31·5	Definition good. Star lines sufficiently well defined for b_1 to be isolated. Measures considered very satisfactory.
9. 5	M	,,	b_1	0·090	+0·202	+ 4/3	+ 17·6	+ 58·2	+ 47·7	
9. 6	M	,,	b_1	0·090	+0·106	+ 3/3	+ 17·6	+ 22·2	+ 31·5	Spectrum tremulous. Not nearly so well seen as in the first two observations.
9. 8	M	,,	b_1	0·090	+0·118	+ 1/2	+ 17·6	+ 26·8	+ 23·3	
9. 17	M	Pollux	b_1	0·090	−0·082	− 1/3	+ 17·4	− 48·2	− 44·7	Spectrum bright, but tremulous. Star-line clearly seen.
9. 18	M	,,	b_1	0·090	−0·092	− 2/3	+ 17·4	− 51·9	− 50·1	
10. 12	M	Mars.....	b_1	0·090	+0·036	+ 1/4		+ 13·5	+ 20·5	Calculated motion +8·8 miles per second.
10. 13	M	,,	b_1	0·090	+0·031	+ 1/4		+ 11·6	+ 20·5	Spectrum bright and steady. Planet-lines well seen.
10. 30	M	α Hydræ.....	b_1	0·090	+0·083	+ 2/3	+ 10·7	+ 20·5	+ 22·0	Spectrum faint and tremulous. Star-line very difficult to see. Measures very uncertain.
10. 40	M	,,	b_1	0·090	+0·054	+ 1/3	+ 10·7	+ 9·6	+ 16·6	
11. 0	M	γ Leonis.....	b_1	0·090	+0·099	+ 2/3	+ 10·9	+ 26·3	+ 21·8	Spectrum fairly bright, but star-line not well seen.
11. 10	M	,,	b_1	0·090	−0·057	− 1/3	+ 10·9	− 32·3	− 38·2	
11. 25	M	ε Virginis.....	b_1	0·090	+0·025	+ 1/10	− 1·1	+ 10·5	+ 9·3	Spectrum faint. Star-lines seen with great difficulty.
11. 35	M	,,	b_1	0·090	−0·026	− 1/10	− 1·1	− 8·6	− 7·1	
11. 55	M	Arcturus	b_1	0·090	−0·151	− 2/3	− 4·8	− 51·9	− 49·7	Star-lines seen very well.
12. 5	M	,,	b_1	0·090	−0·157	− 2/3	− 4·8	− 54·0	− 49·7	Position Circle, 5°.
Mar. 29. 10. 11	N	Capella.....	b_1	0·110	+0·026	+ 1/10	+ 16·0	− 6·3	− 7·4	
10. 17	N	,,	b_1	0·110	+0·121	+ 1/2	+ 16·0	+ 29·5	+ 27·0	Position Circle, 5°.
Apr. 5. 10. 27	N	Moon	F	0·182	−0·020			− 6·1		
10. 30	N	,,	F	0·182	−0·013			− 4·0		
10. 35	N	,,	F	0·182	−0·026			− 7·9		
11. 33	N	Spica	F	0·182	−0·130	− 1/2	− 1·8	− 37·7	− 38·8	Spectrum faint. Measures difficult and rough.
12. 37	N	Arcturus.....	F	0·182	−0·208	− 3/4	− 1·6	− 61·6	− 59·2	Spectrum faint. Measures made with difficulty.
12. 40	N	,,	F	0·182	−0·130	− 1/2	− 1·6	− 37·9	− 39·0	Position Circle, 6°.
Apr. 10. 9. 25	M	Sirius	F	0·063	−0·051	− 1/3	+ 13·9	− 29·4	− 31·3	Spectrum very faint, but steady. Star-line fairly well seen.
9. 35	M	,,	F	0·063	−0·104	− 1/3	+ 13·9	− 45·5	− 42·9	Marked displacement to blue.
9. 40	M	Procyon	F	0·063	−0·016	0	+ 17·5	− 22·4	− 17·5	Spectrum faint, but steady. Star-line very difficult to bisect.
9. 45	M	,,	F	0·063	+0·158	+ 2/3	+ 17·5	+ 30·5	+ 17·3	
9. 50	M	,,	F	0·063	+0·141	+ 2/3	+ 17·5	+ 25·3	+ 17·3	
9. 55	M	,,	F	0·063	+0·067	+ 1/3	+ 17·5	+ 2·9	− 0·1	
11. 1	M	Regulus	F	0·063	−0·009	0	+ 14·7	− 17·4	− 14·7	Spectrum very faint. Star-line broad and ill-defined. Measures very difficult.
11. 6	M	,,	F	0·063	+0·067	+ 1/4	+ 14·7	+ 5·7	+ 7·0	
11. 15	M	β Leonis.....	F	0·063	−0·181	− 1/2	+ 9·3	− 64·4	− 54·0	
11. 20	M	,,	F	0·063	−0·003	0	+ 9·3	− 10·2	− 9·3	
11. 28	M	Moon	F	0·063	+0·006			+ 1·8		
11. 30	M	,,	F	0·063	−0·013			− 4·0		
11. 31	M	,,	F	0·063	+0·050			+ 15·2		
11. 32	M	,,	F	0·063	+0·026			+ 7·9		
11. 33	M	,,	F	0·063	+0·008			+ 2·4		Position Circle, 6°.
Apr. 12. 11. 27	N	Regulus	F	0·292	−0·023	0	+ 15·0	− 22·0	− 15·0	Spectrum somewhat faint. Sky hazy. Measures probably not entitled to much weight.
11. 51	N	,,	F	0·292	−0·006	0	+ 15·0	− 16·8	− 15·0	
12. 17	N	Arcturus	F	0·292	−0·100	− 1/4	+ 0·3	− 30·7	− 28·9	
12. 20	N	,,	F	0·292	−0·253	− 3/3	+ 0·3	− 77·1	− 76·6	
12. 28	N	,,	F	0·292	−0·188	− 1/2	+ 0·3	− 57·4	− 57·5	
12. 40	N	Moon	F	0·292	−0·013			− 4·0		Misty.
12. 50	N	,,	F	0·292	−0·002			− 0·6		Position Circle, 6°.

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Apr. 28. 12. 40	M	Regulus	F	0·208	+0·018	+ 1/10	+ 17·1	− 11·6	− 8·2	Spectrum faint and rather tremulous.
12. 43	M	,,	F	0·208	+0·042	+ 1/5	+ 17·1	− 4·4	+ 12·6	
12. 54	M	β Leonis	F	0·208	−0·159	− 1/2	+ 13·4	− 61·8	− 57·9	Spectrum tremulous and faint.
12. 56	M	,,	F	0·208	−0·104	− 1/3	+ 13·4	− 45·0	− 49·0	
13. 10	M	Arcturus	F	0·208	−0·074	− 1/3	+ 4·4	− 26·9	− 34·1	Star-line only seen by glimpses.
13. 20	M	,,	F	0·208	−0·153	− 1/2	+ 4·4	− 50·9	− 48·9	
13. 40	M	α Coronæ Bor..	F	0·208	+0·104	+ 1/3	− 0·3	+ 31·9	+ 44·8	Spectrum faint and unsteady. Star-line not well seen.
13. 50	M	,,	F	0·208	+0·164	+ 1/2	− 0·3	+ 50·1	+ 44·8	Position Circle, 5°.
May 13. 13. 48	N	Regulus	F	0·282	+0·072	+ 1/5	+ 17·9	+ 4·0	+ 4·4	
14. 10	N	,,	F	0·282	+0·083	+ 1/4	+ 17·9	+ 7·3	+ 10·0	
14. 35	N	Arcturus.....	F	0·282	−0·170	− 1/3	+ 8·0	− 59·6	− 63·7	
14. 40	N	,,	F	0·282	−0·229	− 1/3	+ 8·0	− 77·5	− 82·3	
15. 5	N	Moon	F	0·282	+0·002			+ 0·6		
15. 10	N	,,	F	0·282	−0·018			− 5·5		
15. 40	N	α Lyræ.....	F	0·282	−0·094	− 1/4	− 6·5	− 22·1	− 21·4	
15. 45	N	,,	F	0·282	−0·093	− 1/4	− 6·5	− 21·8	− 21·4	Position Circle, 5°.
May 22. 16. 5	N	β Leonis.....	F	0·194	−0·029	− 1/10	+ 16·7	− 25·5	− 25·2	Spectrum faint. Star-line indistinct.
16. 20	N	,,	F	0·194	−0·134	− 1/2	+ 16·7	− 57·4	− 59·1	
16. 49	N	Arcturus	F	0·194	−0·127	− 1/3	+ 9·8	− 48·4	− 52·2	
16. 55	N	,,	F	0·194	−0·161	− 1/2	+ 9·8	− 58·6	− 66·3	
17. 15	N	α Coronæ Bor..	F	0·194	+0·079	+ 1/3	+ 4·7	+ 19·3	+ 23·6	Star-line somewhat diffused.
17. 22	N	,,	F	0·194	+0·059	+ 1/5	+ 4·7	+ 13·2	+ 12·2	
18. 0	N	α Lyræ.....	F	0·194	−0·083	− 1/3	− 5·6	− 19·6	− 22·7	
18. 8	N	,,	F	0·194	−0·092	− 1/3	− 5·6	− 22·4	− 22·7	Observations made with considerable difficulty throughout the evening. The Spectroscope, moreover, does not appear to be in perfect adjustment. Position Circle, 6°.
May 30. 14. 20	M	Regulus	F	0·162	−0·004	0	+ 17·5	− 18·7	− 17·5	Spectrum faint and tremulous. Star-line faint and ill-defined. Measures made with great difficulty.
14. 30	M	,,	F	0·162	+0·041	+ 1/4	+ 17·5	− 5·1	− 1·1	
14. 35	M	Moon	F	0·162	+0·005			+ 1·5		The coincidence of the two spectra appeared perfect. The Moon spectrum being rather faint, the F line was a little difficult to see in consequence.
	M	,,	F	0·162	−0·031			− 9·4		
	M	,,	F	0·162	−0·021			− 6·4		
	M	,,	F	0·162	0·000			0·0		
14. 50	M	,,	F	0·162	+0·027			+ 8·2		
15. 5	M	Spica	F	0·162	+0·016	+ 1/10	+ 13·2	− 8·3	− 6·6	Spectrum very tremulous and not bright. Star-line only poorly defined.
15. 15	M	,,	F	0·162	−0·033	− 1/10	+ 13·2	− 23·2	− 19·8	
15. 35	M	Arcturus	F	0·162	−0·148	− 1/3	+ 11·3	− 56·2	− 55·1	Spectrum fairly bright and steady. Star-line faint and somewhat difficult to see.
15. 45	M	,,	F	0·162	−0·142	− 1/3	+ 11·3	− 54·3	− 55·1	
15. 55	M	,,	F	0·162	−0·136	− 1/3	+ 11·3	− 52·6	− 55·1	Position Circle, 5°.
June 2. 15. 35	M	Moon	F	0·162	−0·098			− 29·8		The coincidence of the two spectra appeared perfect. The Moon spectrum being rather faint, and the F line not well defined, it was difficult to secure an exact bisection.
	M	,,	F	0·162	−0·018			− 5·5		
	M	,,	F	0·162	+0·076			+ 23·1		
	M	,,	F	0·162	−0·016			− 4·9		
15. 50	M	,,	F	0·162	+0·014			+ 4·3		
16. 5	M	Arcturus	F	0·162	−0·115	− 1/2	+ 11·8	− 46·7	− 44·6	Spectrum faint. Star-line fairly well seen.
16. 15	M	,,	F	0·162	−0·118	− 1/2	+ 11·8	− 47·6	− 44·6	
16. 35	M	α Coronæ Bor..	F	0·162	+0·055	+ 1/4	+ 6·8	+ 9·9	+ 9·6	Spectrum very faint. Star-line not well seen.
16. 45	M	,,	F	0·162	+0·037	+ 1/5	+ 6·8	+ 4·5	+ 6·3	Position Circle, 5°.
June 26. 17. 20	N	Arcturus	F	0·227	−0·139	− 1/3	+ 14·6	− 56·8	− 62·0	
17. 24	N	,,	F	0·227	−0·116	− 1/3	+ 14·6	− 49·9	− 52·5	
17. 27	N	,,	F	0·227	−0·110	− 1/3	+ 14·6	− 48·0	− 52·5	
17. 55	N	α Coronæ Bor..	F	0·227	+0·067	+ 1/4	+ 10·4	+ 10·0	+ 13·3	Star-line diffused.

Date, 1884, Greenwich Sidereal Time.	Observer.	Object.	Line.	Width of Slit.	Displacement. Measured.	Displacement. Estimated.	Earth's Motion in Miles per Second.	Concluded Motion of Stars in Miles per Second. Measured.	Concluded Motion of Stars in Miles per Second. Estimated.	REMARKS.
d h m				r	r					
June 26. 18. 0	N	α Coronæ Bor..	F	0·227	+0·107	+ 1/3	+ 10·4	+ 22·1	+ 21·2	
18. 20	N	α Ophiuchi....	F	0·227	−0·039	− 1/7	+ 3·7	− 15·5	− 17·3	
18. 25	N	,,	F	0·227	−0·138	− 1/2	+ 3·7	− 45·6	− 51·1	
18. 30	N	,,	F	0·227	−0·071	− 1/4	+ 3·7	− 25·3	− 27·4	
18. 35	N	,,	F	0·227	−0·096	− 1/3	+ 3·7	− 32·8	− 35·3	
19. 20	N	α Lyræ.....	F	0·227	−0·220	− 1	− 1·2	− 65·6	− 62·0	Measures made with difficulty.
19. 30	N	,,	F	0·227	−0·185	− 5/6	− 1·2	− 54·9	− 55·6	
19. 55	N	α Aquilæ	F	0·227	−0·143	− 1/2	− 6·4	− 37·0	− 41·0	
20. 0	N	,,	F	0·227	−0·141	− 1/2	− 6·4	− 36·4	− 41·0	Position Circle, 6°.
June 27. 8. 45	N	Sky.....	F	0·227	−0·034			− 10·3		The coincidence of the two spectra appeared perfect.
8. 50	N	,,	F	0·227	−0·005			− 1·5		Position Circle, 6°.
July 12. 18. 35	N	Arcturus	F	0·216	−0·116	− 1/2	+ 15·3	− 50·6	− 51·9	Star-line very faint.
18. 45	N	,,	F	0·216	−0·208	− 3/4	+ 15·3	− 78·5	− 76·3	
19. 5	N	α Lyræ.....	F	0·216	−0·138	− 1/2	+ 1·1	− 43·0	− 46·8	
19. 15	N	,,	F	0·216	−0·092	− 1/3	+ 1·1	− 29·1	− 31·6	
19. 40	N	Moon	F	0·216	−0·004			− 1·2		The coincidence of the two spectra appeared perfect.
19. 45	N	,,	F	0·216	−0·023			− 7·0		Position Circle, 15°.
July 17. 18. 35	M	α Coronæ Bor..	F	0·212	−0·136	− 1/2	+ 12·3	− 59·6	− 54·4	Star-line very broad and diffused at edges. Definition poor. Evidently a large displacement towards the *blue*, not towards the red, as usually observed.
18. 55	M	,,	F	0·212	−0·163	− 1/2	+ 12·3	− 61·8	− 54·4	
19. 10	M	α Ophiuchi....	F	0·212	+0·002	0	+ 8·3	− 7·7	− 8·3	Star-line very ill-defined and difficult to bisect.
19. 25	M	,,	F	0·212	−0·041	− 1/5	+ 8·3	− 20·7	− 25·1	
19. 40	M	α Lyræ.....	F	0·212	−0·147	− 1/2	+ 1·8	− 46·4	− 43·9	Spectrum bright, but star-line not well defined.
19. 50	M	,,	F	0·212	−0·113	− 1/3	+ 1·8	− 36·1	− 35·4	
20. 5	M	ζ Aquilæ	F	0·212	−0·165	− 1/2	+ 1·9	− 52·1	− 35·5	Spectrum faint and star-line ill-defined.
20. 15	M	,,	F	0·212	−0·231	− 5/6	+ 1·9	− 72·1	− 52·3	
20. 30	M	α Aquilæ	F	0·212	−0·098	− 1/3	− 1·1	− 28·7	− 26·9	Spectrum bright and star-line fairly well seen.
20. 40	M	,,	F	0·212	−0·160	− 1/2	− 1·1	− 47·5	− 41·0	
21. 25	M	α Cephei.....	F	0·212	−0·106	− 1/3	− 6·2	− 26·0	− 21·8	Spectrum faint. Measure made with extreme difficulty. Position Circle, 6°.
July 19. 17. 45	M	α Lyræ.....	F	0·212	−0·062	− 1/3	+ 2·0	− 20·8	− 30·0	Star-line very ill-defined and difficult to bisect.
18. 5	M	,,	F	0·212	−0·178	− 1	+ 2·0	− 56·1	− 58·1	
18. 25	M	α Aquilæ	F	0·212	−0·163	− 1/2	− 0·7	− 48·8	− 41·4	Star-line diffused and difficult to bisect.
18. 35	M	,,	F	0·212	−0·099	− 1/3	− 0·7	− 29·4	− 27·3	
18. 50	M	α Cygni	F	0·212	−0·128	− 5/6	− 5·2	− 33·6	− 28·4	Spectrum steady. Star-line very faint.
19. 0	M	,,	F	0·212	−0·139	− 1/2	− 5·2	− 37·0	− 36·9	Position Circle, 6°.
July 21. 18. 50	M	α Cygni	F	0·212	−0·093	− 5/6	− 5·0	− 23·3	− 28·6	Star-line faint, and seen with difficulty by glimpses.
19. 5	M	,,	F	0·212	−0·128	− 1/2	− 5·0	− 33·8	− 37·1	
19. 40	M	β Cassiopeiæ ..	F	0·212	−0·057	− 1/4	− 11·1	− 6·2	− 9·9	Spectrum very steady, but work frequently interrupted by cloud. Position Circle, 6°.
July 30. 20. 8	N	α Lyræ.....	F	0·206	−0·179	− 5/6	+ 3·5	− 57·9	− 56·5	Cloud passing. Observations made with difficulty.
20. 14	N	,,	F	0·206	−0·123	− 1/2	+ 3·5	− 40·9	− 47·7	Position Circle, 7°.
Aug. 5. 18. 15	M	Arcturus	F	0·185	−0·123	− 5/6	+ 14·3	− 51·7	− 47·1	Spectrum exceedingly tremulous and somewhat faint. Measures therefore difficult.
18. 30	M	,,	F	0·185	−0·131	− 1	+ 14·3	− 54·1	− 55·3	
18. 45	M	α Coronæ Bor..	F	0·185	+0·128	+ 1	+ 12·8	+ 26·0	+ 20·0	Spectrum somewhat tremulous and faint. Definition fair.
18. 55	M	,,	F	0·185	+0·113	+ 5/6	+ 12·8	+ 21·5	+ 41·8	
19. 15	M	α Ophiuchi....	F	0·185	+0·014	0	+ 11·6	− 7·6	− 11·6	Spectrum faint. Star-line diffused. Satisfactory bisection difficult.
19. 30	M	,,	F	0·185	−0·071	− 1/3	+ 11·6	− 33·2	− 28·0	

Date, 1884, Greenwich Sidereal Time.	Observer.	Object.	Line.	Width of Slit.	Displacement.		Earth's Motion in Miles per Second.	Concluded Motion of Stars in Miles per Second.		REMARKS.
					Measured.	Estimated.		Measured.	Estimated.	
d h m				r	r					
Aug. 5. 19. 45	M	α Aquilæ	F	0·185	−0·096	− 1/2	+ 3·7	− 32·8	− 31·0	Spectrum, though somewhat tremulous, well seen, and measures considered good. Evidently a large displacement towards the blue.
20. 0	M	,,	F	0·185	−0·142	− 1/2	+ 3·7	− 46·8	− 44·7	
20. 10	M	Moon	F	0·185	−0·037			− 11·3		The coincidence of the two spectra appeared perfect.
	M	,,	F	0·185	−0·023			− 7·0		
	M	,,	F	0·185	+0·046			+ 14·0		
	M	,,	F	0·185	+0·002			+ 0·6		
20. 20	M	,,	F	0·185	−0·017			− 5·1		
20. 45	M	α Pegasi	F	0·185	−0·079	− 3/10	− 10·3	− 13·7	− 14·3	Spectrum very faint. Star-line difficult to bisect satisfactorily. Measures considered rough. Evidently a large displacement towards the blue.
21. 0	M	,,	F	0·185	−0·147	− 3/5	− 10·3	− 34·3	− 38·9	Position Circle, 6°.
Aug. 7. 18. 50	M	α Lyræ	F	0·178	−0·059	− 1/4	+ 4·5	− 22·4	− 29·4	Measures considered satisfactory.
19. 40	M	,,	F	0·178	−0·111	− 1/2	+ 4·5	− 38·2	− 54·3	
20. 10	M	Moon	F	0·178	−0·003			− 1·0		The coincidence of the two spectra appeared perfect.
	M	,,	F	0·178	−0·008			− 2·4		
20. 20	M	,,	F	0·178	−0·006			− 1·8		
21. 40	M	α Andromedæ .	F	0·178	−0·014	− 1/10	− 13·5	+ 9·2	+ 3·6	Spectrum faint. Definition fair.
22. 0	M	,,	F	0·178	−0·047	− 1/5	− 13·5	− 0·8	− 6·4	
22. 20	M	β Cassiopeiæ ..	F	0·178	−0·017	− 1/10	− 10·9	+ 5·8	+ 1·0	Spectrum exceedingly faint. Measures very difficult.
22. 35	M	,,	F	0·178	+0·028	+ 1/7	− 10·9	+ 19·4	+ 25·1	Position Circle, 6°.
Aug. 11. 19. 0	M	β Cassiopeiæ ..	F	0·161	+0·108	+ 2/3	− 10·8	+ 43·6	+ 35·6	Spectrum and star-line faint. Measures considered fairly satisfactory.
19. 35	M	,,	F	0·161	+0·095	+ 1/2	− 10·8	+ 39·6	+ 31·5	
19. 55	M	γ Cassiopeiæ ..	F	0·161	−0·068	− 1/3	− 11·7	− 9·0	− 9·0	Spectrum rather tremulous. Star-line faint, but fairly well defined.
20. 20	M	,,	F	0·161	−0·120	− 1/2	− 11·7	− 24·7	− 19·3	
20. 30	M	δ Cassiopeiæ...	F	0·161	−0·045	− 1/5	− 12·3	− 1·4	− 0·1	Spectrum faint, but star-line well defined.
20. 50	M	,,	F	0·161	+0·027	+ 1/10	− 12·3	+ 20·5	+ 18·5	
21. 0	M	β Persei	F	0·161	−0·013	− 1/10	− 16·5	+ 12·5	+ 10·3	Spectrum faint, but star-line fairly well defined.
21. 10	M	,,	F	0·161	−0·035	− 1/10	− 16·5	+ 5·9	+ 10·3	
21. 20	M	α Andromedæ .	F	0·161	−0·085	− 2/5	− 12·9	− 12·9	− 7·8	Spectrum somewhat faint but steady, and star-line fairly well defined.
21. 25	M	,,	F	0·161	−0·093	− 2/5	− 12·9	− 15·4	− 11·9	
21. 30	M	,,	F	0·161	−0·083	− 1/3	− 12·9	− 12·3	− 7·8	
21. 45	M	Moon	F	0·161	−0·014			− 4·3		The coincidence of the two spectra appeared perfect.
		,,	F	0·161	+0·018			+ 5·5		
		,,	F	0·161	−0·002			− 0·6		
		,,	F	0·161	−0·002			− 0·6		
21. 55	M	,,	F	0·161	+0·103			+ 4·0		The spectra throughout the evening were faint owing to light cloud and strong moonlight, but they were steady, and the star-lines as distinct as the comparative feebleness of the spectra permitted. Position Circle, 6°.
Aug. 12. 20. 10	N	α Pegasi	F	0·150	−0·011	0	− 8·7	+ 5·4	+ 8·7	Star-line broad and ill-defined.
20. 15	N	,,	F	0·150	−0·023	− 1/10	− 8·7	+ 1·7	+ 1·6	
20. 35	N	α Andromedæ .	F	0·150	−0·146	− 2/3	− 12·7	− 31·7	− 34·9	Star-line faint.
20. 40	N	,,	F	0·150	−0·141	− 2/3	− 12·7	− 30·1	− 34·9	
20. 55	N	γ Pegasi	F	0·150	−0·013	0	− 12·7	+ 8·7	+ 12·7	
21. 0	N	,,	F	0·150	−0·004	0	− 12·7	+ 11·5	+ 12·7	
21. 15	N	Moon	F	0·150	−0·030			− 9·1		
21. 20	N	,,	F	0·150	−0·030			− 9·1		Position Circle, 5°.
Aug. 14. 20. 10	N	β Cassiopeiæ ..	F	0·193	+0·056	+ 1/5	− 10·6	+ 27·6	+ 27·5	Spectrum very faint.
20. 18	N	,,	F	0·193	+0·023	+ 1/10	− 10·6	+ 17·6	+ 19·0	
21. 5	N	δ Cassiopeiæ ..	F	0·193	−0·014	0	− 12·3	+ 8·0	+ 12·3	Cloudy.

Date, 1884, Greenwich Sidereal Time.	Observer.	Object.	Line.	Width of Slit.	Displacement.		Earth's Motion in Miles per Second.	Concluded Motion of Stars in Miles per Second.		REMARKS.
					Measured.	Estimated.		Measured.	Estimated.	
d h m				r	r					
Aug. 14. 21. 12	N	δ Cassiopeiæ ..	F	0·193	−0·054	− 1/3	− 12·3	− 4·1	− 4·6	
22. 10	N	Moon	F	0·193	−0·013			− 4·0		Instrument somewhat askew; the measures are probably of little value. Position Circle, 5°.
Aug. 19. 20. 20	M	α Lyræ	F	0·121	−0·121	− 1	+ 5·9	− 42·6	− 38·7	Spectrum bright, but tremulous. Definition poor.
20. 35	M	,,	F	0·121	−0·069	− 1/2	+ 5·9	− 26·9	− 25.6	
20. 55	M	γ Lyræ	F	0·121	−0·129	− 1	+ 6·2	− 45·4	− 39·0	Spectrum faint, but star-line dark and fairly distinct.
21. 5	M	,,	F	0·121	−0·108	− 1	+ 6·2	− 39·0	− 32·5	
21. 35	M	ζ Aquilæ.....	F	0·121	+0·028	+ 1/6	+ 9·2	− 0·7	− 2·6	Spectrum faint.
21. 45	M	,,	F	0·121	−0·045	− 1/3	+ 9·2	− 22·9	− 22·3	
22. 0	M	α Aquilæ	F	0·121	−0·053	− 1/2	+ 7·2	− 23·3	− 23·6	Definition fair.
22. 15	M	,,	F	0·121	−0·052	− 1/2	+ 7·2	− 23·0	− 23·6	
22. 30	M	α Delphini	F	0·121	−0·053	− 1/2	+ 3·0	− 19·1	− 19·4	Spectrum exceedingly faint. Star-line seen with great difficulty. Cloud passing.
22. 45	M	,,	F	0·121	−0·121	− 1	+ 3·0	− 39·7	− 35·8	
22. 55	M	α Cephei.....	F	0·121	−0·138	− 1	− 4·5	− 37·4	− 35·1	Spectrum bright, but star-line difficult to bisect.
23. 5	M	,,	F	0·121	−0·148	− 1	− 4·5	− 40·4	− 39·3	
23. 15	M	,,	F	0·121	−0·032	− 1/3	− 4·5	− 14·2	− 44·1	Position Circle, 5°.
Aug. 21. 20. 0	N	α Lyræ	F	0·160	−0·122	− 1	+ 6·1	− 43·2	− 43·3	
20. 10	N	,,	F	0·160	−0·088	− 1	+ 6·1	− 32·8	− 30·9	
20. 35	N	α Aquilæ	F	0·160	−0·110	− 1	+ 7·6	− 41·0	− 37·4	Sky hazy.
20. 40	N	,,	F	0·160	−0·112	− 1	+ 7·6	− 41·6	− 37·4	
Aug. 22. 11. 10	N	Sky.....	F	0·160	−0·017			− 5·1		The coincidence of the two spectra appeared perfect.
11. 15	N	,,	F	0·160	−0·015			− 4·6		
18. 55	M	α Ophiuchi....	F	0·175	−0·061	− 1/2	+ 13·6	− 32·1	− 28·8	Star-line very broad and ill-defined. An unmistakeable displacement towards the blue.
19. 5	M	,,	F	0·175	−0·102	− 1	+ 13·6	− 44·6	− 44·0	
19. 20	M	α Aquilæ	F	0·175	−0·090	− 1	+ 7·9	− 35·2	− 38·3	Definition fair.
19. 30	M	,,	F	0·175	−0·032	− 1/6	+ 7·9	− 17·6	− 14·0	
19. 45	M	α Lyræ	F	0·175	−0·086	− 1	+ 6·2	− 32·3	− 36·6	Measures considered very satisfactory. Definition good.
19. 55	M	,,	F	0·175	−0·095	− 1	+ 6·2	− 35·0	− 36·6	
20. 45	M	δ Cygni.....	F	0·175	−0·045	− 1/3	+ 2·1	− 15·8	− 17·3	Definition fair.
21. 0	M	,,	F	0·175	−0·137	− 1	+ 2·1	− 43·7	− 38·5	
21. 25	M	α Delphini	F	0·175	−0·124	− 1	+ 3·8	− 41·5	− 40·2	Spectrum faint. Measures therefore difficult. A marked displacement to blue.
21. 40	M	,,	F	0·175	−0·114	− 1	+ 3·8	− 38·4	− 40·2	
22. 0	M	ζ Pegasi	F	0·175	−0·096	− 1	− 4·2	− 24·9	− 26·2	Spectrum and star-line very faint. Measures very difficult.
22. 15	M	,,	F	0·175	−0·009	0	− 4·2	+ 1·5	+ 4·2	
22. 40	M	α Pegasi.....	F	0·175	−0·131	− 1	− 6·2	− 33·6	− 30·2	Definition good.
22. 55	M	,,	F	0·175	−0·135	− 1	− 6·2	− 34·9	− 30·2	Position Circle, 5°.
Aug. 23. 20. 0	N	α Ophiuchi....	F	0·139	−0·087	− 1	+ 13·7	− 40·1	− 42·8	Spectrum faint. Measures difficult.
20. 15	N	,,	F	0·139	−0·060	− 1/2	+ 13·7	− 31·9	− 30·7	
20. 40	N	α Lyræ	F	0·139	−0·098	− 1	+ 6·3	− 36·1	− 40·3	
20. 45	N	,,	F	0·139	−0·110	− 1	+ 6·3	− 39·7	− 40·3	
21. 35	N	α Aquilæ	F	0·139	−0·116	− 1	+ 8·1	− 43·4	− 42·1	
21. 40	N	,,	F	0·139	−0·072	− 1	+ 8·1	− 30·0	− 30·8	
22. 5	N	α Pegasi.....	F	0·139	−0·080	− 1	− 6·0	− 18·3	− 16·7	Measures very difficult and rough.
22. 12	N	,,	F	0·139	−0·108	− 1	− 6·0	− 26·8	− 28·0	Position Circle, 5°.
Aug. 25. 19. 25	M	α Aquilæ	F	0·163	−0·068	− 1/2	+ 8·5	− 29·2	− 27·4	Spectrum tremulous, and star line only seen well by glimpses. Measures considered satisfactory.
19. 45	M	,,	F	0·163	−0·073	− 1/2	+ 8·5	− 30·7	− 27·4	
20. 5	M	α Pegasi	F	0·163	−0·092	− 1	− 5·4	− 22·6	− 15·6	Spectrum somewhat tremulous. Definition poor.
20. 20	M	,,	F	0·163	−0·056	− 1/2	− 5·4	− 11·6	− 10·3	
20. 35	M	α Andromedæ .	F	0·163	−0·113	− 1	− 10·3	− 24·0	− 21·1	Definition fair.
20. 50	M	,,	F	0·163	−0·097	− 1	− 10·3	− 19·2	− 14·9	
21. 10	M	β Cassiopeiæ ..	F	0·163	−0·152	− 1	− 9·8	− 36·3	− 27·9	Definition generally poor.

Date, 1884, Greenwich Sidereal Time.	Observer.	Object.	Line.	Width of Slit.	Displacement.		Earth's Motion in Miles per Second.	Concluded Motion of Stars in Miles per Second.		REMARKS.
					Measured.	Estimated.		Measured.	Estimated.	
d h m				r	r					
Aug. 25. 21. 25	M	β Cassiopeiæ ..	F	0·163	−0·130	− 1/3	− 9·8	− 29·7	− 21·6	
22. 0	M	γ Cassiopeiæ ..	F	0·163	−0·047	− 1/4	− 11·1	− 3·2	− 4·6	Star-line very difficult to see and bisect. Definition very bad.
22. 20	M	,,	F	0·163	−0·036	− 1/4	− 11·1	+ 0·2	− 4·6	Position Circle, 5°.
Aug. 26. 11. 30	M	Sky	F	0·163	+0·001			+ 0·3		It was very difficult to get a perfectly satisfactory comparison of the two spectra, as both were faint, but the impression was given that the sky spectrum was *slightly* displaced towards the red, as the measures also seemed to indicate.
	M	,,	F	0·163	+0·026			+ 7·9		
	M	,,	F	0·163	+0·011			+ 3·3		
	M	,,	F	0·163	+0·008			+ 2·4		
11. 48	M	,,	F	0·163	+0·001			+ 0·3		Position Circle, 5°.
Aug. 29. 20. 0	M	Arcturus	F	0·165	−0·092	− 1/3	+ 11·1	− 39·1	− 47·4	Spectrum tremulous. Definition bad.
20. 15	M	,,	F	0·165	−0·094	− 1/3	+ 11·1	− 39·7	− 47·4	
20. 30	M	α Lyræ	F	0·165	−0·024	− 1/10	+ 6·9	− 14·2	− 14·2	Spectrum steady. Definition good.
20. 45	M	,,	F	0·165	−0·064	− 1/3	+ 6·9	− 26·3	− 35·9	
21. 0	M	α Aquilæ	F	0·165	−0·112	− 1/2	+ 9·5	− 43·5	− 45·8	Spectrum faint. Observations much interrupted by cloud.
21. 10	M	,,	F	0·165	−0·147	− 1/2	+ 9·5	− 54·1	− 52·9	Position Circle, 5°.
Sept. 1. 21. 20	N	α Aquilæ	F	0·138	−0·087	− 1/3	+ 10·1	− 36·5	− 39·8	Measure doubtful. Light cloud passing.
22. 5	N	Moon	F	0·138	−0·010			− 3·0		The coincidence of the two spectra appeared perfect.
22. 10	N	,,	F	0·138	−0·003			− 0·9		Position Circle, 5°.
Sept. 2. 19. 0	M	α Coronæ Bor..	F	0·122	+0·100	+ 1/3	+ 11·2	+ 19·2	+ 14·6	Spectrum faint. Much light cloud. The second observation seemed perfectly satisfactory.
19. 15	M	,,	F	0·122	−0·209	− 1/2	+ 11·2	− 74·7	− 54·2	
19. 20	M	α Ophiuchi....	F	0·122	−0·159	− 1/2	+ 14·4	− 62·8	− 53·1	Spectrum faint but steady. Star-line seen distinctly.
19. 25	M	,,	F	0·122	−0·157	− 1/2	+ 14·4	− 62·0	− 57·4	
19. 30	M	α Lyræ	F	0·122	−0·091	− 1/3	+ 7·2	− 34·8	− 33·0	Definition fair.
19. 35	M	,,	F	0·122	−0·161	− 1/2	+ 7·2	− 56·0	− 45·9	
19. 45	M	Moon	F	0·122	−0·014			− 4·3		Spectrum and F line very faint. No want of coincidence could be detected.
	M	,,	F	0·122	+0·010			+ 3·0		
	M	,,	F	0·122	+0·009			+ 2·7		
	M	,,	F	0·122	−0.036			− 10·9		
19. 50	M	,,	F	0·122	+0·009			+ 2·7		Position Circle, 5°.
Sept. 4. 20. 25	M	α Lyræ	F	0·140	−0·057	− 1/10	+ 7·4	− 24·7	− 15·8	Spectrum bright and steady.
20. 30	M	,,	F	0·140	−0·115	− 1/2	+ 7·4	− 42·3	− 49·6	
20. 35	M	α Aquilæ	F	0·140	−0·053	− 1/3	+ 10·7	− 26·8	− 31·8	Spectrum somewhat faint, but steady. Definition good.
20. 40	M	,,	F	0·140	−0·122	− 1/2	+ 10·7	− 47·8	− 38·8	
20. 46	M	Moon	F	0·140	−0·009			− 2·7		The coincinence of the two spectra appeared perfect.
	M	,,	F	0·140	−0·005			− 1·5		
	M	,,	F	0·140	+0·005			+ 1·5		
	M	,,	F	0·140	+0·010			+ 3·0		
20. 52	M	,,	F	0·140	−0·012			− 3·6		
21. 0	M	α Pegasi.....	F	0·140	−0·090	− 1/3	− 2·7	− 24·6	− 25·4	Spectrum faint but steady. Definition fair.
21. 5	M	,,	F	0·140	−0·048	− 1/3	− 2·7	− 11·9	− 14·2	
21. 10	M	α Andromedæ .	F	0·140	−0·170	− 1/2	− 8·1	− 43·6	− 34·1	Spectrum faint but steady. Definition fair.
21. 15	M	,,	F	0·140	−0·080	− 1/3	− 8·1	− 16·2	− 20·0	
21. 25	M	γ Pegasi	F	0·140	−0·107	− 1/3	− 7·4	− 25·1	− 20·7	Spectrum faint. Star-line difficult to see.
21. 30	M	,,	F	0·140	−0·019	− 1/10	− 7·4	+ 1·6	− 1·0	Measures rough and doubtful.
21. 40	M	β Cassiopeiæ ..	F	0·140	+0·040	+ 1/10	− 8·7	+ 20·8	+ 17·1	Star-line fairly well defined.
21. 45	M	,,	F	0·140	−0·037	− 1/10	− 8·7	− 2·6	+ 0·3	
22. 0	M	γ Cassiopeiæ...	F	0·140	−0·059	− 1/4	− 10·3	− 7·6	− 10·8	The bright F line in this star was fainter than ever noticed before. It was with the greatest difficulty that it could be even glimpsed now and then. Since the spectrum was bright and steady, the line would appear to be variable in its intensity. Measures rough.
22. 10	M	,,	F	0·140	−0·023	0	− 10·3	+ 3·3	+ 10·3	Position Circle, 5°.

Date, 1884, Greenwich Sidereal Time.	Observer.	Object.	Line.	Width of Slit.	Displacement. Measured.	Displacement. Estimated.	Earth's Motion in Miles per Second.	Concluded Motion of Stars in Miles per Second. Measured.	Concluded Motion of Stars in Miles per Second. Estimated.	REMARKS.
d h m				r	r					
Sept. 10. 19. 32	M	α Lyræ	F	0·167	−0·035	− 1/5	+ 7·8	− 18·4	− 24·6	Spectrum very tremulous. Star-line difficult
19. 42	M	,,	F	0·167	−0·133	− 1/2	+ 7·8	− 48·2	− 49·9	to bisect. Definition poor.
19. 50	M	ζ Aquilæ	F	0·167	−0·043	− 1/10	+ 12·7	− 25·8	− 21·1	Spectrum rather faint.
19. 55	M	,,	F	0·167	−0·085	− 1/4	+ 12·7	− 38·5	− 33·7	
20. 15	M	ζ Pegasi	F	0·167	−0·052	− 1/5	+ 1·2	− 17·0	− 18·0	Spectrum steady though faint, but star-line
20. 20	M	,,	F	0·167	−0·038	− 1/5	+ 1·2	− 12·8	− 18·0	fairly well defined. Measures considered satisfactory.
20. 25	M	α Pegasi	F	0·167	−0·057	− 1/4	− 1·0	− 16·3	− 20·0	Spectrum bright and steady. Definition good.
20. 30	M	,,	F	0·167	−0·106	− 1/2	− 1·0	− 31·2	− 27·0	
20. 45	M	γ Pegasi	F	0·167	−0·153	− 2/5	− 5·7	− 40·8	− 27·9	Spectrum steady, but star-line faint, and very
20. 50	M	,,	F	0·167	−0·129	− 1/2	− 5·7	− 33·5	− 36·4	difficult to see. Measures rough.
20. 53	M	α Andromedæ .	F	0·167	−0·065	− 1/5	+ 6·6	− 26·3	− 23·4	Definition fair.
20. 57	M	,,	F	0·167	−0·037	− 1/10	+ 6·6	− 17·9	− 15·0	
21. 3	M	β Cassiopeiæ ..	F	0·167	−0·121	− 1/2	− 8·0	− 28·7	− 34·1	Spectrum fairly steady, but star-line very faint,
21. 8	M	,,	F	0·167	−0·108	− 1/3	− 8·0	− 24·8	− 20·0	and difficult to see.
21. 20	M	γ Cassiopeiæ ..	F	0·167	−0·171	− 1/2	− 9·6	− 42·3	− 32·5	Spectrum steady. The bright F line in this
21. 25	M	,,	F	0·167	−0·028	− 1/5	− 9·6	+ 1·1	− 7·2	star is now barely visible. Its bisection was therefore very difficult, and the measures were exceedingly rough.
22. 0	M	α Persei	F	0·167	−0·125	− 1/2	− 14·9	− 23·1	− 27·2	Star-line fairly well seen.
22. 15	M	,,	F	0·167	−0·122	− 1/2	− 14·9	− 22·2	− 27·2	
22. 30	M	β Persei	F	0·167	+0·065	+ 1/4	− 15·3	+ 35·0	+ 36·3	Star-line seen with difficulty.
22. 40	M	,,	F	0·167	+0·057	+ 1/5	− 15·3	+ 32·6	+ 32·1	
22. 55	M	Moon	F	0·167	−0·029			− 8·8		The coincidence of the two spectra appeared
	M	,,	F	0·167	+0·051			+ 15·5		perfect. Moon-line faint and very difficult
	M	,,	F	0·167	−0·026			− 7·9		to bisect.
	M	,,	F	0·167	−0·042			− 12·7		
23. 10	M	,,	F	0·167	−0·047			− 14·3		
										Position Circle, 6°.
Sept. 11. 20. 15	N	α Cephei	F	0·165	−0·158	− 2/5	− 2·4	− 45·6	− 44·8	
20. 25	N	,,	F	0·165	−0·233	− 3/5	− 2·4	− 68·3	− 68·3	
21. 10	N	β Cassiopeiæ ..	F	0·165	+0·035	+ 1/10	− 7·9	+ 18·5	+ 19·7	
21. 23	N	,,	F	0·165	−0·030	0	− 7·9	− 1·2	+ 7·9	
21. 35	N	,,	F	0·165	+0·021	+ 1/20	− 7·9	+ 14·3	+ 13·8	
22. 0	N	γ Cassiopeiæ ..	F	0·165	−0·140	− 1/3	− 9·5	− 33·1	− 29·7	
22. 20	N	,,	F	0·165	−0·180	− 1/2	− 9·5	− 45·1	− 49·5	
22. 45	N	δ Cassiopeiæ...	F	0·165	+0·023	0	− 10·5	+ 17·5	+ 10·5	
22. 50	N	,,	F	0·165	−0·055	− 1/7	− 10·5	− 6·2	− 6·3	
23. 20	N	Moon	F	0·165	−0·005			− 1·5		
	N	,,	F	0·165	−0·016			− 4·9		
	N	,,	F	0·165	−0·001			− 0·3		
23. 30	N	,,	F	0·165	+0·013			+ 4·0		
										Position Circle, 6°.
Sept. 12. 19. 20	M	α Cephei	F	0·161	−0·008	0	− 2·3	− 0·1	+ 2·3	Spectrum steady and fairly bright. Star-line
19. 25	M	,,	F	0·161	−0·128	− 1/2	− 2·3	− 36·5	− 38·7	diffused and difficult to bisect.
19. 30	M	α Cygni	F	0·161	−0·111	− 2/5	+ 2·6	− 36·3	− 35·4	Spectrum bright and steady. Star-line well
19. 35	M	,,	F	0·161	−0·104	− 1/3	+ 2·6	− 34·2	− 29·9	defined.
19. 45	M	α Aquilæ	F	0·161	+0·089	+ 1/3	+ 12·2	+ 14·8	+ 15·1	Spectrum bright but tremulous. Definition
19. 50	M	,,	F	0·161	+0·056	+ 1/4	+ 12·2	+ 4·8	+ 8·3	poor.
19. 55	M	δ Aquilæ.....	F	0·161	−0·029	− 1/10	+ 14·1	− 22·9	− 22·3	Spectrum very faint. Star-line fairly dis-
	M	,,	F	0·161	+0·047	+ 1/5	+ 14·1	+ 0·2	+ 2·3	tinct and well defined. It seems to be
	M	,,	F	0·161	−0·098	− 1/4	+ 14·1	− 43·9	− 34·6	quite clear that the displacement is prac-
20. 5	M	,,	F	0·161	+0·079	+ 1/4	+ 14·1	+ 9·9	+ 6·4	tically nil. It was almost impossible to get an exact bisection on account of the faintness of the spectrum.
20. 10	M	ζ Aquilæ.....	F	0·161	−0·150	− 1/2	+ 13·0	− 58·6	− 54·0	Spectrum steady, but star-line very broad
20. 15	M	,,	F	0·161	−0·056	− 1/4	+ 13·0	− 30·0	− 33·5	indeed, and greatly diffused at edges.
20. 23	M	γ Lyræ	F	0·161	−0·090	− 1/3	+ 9·0	− 36·3	− 36·3	Spectrum faint but steady. Star-line well
20. 28	M	,,	F	0·161	+0·029	+ 1/10	+ 9·0	− 0·2	− 0·8	defined. Bisection difficult from the ex-
20. 30	M	,,	F	0·161	−0·064	− 1/3	+ 9·0	− 28·4	− 36·3	treme faintness of the spectrum.
20. 35	M	,,	F	0·161	−0·096	− 1/6	+ 9·0	− 38·1	− 50·0	

Date, 1884, Greenwich Sidereal Time.	Observer.	Object.	Line.	Width of Slit.	Displacement.		Earth's Motion in Miles per Second.	Concluded Motion of Stars in Miles per Second.		REMARKS.
					Measured.	Estimated.		Measured.	Estimated.	
d h m				r	r					
Sept. 12. 20. 40	M	α Lyræ.....	F	0·161	−0·058	− 1/7	+ 7·9	− 25·5	− 19·6	Spectrum very bright and steady. Definition good.
20. 45	M	,,	F	0·161	−0·057	− 1/4	+ 7·9	− 25·2	− 28·4	
20. 55	M	α Delphini	F	0·161	+0·038	+ 1/5	+ 8·7	+ 2·9	+ 7·7	Spectrum steady but very faint. Definition good. Measures difficult from faintness of the spectrum.
21. 0	M	,,	F	0·161	+0·039	+ 1/10	+ 8·7	+ 3·1	− 0·5	
21. 12	M	δ Cygni.....	F	0·161	+0·085	+ 2/5	+ 4·6	+ 21·2	+ 11·8	Spectrum steady. Definition good. Evidently a large displacement towards the red.
21. 17	M	,,	F	0·161	+0·131	+ 1/2	+ 4·6	+ 35·2	+ 36·4	
21. 22	M	ζ Pegasi	F	0·161	−0·082	− 1/3	+ 1·8	− 26·7	− 29·1	Spectrum very faint but steady. Definition fair. Bisection difficult from faintness of the spectrum.
21. 27	M	,,	F	0·161	−0·132	− 1/3	+ 1·8	− 41·9	− 29·1	
21. 45	M	Fomalhaut	F	0·161	+0·137	+ 1/2	+ 5·3	+ 36·3	+ 35·7	Spectrum very faint and tremulous. Definition very bad. Measures difficult and rough.
21. 55	M	,,	F	0·161	+0·073	+ 1/4	+ 5·3	+ 16·9	+ 15·2	
22. 10	M	α Pegasi.....	F	0·161	−0·036	− 1/10	− 0·4	− 10·5	− 7·8	Spectrum bright and steady. Bisection of star-line difficult, it being very broad and diffused at edges.
22. 20	M	,,	F	0·161	+0·050	+ 1/5	− 0·4	+ 15·6	+ 16·8	
										Position Circle, 7°.
Sept. 17. 21. 22	N	α Lyræ.....	F	0·196	−0·149	− 1/2	+ 8·2	− 53·5	− 50·9	
21. 32	N	,,	F	0·196	−0·140	− 1/2	+ 8·2	− 50·8	− 50·9	
21. 50	N	δ Cygni	F	0·196	−0·059	− 1/5	+ 5·1	− 23·0	− 22·2	Star-line somewhat diffused.
21. 55	N	,,	F	0·196	−0·137	− 1/2	+ 5·1	− 46·7	− 47·8	
22. 5	N	,,	F	0·196	−0·104	− 3/8	+ 5·1	− 36·7	− 37·1	
22. 35	N	α Aquilæ	F	0·196	−0·159	− 1/2	+ 13·1	− 61·4	− 64·3	
22. 40	N	,,	F	0·196	−0·100	− 3/8	+ 13·1	− 43·5	− 45·1	
23. 0	N	α Cygni	F	0·196	−0·169	− 1/2	+ 3·4	− 54·8	− 54·6	Star-line faint.
23. 10	N	,,	F	0·196	−0·111	− 1/3	+ 3·4	− 37·1	− 37·5	
23. 20	N	,,	F	0·196	−0·099	− 1/3	+ 3·4	− 33·5	− 31·9	
23. 45	N	α Pegasi	F	0·196	−0·139	− 1/2	+ 1·1	− 43·3	− 43·8	
23. 50	N	,,	F	0·196	−0·109	− 1/3	+ 1·1	− 34·2	− 35·2	
										Position Circle, 5°.
Sept. 18. 20. 0	M	α Lyræ.....	F	0·191	−0·160	− 1/2	+ 8·2	− 56·8	− 40·3	Spectrum bright and steady. Definition good.
20. 10	M	,,	F	0·191	−0·112	− 1/2	+ 8·2	− 42·2	− 40·3	
20. 20	M	α Aquilæ	F	0·191	−0·025	− 1/10	+ 13·2	− 20·8	− 19·6	Spectrum tremulous, and not so bright as usual for this star.
20. 25	M	,,	F	0·191	−0·015	0	+ 13·2	− 17·8	− 13·2	
20. 30	M	α Delphini	F	0·191	−0·101	− 1/3	+ 9·9	− 40·6	− 31·3	Spectrum exceedingly faint. Star-line seen with great difficulty.
20. 35	M	,,	F	0·191	−0·167	− 1/2	+ 9·9	− 60·6	− 42·0	
20. 40	M	α Pegasi.....	F	0·191	−0·193	− 2/3	+ 1·4	− 60·0	− 44·1	Spectrum faint.
20. 45	M	,,	F	0·191	−0·178	− 3/5	+ 1·4	− 55·5	− 39·8	
20. 55	M	α Andromedæ .	F	0·191	−0·081	− 1/3	− 4·6	− 20·0	− 16·8	Spectrum fairly steady. Definition fair.
21. 0	M	,,	F	0·191	−0·049	− 1/5	− 4·6	− 10·3	− 8·2	
21. 5	M	γ Pegasi.....	F	0·191	−0·137	− 1/2	− 3·4	− 38·2	− 28·7	Spectrum faint; star-line ill-defined. The first measure ought certainly to be rejected as it was too hastily made. The displacement was evidently small. It was very difficult to get an exact bisection of the star-line from the faintness of the spectrum.
	M	,,	F	0·191	+0·050	+ 1/4	− 3·4	+ 18·6	+ 19·4	
	M	,,	F	0·191	−0·022	− 1/10	− 3·4	− 3·3	− 3·0	
	M	,,	F	0·191	−0·046	− 1/4	− 3·4	− 10·6	− 12·6	
21. 15	M	,,	F	0·191	+0·006	+ 1/10	− 3·4	+ 5·2	+ 9·8	
21. 22	M	β Cassiopeiæ ..	F	0·191	+0·031	+ 1/10	− 6·8	+ 16·2	+ 13·2	Spectrum steady. Definition good.
21. 26	M	,,	F	0·191	−0·011	0	− 6·8	+ 3·5	+ 6·8	
21. 35	M	γ Cassiopeiæ...	F	0·191	−0·111	− 1/3	− 8·6	− 25·1	− 12·8	The bright F line in this star seems to be getting steadily fainter. The star-line was seen with the greatest difficulty, and the measures must be regarded as very rough. Their agreement is probably accidental.
21. 40	M	,,	F	0·191	−0·118	− 2/5	− 8·6	− 27·2	− 17·1	
21. 46	M	δ Cassiopeiæ...	F	0·191	−0·130	− 1/2	− 9·6	− 29·9	− 22·5	Spectrum faint. Star-line very diffused.
21. 52	M	,,	F	0·191	−0·155	− 3/5	− 9·6	− 37·5	− 28·8	
22. 0	M	α Persei	F	0·191	−0·061	− 1/4	− 14·2	− 4·3	− 1·8	Definition fair.
22. 5	M	,,	F	0·191	−0·007	0	− 14·2	+ 12·1	+ 14·2	
22. 20	M	β Persei	F	0·191	+0·121	+ 1/2	− 14·3	+ 51·0	+ 46·4	Spectrum fairly well seen.
22. 30	M	,,	F	0·191	+0·044	+ 1/4	− 14·3	+ 27·7	+ 30·3	
										Position Circle, 7°.

Date, 1884, Greenwich Sidereal Time.	Observer.	Object.	Line.	Width of Slit.	Displacement. Measured.	Displacement. Estimated.	Earth's Motion in Miles per Second.	Concluded Motion of Stars in Miles per Second. Measured.	Concluded Motion of Stars in Miles per Second. Estimated.	REMARKS.
d h m				r	r					
Sept. 19. 13. 50	M	Sky.....	F	0·191	−0·020			− 6·1		The coincidence of the two spectra appeared perfect.
	M	,,	F	0·191	−0·001			− 0·3		
	M	,,	F	0·191	+0·012			+ 3·6		
	M	,,	F	0·191	+0·013			+ 3·9		
14. 0	M	,,	F	0·191	−0·008			− 2·4		
										Position Circle, 7°.
Sept. 20. 19. 40	M	α Cygni	F	0·131	−0·049	− 1/3	+ 3·8	− 18·7	− 25·2	Spectrum steady; star-line fairly well defined.
	M	,,	F	0·131	−0·162	− 3/4	+ 3·8	− 53·0	− 55·1	
19. 48	M	,,	F	0·131	−0·198	− 3/3	+ 3·8	− 64·0	− 46·5	
19. 55	M	α Cephei.....	F	0·131	−0·155	− 3/3	− 1·5	− 45·6	− 36·9	Spectrum steady; star-line fairly well defined.
20. 0	M	,,	F	0·131	−0·118	− 1/2	− 1·5	− 34·3	− 30·6	
20. 10	M	ε Pegasi	F	0·131	+0·071	+ 3/3	+ 8·0	+ 13·6	+ 17·7	Spectrum faint, and the bisection was therefore difficult. Definition fair.
20. 15	M	,,	F	0·131	+0·093	+ 3/3	+ 8·0	+ 20·8	+ 17·7	
20. 22	M	ζ Pegasi	F	0·131	+0·081	+ 3/3	+ 4·1	+ 20·5	+ 21·6	Spectrum faint. Star-line broad. Measures very rough.
20. 27	M	,,	F	0·131	−0·041	− 1/4	+ 4·1	− 16·5	− 20·1	
20. 30	M	α Pegasi	F	0·131	−0·019	− 1/10	+ 2·0	− 7·8	− 8·4	Spectrum tremulous. Definition poor.
	M	,,	F	0·131	+0·033	+ 1/10	+ 2·0	+ 8·0	+ 4·4	
	M	,,	F	0·131	+0·010	+ 1/10	+ 2·0	+ 1·0	+ 4·4	
20. 36	M	,,	F	0·131	+0·050	+ 1/10	+ 2·0	+ 13·2	+ 4·4	
20. 40	M	α Andromedæ .	F	0·131	−0·039	− 1/10	− 4·0	− 7·8	− 2·4	Spectrum tremulous. Definition poor.
	M	,,	F	0·131	+0·028	+ 1/10	− 4·0	+ 12·5	+ 10·4	
	M	,,	F	0·131	−0·066	− 1/5	− 4·0	− 16·0	− 8·8	
20. 50	M	,,	F	0·131	−0·059	− 1/5	− 4·0	− 13·9	− 8·8	
21. 5	M	γ Pegasi	F	0·131	+0·054	+ 1/4	− 2·8	+ 19·2	+ 34·9	Spectrum tremulous. Definition poor.
21. 10	M	,,	F	0·131	+0·060	+ 1/4	− 2·8	+ 21·0	+ 18·8	
21. 15	M	β Cassiopeiæ...	F	0·131	−0·118	− 1/3	− 6·5	− 29·3	− 14·9	Spectrum steady. Definition fair.
21. 20	M	,,	F	0·131	−0·086	− 1/3	− 6·5	− 19·6	− 14·9	
21. 35	M	γ Cassiopeiæ...	F	0·131	−0·075	− 1/3	− 8·3	− 14·5	− 7·7	Spectrum steady. Star-line faint, but well defined.
21. 40	M	,,	F	0·131	−0·074	− 1/3	− 8·3	− 14·2	− 7·7	
21. 45	M	δ Cassiopeiæ...	F	0·131	−0·122	− 1/2	− 9·3	− 27·8	− 22·8	
21. 50	M	,,	F	0·131	−0·088	− 1/3	− 9·3	− 17·4	− 12·1	
										Position Circle, 6°.
Sept. 22. 12. 10	M	Sky.....	F	0·131	+0·005			+ 1·5		
	M	,,	F	0·131	+0·022			+ 6·7		
	M	,,	F	0·131	−0·006			− 1·8		
	M	,,	F	0·131	−0·023			− 7·0		
12. 30	M	,,	F	0·131	+0·004			+ 1·2		
										Position Circle, 6°.
Sept. 25. 20. 20	M	Arcturus	b_1	0·097	−0·126	− 1/3	+ 5·2	− 52·5	− 45·0	Spectrum very tremulous indeed. Star-lines only seen by glimpses, and with great difficulty.
20. 25	M	,,	b_1	0·097	−0·131	− 3/3	+ 5·2	− 54·4	− 52·9	
20. 40	M	γ Draconis	b_1	0·097	−0·031	− 1/3	+ 4·7	− 16·3	− 31·2	Spectrum fairly steady, but faint, and the star-lines very faint indeed. Measures very difficult.
20. 50	M	,,	b_1	0·097	−0·041	− 1/4	+ 4·7	− 20·1	− 24·6	
20. 52	M	,,	b_1	0·097	−0·102	− 1/2	+ 4·7	− 43·0	− 44·5	
20. 55	M	,,	b_1	0·097	−0·035	− 1/3	+ 4·7	− 17·8	− 31·2	
21. 12	M	ε Pegasi	b_1	0·097	−0·120	− 1/3	+ 9·2	− 54·3	− 35·7	
21. 15	M	,,	b_1	0·097	+0·065	+ 1/4	+ 9·2	+ 15·2	+ 10·7	
21. 20	M	,,	b_1	0·097	−0·010	− 1/10	+ 9·2	− 13·0	− 17·2	Displacement very small indeed.
21. 25	M	,,	b_1	0·097	−0·027	− 1/5	+ 9·2	− 19·3	− 25·1	
21. 53	M	α Cygni	b_1	0·097	+0·034	+ 1/10	+ 4·5	+ 8·3	+ 3·5	Definition bad.
21. 58	M	,,	b_1	0·097	−0·043	− 1/3	+ 4·5	− 20·6	− 31·0	
22. 1	M	ε Cygni.....	b_1	0·097	−0·028	− 1/3	+ 7·2	− 17·7	− 33·7	Definition bad.
22. 6	M	,,	b_1	0·097	+0·008	0	+ 7·2	− 4·2	− 7·2	
										The definition throughout the evening was exceedingly bad, and the spectra unsteady. The star-lines were only detected with the greatest difficulty, and then but for a moment, notwithstanding that the high stars were very bright. Position Circle, 5°.

Date, 1884, Greenwich Sidereal Time.	Observer.	Object.	Line.	Width of Slit.	Displacement. Measured.	Displacement. Estimated.	Earth's Motion in Miles per Second.	Concluded Motion of Stars in Miles per Second. Measured.	Concluded Motion of Stars in Miles per Second. Estimated.	REMARKS.
d h m				r	r					
Sept. 27. 21. 55	M	Moon	b_1	0·187	+0·011			+ 4·1		Spectrum faint. Moon-lines very faint. No direct comparisons could be made. The adjustment of the Spectroscope seemed, however, satisfactory so far as could be ascertained.
	M	,,	b_1	0·187	+0·074			+ 27·8		
	M	,,	b_1	0·187	+0·043			+ 16·1		
	M	,,	b_1	0·187	−0·012			− 4·5		
22. 10	M	,,	b_1	0·187	+0·002			+ 0·8		
22. 25	M	ε Cygni.....	b_1	0·187	+0·011	+ 1/10	+ 7·5	− 3·4	+ 2·6	Spectrum tremulous. Star-line sharp, but faint. Displacement evidently very small.
22. 35	M	,,	b_1	0·187	+0·014	+ 1/10	+ 7·5	− 2·2	+ 2·6	
22. 50	M	γ Cygni	b_1	0·187	+0·052	+ 1/10	+ 6·7	+ 12·8	+ 3·4	Definition bad.
23. 0	M	,,	b_1	0·187	+0·015	+ 1/10	+ 6·7	− 1·1	+ 3·4	
23. 10	M	α Cygni	b_1	0·187	−0·082	− 3/10	+ 4·8	− 35·6	− 38·6	Spectrum bright. Star-line faint, but well defined. Measures considered satisfactory.
23. 20	M	,,	b_1	0·187	−0·072	− 1/10	+ 4·8	− 31·8	− 35·2	
23. 35	M	ε Pegasi	b_1	0·187	−0·057	− 1/4	+ 9·8	− 31·2	− 35·1	Spectrum faint. Star-line ill-defined. Measures very difficult.
23. 45	M	,,	b_1	0·187	−0·045	− 1/10	+ 9·8	− 26·7	− 19·9	
0. 0	M	β Pegasi	b_1	0·187	+0·093	+ 1/3	+ 2·1	+ 32·8	+ 31·7	Star-lines seen with great difficulty, and not clearly isolated from the dark band on which they stand.
0. 5	M	,,	b_1	0·187	−0·014	− 1/10	+ 2·1	− 7·4	− 12·2	
0. 10	M	,,	b_1	0·187	+0·092	+ 1/3	+ 2·1	+ 32·4	+ 38·3	
0. 20	M	,,	b_1	0·187	+0·018	+ 1/10	+ 2·1	+ 4·7	+ 8·0	Position Circle, 5°.
Oct. 22. 21. 18	M	α Lyræ	F	0·240	−0·078	− 1/4	+ 8·4	− 32·1	− 36·0	Spectrum bright and fairly steady. Measures considered good.
21. 23	M	,,	F	0·240	−0·024	− 1/10	+ 8·4	− 15·7	− 19·4	
21. 30	M	ζ Aquilæ	F	0·240	−0·189	− 1/2	+ 14·7	− 72·1	− 69·9	Spectrum very faint.
21. 35	M	,,	F	0·240	−0·038	− 1/3	+ 14·7	− 26·3	− 36·8	
21. 40	M	δ Cygni.....	F	0·240	−0·203	− 3/4	+ 7·8	− 69·5	− 51·9	Spectrum faint but steady. Star-line faint, and therefore difficult to bisect.
21. 45	M	,,	F	0·240	−0·029	− 1/10	+ 7·8	− 16·6	− 18·8	
21. 50	M	α Aquilæ	F	0·240	+0·067	+ 1/4	+ 16·2	+ 4·1	+ 11·4	Spectrum bright and steady. Star-line exceedingly ill-defined.
21. 55	M	,,	F	0·240	+0·044	+ 1/4	+ 16·2	− 2·8	+ 11·4	
22. 2	M	α Delphini	F	0·240	+0·222	+ 1/2	+ 15·0	+ 52·4	+ 40·2	Spectrum very faint, but steady. Measures considered fairly good.
22. 7	M	,,	F	0·240	+0·185	+ 1/2	+ 15·0	+ 41·2	+ 40·2	
22. 13	M	α Cygni	F	0·240	−0·183	− 1/2	+ 7·7	− 63·3	− 62·9	Spectrum bright and steady. Star-line faint and badly defined.
22. 18	M	,,	F	0·240	−0·097	− 1/3	+ 7·7	− 37·2	− 44·4	
22. 25	M	γ Cygni	F	0·240	−0·025	− 1/10	+ 9·3	− 16·9	− 20·3	Spectrum faint but steady. Star-line very faint.
22. 30	M	,,	F	0·240	−0·082	− 3/10	+ 9·3	− 34·2	− 42·4	
23. 0	M	ε Cygni.....	F	0·240	+0·121	+ 2/5	+ 10·9	+ 25·8	+ 33·2	Spectrum very faint. Star-line very faint.
23. 5	M	,,	F	0·240	+0·052	+ 1/5	+ 10·9	+ 4·9	+ 11·1	
23. 9	M	ε Pegasi	F	0·240	−0·063	− 1/5	+ 14·9	− 34·0	− 36·9	Spectrum and star-line faint.
23. 13	M	,,	F	0·240	−0·012	0	+ 14·9	− 18·5	− 14·9	
23. 18	M	α Cephei	F	0·240	−0·115	− 2/5	+ 2·1	− 37·0	− 46·2	
23. 24	M	,,	F	0·240	−0·068	− 1/4	+ 2·1	− 22·8	− 29·7	
23. 30	M	α Pegasi.....	F	0·240	−0·137	− 1/3	+ 10·8	− 52·4	− 47·5	Spectrum fairly bright and steady. Star-line well-defined. Measures considered good.
23. 35	M	,,	F	0·240	−0·137	− 2/5	+ 10·8	− 52·4	− 54·9	
23. 45	M	α Andromedæ .	F	0·240	−0·034	− 1/4	+ 5·0	− 15·3	− 32·6	
23. 50	M	,,	F	0·240	−0·044	− 1/10	+ 5·0	− 18·4	− 16·0	Position Circle, 6°.
Oct. 24. 21. 55	M	α Cygni	F	0·107	−0·204	− 2/3	+ 7·9	− 69·9	− 38·3	Spectrum faint. Star-line faint, and seen with difficulty.
22. 0	M	,,	F	0·107	−0·070	− 1/3	+ 7·9	− 29·2	− 23·1	
22. 35	M	α Pegasi.....	F	0·107	−0·101	− 1/2	+ 11·3	− 42·0	− 34·1	Spectrum faint. Star-line faint, and seen with difficulty.
22. 45	M	,,	F	0·107	−0·121	− 1/2	+ 11·3	− 48·0	− 34·1	
23. 10	M	α Andromedæ .	F	0·107	−0·076	− 2/5	+ 5·6	− 28·7	− 23·8	Star-line fairly well seen.
23. 20	M	,,	F	0·107	−0·023	− 1/10	+ 5·6	− 12·6	− 10·2	
23. 30	M	β Persei	F	0·107	+0·063	+ 3/5	− 6·6	+ 25·7	+ 33·9	Star-line seen with great difficulty.
23. 40	M	,,	F	0·107	+0·031	+ 1/4	− 6·6	+ 16·0	+ 18·0	
23. 50	M	α Persei	F	0·107	−0·070	− 2/3	− 7·7	− 13·6	− 10·5	Spectrum faint. Star-line very faint, and ill-defined.
0. 0	M	,,	F	0·107	−0·062	− 1/5	− 7·7	− 11·1	− 1·4	The night was not a favourable one for observation, as there was much mist, and the spectra were in general faint, and the definition poor. Position Circle, 6°.

Date, 1884, Greenwich Sidereal Time.	Observer.	Object.	Line.	Width of Slit.	Displacement.		Earth's Motion in Miles per Second.	Concluded Motion of Stars in Miles per Second.		REMARKS.
					Measured.	Estimated.		Measured.	Estimated.	
d h m				r	r					
Oct. 25. 22. 30	N	α Aquilæ	F	0·196	−0·121	− ½	+ 16·2	− 52·9	− 58·9	Star-line broad and diffused.
22. 35	N	,,	F	0·196	−0·079	− 3/10	+ 16·2	− 40·2	− 41·8	
23. 45	N	α Lyræ	F	0·196	−0·279	− 1	+ 8·3	− 93·1	− 93·7	Misty. Measures difficult.
23. 51	N	,,	F	0·196	−0·281	− 1	+ 8·3	− 93·7	− 93·7	
23. 56	N	,,	F	0·196	−0·210	− ¾	+ 8·3	− 72·1	− 72·4	
										Position Circle, 5°.
Oct. 28. 22. 11	N	α Aquilæ	F	0·170	−0·057	− ¼	+ 16·2	− 33·5	− 35·6	
22. 15	N	,,	F	0·170	−0·156	− ½	+ 16·2	− 63·6	− 55·0	
22. 35	N	α Cygni	F	0·170	−0·045	− 1/6	+ 8·3	− 22·0	− 21·2	
22. 40	N	,,	F	0·170	−0·125	− ½	+ 8·3	− 46·3	− 47·1	
22. 58	N	Moon	F	0·170	−0·034			− 10·3		
23. 2	N	,,	F	0·170	−0·006			− 1·8		
23. 34	N	α Pegasi	F	0·170	−0·138	− ½	+ 12·2	− 54·1	− 51·0	Spectrum faint. Star-line indistinct.
23. 40	N	,,	F	0·170	−0·074	− ⅓	+ 12·2	− 34·7	− 38·0	
0. 7	N	α Andromedæ .	F	0·170	−0·037	− 1/7	+ 6·7	− 18·0	− 17·8	
0. 15	N	,,	F	0·170	−0·008	0	+ 6·7	− 9·1	− 6·7	
0. 30	N	γ Pegasi	F	0·170	−0·103	− 2/5	+ 8·7	− 40·0	− 39·7	Star-line very faint. Measures doubtful.
0. 35	N	,,	F	0·170	−0·189	− ¾	+ 8·7	− 66·1	− 66·8	
0. 40	N	,,	F	0·170	−0·103	− 2/5	+ 8·7	− 40·0	− 39·7	
1. 35	N	β Persei	F	0·170	−0·021	0	− 5·5	− 0·9	+ 5·5	Star-line broad and diffused.
1. 40	N	,,	F	0·170	−0·031	− 1/20	− 5·5	− 3·9	+ 1·6	
1. 56	N	α Persei	F	0·170	−0·177	− ¾	− 6·7	− 47·1	− 51·4	
2. 2	N	,,	F	0·170	−0·219	− ⅞	− 6·7	− 59·8	− 61·1	
										Position Circle, 6°.
Nov 6. 22. 55	M	α Cephei	F	0·183	−0·229	− 2/3	+ 3·7	− 73·2	− 41·1	Spectrum and star-line faint.
23. 5	M	,,	F	0·183	−0·130	− ½	+ 3·7	− 43·2	− 31·8	
23. 15	M	α Lyræ.....	F	0·183	−0·147	− ½	+ 7·6	− 52·2	− 35·7	Spectrum bright and steady.
23. 20	M	,,	F	0·183	−0·071	− 1/3	+ 7·6	− 29·2	− 26·3	
23. 30	M	α Cygni	F	0·183	−0·118	− 1/3	+ 8·9	− 44·7	− 27·6	Spectrum bright and fairly steady. Star-line fairly well defined.
23. 35	M	,,	F	0·183	−0·109	− 2/5	+ 8·9	− 42·0	− 31·4	
23. 50	M	α Pegasi.....	F	0·183	−0·012	− 1/10	+ 14·1	− 17·7	− 19·7	Spectrum bright and fairly steady. Star-line fairly well defined.
23. 55	M	,,	F	0·183	+0·028	+ 1/10	+ 14·1	− 5·6	− 8·5	
0. 0	M	α Andromedæ .	F	0·183	−0·152	− 3/5	+ 9·0	− 55·1	− 42·7	Definition good.
0. 5	M	,,	F	0·183	−0·100	− 2/5	+ 9·0	− 39·4	− 31·5	
0. 10	M	γ Pegasi.....	F	0·183	+0·026	+ ¼	+ 11·1	− 3·2	+ 3·0	Spectrum rather faint but steady. Definition fair.
0. 15	M	,,	F	0·183	+0·044	+ 3/10	+ 11·1	+ 2·3	+ 5·8	
0. 25	M	β Arietis.....	F	0·183	−0·090	− ⅓	− 10·9	− 16·4	− 7·8	
0. 30	M	,,	F	0·183	−0·080	− ¼	− 10·9	− 13·4	− 3·2	
1. 5	M	β Persei	F	0·183	−0·115	− ½	− 2·9	− 32·0	− 25·2	
1. 8	M	,,	F	0·183	−0·088	− ⅓	− 2·9	− 23·8	− 15·8	
										Position Circle, 6°.
Nov. 7. 16. 0	M	Sky.....	F	0·183	−0·027			− 8·2		The coincidence of the two spectra appeared perfect.
	M	,,	F	0·183	−0·017			− 5·1		
	M	,,	F	0·183	−0·016			− 4·9		
	M	,,	F	0·183	−0·026			− 7·9		
16. 25	M	,,	F	0·183	+0·049			+ 14·9		
0. 12	N	α Lyræ.....	F	0·122	−0·111	− ½	+ 7·5	− 41·2	− 38·9	
0. 17	N	,,	F	0·122	−0·050	− ¼	+ 7·5	− 22·7	− 23·2	
0. 35	N	α Cygni	F	0·122	−0·087	− 2/5	+ 9·0	− 35·4	− 34·2	Spectrum faint and tremulous. Wind high.
0. 40	N	,,	F	0·122	−0·080	− 2/5	+ 9·0	− 33·3	− 34·2	
1. 40	N	β Persei	F	0·122	−0·016	− 1/10	− 2·6	− 2·3	− 3·7	
1. 45	N	,,	F	0·122	−0·067	− ⅓	− 2·6	− 17·8	− 18·4	
2. 0	N	α Persei	F	0·122	−0·166	− 1/5	− 4·0	− 46·4	− 46·3	
2. 5	N	,,	F	0·122	−0·094	− ½	− 4·0	− 24·6	− 27·4	
2. 20	N	Moon	F	0·122	−0·004			− 1·2		
	N	,,	F	0·122	−0·010			− 3·0		
	N	,,	F	0·122	+0·014			+ 4·3		
2. 30	N	,,	F	0·122	−0·013			− 4·0		
										Position Circle, 5°.

Date, 1884, Greenwich Sidereal Time.	Observer.	Object.	Line.	Width of Slit.	Displacement.		Earth's Motion in Miles per Second.	Concluded Motion of Stars in Miles per Second.		REMARKS.
					Measured.	Estimated.		Measured.	Estimated.	
d h m				r	r					
Nov. 8. 23. 40	M	β Persei	F	0·165	−0·020	− 1/10	− 2·3	− 3·8	− 5·3	Spectrum fairly steady, but star-line not well defined.
23. 50	M	,,	F	0·165	−0·065	− 1/3	− 2·3	− 17·4	− 23·0	
0. 0	M	α Persei	F	0·165	−0·040	− 1/5	− 3·8	− 8·3	− 11·4	Star-line very ill-defined. Impossible to get a satisfactory bisection.
0. 15	M	,,	F	0·165	+0·060	+ 1/4	− 3·8	+ 22·0	+ 22·8	
0. 25	M	,,	F	0·165	+0·055	+ 1/4	− 3·8	+ 20·5	+ 22·8	
0. 35	M	,,	F	0·165	−0·127	− 1/2	− 3·8	− 34·8	− 34·2	
0. 45	M	δ Persei	F	0·165	+0·068	+ 1/3	− 4·7	+ 25·4	+ 30·0	Spectrum faint but steady. Star-line faint though well defined. Clearly displaced to red by a considerable amount.
0. 50	M	,,	F	0·165	+0·100	+ 1/2	− 4·7	+ 35·1	+ 42·7	
1. 0	M	η Tauri.....	F	0·165	+0·020	+ 1/10	− 3·7	+ 9·8	+ 11·3	Spectrum faint but steady. Star-line faint but well defined. Displacement practically nil.
1. 10	M	,,	F	0·165	−0·018	− 1/10	− 3·7	− 1·8	− 3·9	
1. 20	M	Aldebaran	F	0·165	+0·220	+ 2/3	− 6·7	+ 73·5	+ 63·7	Spectrum tremulous. Star-line faint and difficult to bisect. Displacement to red large.
1. 30	M	,,	F	0·165	+0·156	+ 2/3	− 6·7	+ 54·1	+ 57·4	
1. 35	M	,,	F	0·165	+0·217	+ 3/4	− 6·7	+ 72·7	+ 63·7	
1. 40	M	,,	F	0·165	+0·072	+ 1/3	− 6·7	+ 28·6	+ 32·0	
1. 55	M	Capella	F	0·165	+0·113	+ 1/2	− 9·4	+ 43·7	+ 55·0	Star-line fairly well seen.
2. 5	M	,,	F	0·165	+0·063	+ 1/3	− 9·4	+ 28·5	+ 34·7	Position Circle, 6°.
Nov. 15. 22. 10	M	α Andromedæ .	F	0·243	−0·089	− 1/3	+ 11·2	− 38·2	− 44·4	Spectrum somewhat faint. Star-line not well defined.
22. 25	M	,,	F	0·243	−0·056	− 1/5	+ 11·2	− 28·2	− 31·1	Position Circle, 6°.
Nov. 20. 1. 55	N	α Arietis.....	F	0·190	+0·051	+ 1/5	+ 7·3	+ 8·2	+ 9·5	
2. 0	N	,,	F	0·190	+0·029	+ 1/8	+ 7·3	+ 1·5	+ 3·2	
2. 25	N	β Persei	F	0·190	−0·098	− 2/5	+ 1·4	− 31·2	− 35·0	
2. 30	N	,,	F	0·190	−0·062	− 1/4	+ 1·4	− 20·2	− 22·4	
2. 55	N	η Tauri	F	0·190	−0·069	− 1/4	+ 0·3	− 21·3	− 21·3	
3. 0	N	,,	F	0·190	−0·137	− 1/2	+ 0·3	− 41·9	− 42·4	
3. 25	N	Aldebaran	F	0·190	+0·010	0	− 2·9	+ 5·9	+ 2·9	Spectrum tremulous. Star-line faint.
3. 30	N	,,	F	0·190	+0·026	+ 1/10	− 2·9	+ 10·8	+ 11·3	
4. 0	N	Rigel	F	0·190	+0·149	+ 1/2	− 4·4	+ 49·7	+ 46·5	
4. 5	N	,,	F	0·190	+0·097	+ 1/3	− 4·4	+ 33·9	+ 32·4	Position Circle, 5°.
Dec. 15. 2. 40	M	Aldebaran	F	0·154	+0·109	+ 1/2	+ 5·3	+ 27·8	+ 24·8	Spectrum faint, and star-line ill-defined.
2. 55	M	,,	F	0·154	+0·154	+ 2/3	+ 5·3	+ 41·5	+ 34·8	
3. 15	M	Capella	F	0·154	−0·051	− 1/5	+ 1·3	− 16·8	− 13·3	Spectrum bright. Star-line only fairly well defined. Small but unmistakeable displacement towards the blue.
3. 30	M	,,	F	0·154	−0·018	− 1/10	+ 1·3	− 6·8	− 7·3	
3. 45	M	β Tauri.....	F	0·154	−0·048	− 1/5	+ 1·2	− 15·8	− 13·2	Spectrum fairly bright and steady. Star-line fairly defined.
4. 0	M	,,	F	0·154	−0·089	− 2/5	+ 1·2	− 28·2	− 25·2	
4. 15	M	γ Orionis	F	0·154	−0·013	− 1/10	+ 1·7	− 5·7	− 7·7	Spectrum bright and steady. Star-line fairly defined.
4. 30	M	,,	F	0·154	−0·062	− 1/5	+ 1·7	− 20·5	− 13·7	
4. 45	M	Rigel	F	0·154	+0·064	+ 3/10	+ 2·6	+ 16·8	+ 15·4	Spectrum bright. Star-line faint, but seen well defined by glimpses. Second measure considered very good.
4. 55	M	,,	F	0·154	+0·039	+ 1/5	+ 2·6	+ 9·2	+ 9·4	
5. 10	M	δ Orionis	F	0·154	−0·039	− 1/5	+ 1·2	− 13·0	− 13·2	Spectrum faint; star-line faint and ill-defined. Measures considered rough.
5. 20	M	,,	F	0·154	−0·010	0	+ 1·2	− 4·2	− 1·2	
5. 40	M	ε Orionis	F	0·154	+0·043	+ 1/4	+ 0·8	+ 12·3	+ 14·3	Spectrum somewhat faint. Star-line only seen well by glimpses.
5. 50	M	,,	F	0·154	−0·007	0	+ 0·8	− 2·9	− 0·8	
6. 0	M	ζ Orionis	F	0·154	+0·099	+ 1/2	+ 0·5	+ 29·6	+ 29·6	Star-line only seen well by glimpses.
6. 10	M	,,	F	0·154	+0·032	+ 1/5	+ 0·5	+ 9·2	+ 11·5	
6. 20	M	Sirius	F	0·154	−0·123	− 2/3	− 4·5	− 32·9	− 35·6	Spectrum very bright and fairly steady. Star-line well seen. Manifest displacement towards the blue, but direct comparison seemed to show it as smaller than the measures on the indirect comparison; say 1/4 to 1/3.
6. 25	M	,,	F	0·154	−0·063	− 1/3	− 4·5	− 14·6	− 15·6	
6. 35	M	,,	F	0·154	−0·122	− 2/3	− 4·5	− 32·6	− 40·7	
6. 40	M	,,	F	0·154	−0·091	− 1/2	− 4·5	− 23·1	− 25·6	

Date, 1884, Greenwich Sidereal Time.	Observer.	Objects.	Line.	Width of Slit.	Displacement.		Earth's Motion in Miles per Second.	Concluded Motion of Stars in Miles per Second.		REMARKS.
					Measured.	Estimated.		Measured.	Estimated.	
d h m				r	r					
Dec. 15. 6. 30	M	Procyon	F	0·154	−0·063	− 1/3	− 0·9	− 18·2	− 19·1	Spectrum very bright, but star-line very difficult to hold steadily. Direct comparison seemed to show a coincidence of the two spectra, *i.e.*, no marked displacement was discernible. Position Circle, 5°.
7. 0	M	,,	F	0·154	−0·026	− 1/10	− 0·9	− 7·0	− 5·1	
Dec. 17. 2. 30	M	α Andromedæ .	F	0·154	−0·009	0	+ 16·4	− 19·1	− 16·4	Spectrum faint. Measures considered rough.
2. 35	M	,,	F	0·154	−0·122	− 1/2	+ 16·4	− 53·5	− 41·6	
2. 40	M	,,	F	0·154	−0·075	− 1/3	+ 16·4	− 39·2	− 29·0	
2. 45	M	,,	F	0·154	−0·102	− 1/2	+ 16·4	− 47·4	− 41·6	
3. 0	M	β Persei	F	0·154	−0·249	− 1	+ 9·3	− 84·9	− 72·3	
3. 10	M	,,	F	0·154	−0·114	− 1/2	+ 9·3	− 43·9	− 34·5	
3. 15	M	,,	F	0·154	−0·197	− 3/4	+ 9·3	− 69·2	− 51·2	
3. 20	M	α Persei	F	0·154	−0·037	− 1/4	+ 7·2	− 18·4	− 22·9	
3. 25	M	,,	F	0·154	−0·145	− 1/2	+ 7·2	− 51·3	− 38·6	
3. 32	M	Aldebaran	F	0·154	+0·038	+ 1/3	+ 6·0	+ 5·6	+ 6·6	Spectrum fairly bright, but star-line very faint.
3. 38	M	,,	F	0·154	+0·120	+ 1/2	+ 6·0	+ 30·4	+ 25·4	
3. 45	M	Capella	F	0·154	+0·045	+ 1/3	+ 1·9	+ 11·8	+ 19·1	
3. 50	M	,,	F	0·154	+0·069	+ 1/2	+ 1·9	+ 19·1	+ 23·3	
3. 50	M	Rigel	F	0·154	+0·108	+ 1	+ 3·2	+ 29·6	+ 28·2	Spectrum bright but star-line faint.
6. 5	M	,,	F	0·154	+0·051	+ 1/4	+ 3·2	+ 12·3	+ 12·5	
6. 15	M	γ Orionis	F	0·154	+0·026	+ 1/10	+ 2·4	+ 5·5	+ 3·9	Spectrum bright but tremulous, and star-line faint.
6. 20	M	,,	F	0·154	+0·031	+ 1/5	+ 2·4	+ 7·0	+ 10·2	
6. 25	M	,,	F	0·154	−0·071	− 1/3	+ 2·4	− 24·0	− 23·4	
6. 30	M	,,	F	0·154	+0·008	0	+ 2·4	− 4·8	− 2·4	
6. 40	M	β Tauri	F	0·154	−0·128	− 1/2	+ 1·9	− 40·7	− 33·3	Spectrum bright and fairly steady.
6. 45	M	,,	F	0·154	−0·069	− 1/4	+ 1·9	− 22·9	− 17·6	
6. 55	M	β Aurigæ	F	0·154	−0·033	− 1/5	− 0·6	− 9·4	− 12·0	Spectrum bright. Star-line broad and ill-defined.
7. 10	M	,,	F	0·154	−0·068	− 1/10	− 0·6	− 20·1	− 18·3	
7. 25	M	Sirius	F	0·154	−0·054	− 1/4	− 4·0	− 12·4	− 11·7	Spectrum very bright, but tremulous. Star-line fairly well seen.
7. 35	M	,,	F	0·154	−0·044	− 1/5	− 4·0	− 9·4	− 8·6	
7. 45	M	,,	F	0·154	−0·077	− 1/3	− 4·0	− 19·4	− 21·2	
8. 0	M	,,	F	0·154	−0·078	− 1/3	− 4·0	− 19·7	− 21·2	The first four stars were observed under disadvantageous circumstances, as there was still a certain amount of fog about, and the spectra were faint. Position Circle, 5°.

ROTATION OF JUPITER deduced from the Relative Displacement of Lines in the Spectrum at the East and West Limbs respectively.

Date, 1884, Greenwich Sidereal Time.	Observer.	W. Limb.	E. Limb.	Line.	Width of Slit.	Displacement Measured	Concluded Motion in Miles per Second.	REMARKS.
d h m		r	r		r	r		
Feb. 6. 9. 30	M	0·763	0·647	F	0·180	+ 0·116	+ 35·3	
9. 34	M	0·762	0·655	F	0·180	+ 0·107	+ 32·5	The lines in the spectrum of Jupiter were not very well seen.
9. 38	M	0·795	0·610	F	0·180	+ 0·185	+ 56·2	The slit was placed tangential to the limb, and as nearly on it
9. 42	M	0·778	0·713	F	0·180	+ 0·065	+ 19·7	as was practicable.
9. 45	M	0·761	0·682	F	0·180	+ 0·079	+ 24·0	
							+ 33·5	Mean.
								Position Circle, 16°. 45′.
Mar. 24. 12. 20	M	0·292	0·201	b_1	0·150	+ 0·091	+ 34·2	The point observed was about 2″ from the limb. The spectrum
12. 25	M	0·320	0·280	b_1	0·150	+ 0·040	+ 15·2	of the planet was faint and the lines indistinct. It was
12. 30	M	0·323	0·298	b_1	0·150	+ 0·025	+ 9·4	therefore difficult to measure the displacement. The slit was
12. 35	M	0·340	0·322	b_1	0·150	+ 0·018	+ 6·8	placed tangential to the limb.
							+ 16·4	Mean.
								Position Circle, 16°. 45′.

Calculated Relative Motion of the limbs, +32 miles per second.
The "half-prism" spectroscope with a dispersion of one "half-prism" was used on both occasions.

COLLECTED RESULTS for MOTIONS of STARS in the line of Sight, from SPECTROSCOPIC OBSERVATIONS made at the ROYAL OBSERVATORY, GREENWICH, in the Year 1884.

(F for the Star or Moon is compared with H_β of Hydrogen, and b_1, b_2, b_4 with Mg_1, Mg_2, Mg_3 of Magnesium.)

(+ denotes Recession; — Approach.)

Date, 1884.	Observer.	Number of Measures.	Number of Prisms.	Position Circle.	Width of Slit.	Line.	Earth's Motion in Miles per Second.	Concluded Motion of Star in Miles per Second.	
								Measured.	Estimated.
α ANDROMEDÆ.									
				°	r				
August 7	M	2	1	6	0·178	F	— 13·5	+ 4·2	— 1·4
11	M	3	1	6	0·161	F	— 12·9	— 13·5	— 9·2
12	N	2	1	5	0·150	F	— 12·7	— 30·9	— 34·9
25	M	2	1	5	0·163	F	— 10·3	— 21·6	— 18·0
September 4	M	2	1	5	0·140	F	— 8·1	— 29·9	— 27·1
10	M	2	1	6	0·167	F	— 6·6	— 22·1	— 19·2
18	M	2	1	7	0·191	F	— 4·6	— 15·2	— 12·5
20	M	4	1	6	0·131	F	— 4·0	— 6·3	— 2·4
October 22	M	2	1	6	0·240	F	+ 5·0	— 16·9	— 24·3
24	M	2	1	6	0·107	F	+ 5·6	— 20·7	— 17·0
28	N	2	1	6	0·170	F	+ 6·7	— 13·6	— 12·3
November 6	M	2	1	6	0·183	F	+ 9·0	— 47·3	— 37·1
15	M	2	1	6	0·243	F	+ 11·2	— 33·2	— 37·8
December 17	M	4	1	5	0·154	F	+ 16·4	— 39·8	— 32·2
β CASSIOPEIÆ.									
July 21	M	1	1	6	0·212	F	— 11·1	— 6·2	— 9·9
August 7	M	2	1	6	0·178	F	— 10·9	+ 12·6	+ 13·1
11	M	2	1	6	0·161	F	— 10·8	+ 41·6	+ 33·6
14	N	2	1	5	0·193	F	— 10·6	+ 22·6	+ 23·3
25	M	2	1	5	0·163	F	— 9·8	— 33·0	— 24·8
September 4	M	2	1	5	0·140	F	— 8·7	+ 9·1	+ 8·7
10	M	2	1	6	0·167	F	— 8·0	— 26·8	— 27·1
11	N	3	1	6	0·165	F	— 7·9	+ 10·5	+ 13·8
18	M	2	1	7	0·191	F	— 6·8	+ 9·9	+ 10·0
20	M	2	1	6	0·131	F	— 6·5	— 24·5	— 14·9
γ PEGASI.									
August 12	N	2	1	5	0·150	F	— 12·7	+ 10·1	+ 12·7
September 4	M	2	1	5	0·140	F	— 7·4	— 11·8	— 10·9
10	M	2	1	6	0·167	F	— 5·7	— 37·2	— 32·2
18	M	5	1	7	0·191	F	— 3·4	— 5·7	— 3·0
20	M	2	1	6	0·131	F	— 2·8	+ 20·1	+ 26·9
October 28	N	3	1	6	0·170	F	+ 8·7	— 48·7	— 48·7
November 6	M	2	1	6	0·183	F	+ 11·1	— 0·5	+ 4·4

Date, 1884.	Observer.	Number of Measures.	Number of Prisms.	Position Circle.	Width of Slit.	Line.	Earth's Motion in Miles per Second.	Concluded Motion of Star in Miles per Second.	
								Measured.	Estimated.
γ Cassiopeiæ.									
				°	r				
August 11	M	2	1	6	0·161	F	− 11·7	− 16·9	− 14·2
25	M	2	1	5	0·163	F	− 11·1	− 1·5	− 4·6
September 4	M	2	1	5	0·140	F	− 10·3	− 2·2	− 0·3
10	M	2	1	6	0·167	F	− 9·6	− 20·6	− 19·9
11	N	2	1	6	0·165	F	− 9·5	− 39·1	− 39·6
18	M	2	1	7	0·191	F	− 8·6	− 26·2	− 15·0
20	M	2	1	6	0·131	F	− 8·3	− 14·4	− 7·7
δ Cassiopeiæ.									
August 11	M	2	1	6	0·161	F	− 12·3	+ 9·6	+ 9·2
14	N	2	1	5	0·193	F	− 12·3	+ 2·0	+ 3·9
September 11	N	2	1	6	0·165	F	− 10·5	+ 5·7	+ 2·1
18	M	2	1	7	0·191	F	− 9·6	− 33·7	− 25·7
20	M	2	1	6	0·131	F	− 9·3	− 22·6	− 17·5
β Arietis.									
February 21	M	2	1	5	0·216	F	+ 17·6	− 55·0	− 55·7
November 6	M	2	1	6	0·183	F	− 10·9	− 14·7	− 5·5
α Arietis.									
November 20	N	2	1	6	0·190	F	+ 7·3	+ 4·9	+ 6·4
γ Persei.									
February 15	M	2	1	5	0·161	F	+ 15·5	− 49·1	− 51·3
21	M	2	1	5	0·216	F	+ 15·4	+ 31·7	+ 30·3
β Persei.									
February 15	M	4	1	5	0·161	F	+ 17·4	− 44·0	− 50·7
August 11	M	2	1	6	0·161	F	− 16·5	+ 9·2	+ 10·3

Date 1884.	Observer.	Number of Measures.	Number of Prisms.	Position Circle.	Width of Slit.	Line.	Earth's Motion in Miles per Second.	Concluded Motion of Star in Miles per Second.	
								Measured.	Estimated.
β PERSEI—*cont.*									
				°	r				
September 10	M	2	1	6	0·167	F	− 15·3	+ 33·8	+ 34·2
18	M	2	1	7	0·191	F	− 14·3	+ 39·4	+ 38·4
October 24	M	2	1	6	0·107	F	− 6·6	+ 20·9	+ 26·0
28	N	2	1	6	0·170	F	− 5·5	− 2·4	+ 3·6
November 6	M	2	1	6	0·183	F	− 2·9	− 27·9	− 20·5
7	N	2	1	6	0·122	F	− 2·6	− 10·1	− 11·1
8	M	2	1	6	0·165	F	− 2·3	− 10·6	− 14·2
20	N	2	1	6	0·190	F	+ 1·4	− 25·7	− 28·7
December 17	M	3	1	5	0·154	F	+ 9·3	− 66·0	− 52·7
α PERSEI.									
February 15	M	2	1	5	0·161	F	+ 16·2	− 66·7	− 67·8
September 10	M	2	1	6	0·167	F	− 14·9	− 22·7	− 27·2
18	M	2	1	7	0·191	F	− 14·2	+ 3·9	+ 6·2
October 24	M	2	1	6	0·107	F	− 7·7	− 12·4	− 6·0
28	N	2	1	6	0·170	F	− 6·7	− 53·5	− 56·3
November 7	N	2	1	6	0·122	F	− 4·0	− 35·5	− 36·9
8	M	4	1	6	0·165	F	− 3·8	− 0·2	0·0
December 17	M	2	1	5	0·154	F	+ 7·2	− 34·9	− 30·8
δ PERSEI.									
November 8	M	2	1	6	0·165	F	− 4·7	+ 30·3	+ 36·4
η TAURI.									
February 15	M	2	1	5	0·161	F	+ 18·8	− 40·7	− 40·3
November 8	M	2	1	6	0·165	F	− 3·7	+ 4·0	+ 3·7
20	N	2	1	6	0·090	F	+ 0·3	− 31·6	− 31·9
α TAURI (*Aldebaran*).									
January 24	M	2	1	5	0·125	F	+ 15·7	+ 17·4	+ 19·4
February 6	M	2	1	5	0·135	F	+ 17·6	+ 9·0	+ 10·5
15	M	2	1	5	0·161	F	+ 18·4	+ 8·6	+ 16·0
21	M	2	1	5	0·216	F	+ 18·6	+ 17·5	+ 22·6

Date 1884.		Observer.	Number of Measures.	Number of Prisms.	Position Circle.	Width of Slit.	Line.	Earth's Motion in Miles per Second.	Concluded Motion of Star in Miles per Second.	
									Measured.	Estimated.
					°	r				
α Tauri (*Aldebaran*).										
March	12	M	2	1	5	0·226	F	+ 17·9	+ 46·7	+ 27·9
	20	N	2	1	6	0·120	b_1	+ 17·0	+ 2·7	+ 4·3
	24	M	2	1	5	0·090	b_1	+ 16·4	+ 26·8	+ 24·5
November	8	M	4	1	6	0·165	F	− 6·7	+ 57·2	+ 54·2
	20	N	2	1	6	0·190	F	− 2·9	+ 8·4	+ 7·1
December	15	M	2	1	5	0·154	F	+ 5·3	+ 34·7	+ 29·8
	17	M	2	1	5	0·154	F	+ 6·0	+ 18·0	+ 16·0
α Aurigæ (*Capella*).										
February	11	M	2	1	5	0·090	F	+ 15·4	+ 22·4	+ 37·0
	15	M	2	1	5	0·161	F	+ 15·9	+ 11·8	+ 12·7
	29	N	2	1	5	0·216	F	+ 17·0	− 12·3	− 9·4
March	20	N	2	1	6	0·120	b_1	+ 16·8	− 1·8	+ 1·5
	29	N	2	1	5	0·110	b_1	+ 16·0	+ 11·6	+ 9·8
November	8	M	2	1	6	0·165	F	− 9·4	+ 36·1	+ 44·9
December	15	M	2	1	5	0·154	F	+ 1·3	− 11·8	− 10·3
	17	M	2	1	5	0·154	F	+ 1·9	+ 15·5	+ 21·2
β Orionis (*Rigel*).										
January	24	M	2	1	5	0·125	F	+ 12·3	− 5·3	− 3·2
	28	M	2	1	5	0·188	F	+ 13·0	+ 12·4	+ 24·4
February	6	M	2	1	5	0·135	F	+ 14·3	+ 5·4	+ 3·3
	11	M	2	1	5	0·090	F	+ 14·9	+ 44·7	+ 54·9
	12	N	2	1	5	0·204	F	+ 15·0	+ 21·8	+ 16·1
	15	M	2	1	5	0·161	F	+ 15·3	+ 19·8	+ 23·4
	18	M	2	2	5	0·175	F	+ 15·5	+ 0·2	+ 0·9
	21	M	2	1	5	0 216	F	+ 15·7	+ 19·6	+ 20·9
March	12	M	2	1	5	0·226	F	+ 15·8	+ 23·7	+ 17·8
November	20	N	2	1	6	0·190	F	− 4·4	+ 41·8	+ 39·5
December	15	M	2	1	5	0·154	F	+ 2·6	+ 13·0	+ 12·4
	17	M	2	1	5	0·154	F	+ 3·2	+ 22·0	+ 20·4
γ Orionis.										
January	28	M	2	1	5	0·188	F	+ 13·7	+ 3·0	+ 8·8
February	11	M	4	1	5	0·090	F	+ 16·1	+ 9·2	+ 8·7
	15	M	2	1	5	0·161	F	+ 16·6	+ 1·8	+ 9·2
	18	M	2	2	5	0·175	F	+ 17·0	− 11·7	− 10·2
	21	M	2	1	5	0·216	F	+ 17·2	+ 0·9	+ 3·4

Date 1884.		Observer.	Number of Measures.	Number of Prisms.	Position Circle.	Width of Slit.	Line.	Earth's Motion in Miles per Second.	Concluded Motion of Star in Miles per Second.	
									Measured.	Estimated.
γ ORIONIS—*cont.*										
					°	r				
March	10	M	2	1	5	0·215	F	+ 17·8	− 7·5	− 10·7
	12	M	2	1	5	0·226	F	+ 17·8	− 10·2	− 11·0
December	15	M	2	1	5	0·154	F	+ 1·7	− 13·1	− 10·7
	17	M	4	1	5	0·154	F	+ 2·4	− 4·1	− 2·9
β TAURI.										
January	28	M	2	1	5	0·188	F	+ 13·9	− 11·8	− 9·8
February	11	M	2	1	5	0·090	F	+ 16·5	− 38·5	− 42·2
	12	N	2	1	5	0·204	F	+ 16·7	− 21·1	− 25·5
	15	M	4	1	5	0·161	F	+ 17·1	− 14·1	− 15·0
	18	M	2	2	5	0·175	F	+ 17·4	− 24·6	− 31·5
	21	M	2	1	5	0·216	F	+ 17·7	− 29·6	− 38·3
March	10	M	2	1	5	0·215	F	+ 18·5	− 38·6	− 33·9
	12	M	2	1	5	0·226	F	+ 18·5	− 19·6	− 18·5
December	15	M	2	1	5	0·154	F	+ 1·2	− 22·0	− 19·2
	17	M	2	1	5	0·154	F	+ 1·9	− 31·8	− 25·5
δ ORIONIS.										
January	28	M	2	1	5	0·188	F	+ 12·8	− 44·0	− 40·4
February	11	M	2	1	5	0·090	F	+ 15·2	− 14·8	− 11·7
	15	M	2	1	5	0·161	F	+ 15·7	+ 9·8	+ 12·3
	18	M	2	2	5	0·175	F	+ 16·0	+ 14·8	+ 16·8
December	15	M	2	1	5	0·154	F	+ 1·2	− 8·6	− 7·2
ε ORIONIS.										
February	11	M	2	1	5	0·090	F	+ 15·0	− 20·5	− 18·5
	15	M	2	1	5	0·161	F	+ 15·5	+ 24·2	+ 27·5
	18	M	2	2	5	0·175	F	+ 15·9	+ 5·1	+ 11·4
December	15	M	2	1	5	0·154	F	+ 0·8	+ 4·7	+ 6·8
ζ ORIONIS.										
February	11	M	2	1	5	0·090	F	+ 14·7	− 26·7	− 28·7
	15	M	2	1	5	0·161	F	+ 15·2	− 11·9	− 6·6
	18	M	2	2	5	0·175	F	+ 15·6	− 2·4	− 1·6
December	15	M	2	1	5	0·154	F	+ 0·5	+ 19·4	+ 20·6

Date 1884.		Observer.	Number of Measures.	Number of Prisms.	Position Circle.	Width of Slit.	Line.	Earth's Motion in Miles per Second.	Concluded Motion of Star in Miles per Second.	
									Measured.	Estimated.
κ Orionis.										
					°	r				
February	11	M	2	1	5	0·090	F	+ 13·4	− 8·9	+ 0·6
	15	M	2	1	5	0·161	F	+ 13·9	+ 14·1	+ 11·9
α Orionis.										
March	20	N	3	1	6	0·120	b_4	+ 17·7	+ 31·2	+ 29·9
	24	M	4	1	5	0·090	b_1	+ 17·6	+ 35·9	+ 33·5
β Aurigæ.										
February	2	N	1	1	5	0·185	F	+ 12·4	− 14·8	− 12·4
	15	M	2	1	5	0·161	F	+ 14·8	− 3·2	− 1·9
December	17	M	2	1	5	0·154	F	− 0·6	− 14·8	− 15·2
γ Geminorum.										
February	15	M	2	1	5	0·161	F	+ 14·2	− 30·8	− 29·3
March	10	M	2	1	5	0·215	F	+ 17·7	+ 15·7	+ 14·3
	15	M	2	1	5	0·209	F	+ 18·0	− 26·5	− 27·6
α Canis Majoris (*Sirius*.)										
January	24	M	2	1	5	0·125	F	+ 5·5	− 16·2	− 16·4
	28	M	3	1	5	0·188	F	+ 6·4	− 5·5	− 6·6
February	6	M	4	1	5	0·135	F	+ 8·4	− 31·9	− 26·2
	11	M	4	1	5	0·090	F	+ 9·4	− 36·8	− 34·2
	12	N	2	1	5	0·204	F	+ 9·6	− 31·9	− 30·6
	15	M	4	1	5	0·161	F	+ 10·1	− 33·0	− 30·9
	18	M	4	2	5	0·175	F	+ 10·6	− 17·6	− 22·3
March	10	M	4	1	5	0·215	F	+ 13·3	− 36·4	− 35·2
	12	M	4	1	5	0·226	F	+ 13·5	+ 3·3	+ 0·2
	15	M	4	1	5	0·209	F	+ 13·7	− 5·7	− 5·6
April	10	M	2	1	6	0·063	F	+ 13·9	− 37·5	− 37·1
December	15	M	4	1	5	0·154	F	− 4·5	− 25·8	− 29·4
	17	M	4	1	5	0·154	F	− 4·0	− 15·2	− 15·7

Date, 1884.		Observer.	Number of Measures.	Number of Prisms.	Position Circle.	Width of Slit.	Line.	Earth's Motion in Miles per Second.	Concluded Motion of Star in Miles per Second.	
									Measured.	Estimated.
α^2 GEMINORUM (*Castor*).										
					°	r				
January	24	M	1	1	5	0·125	F	+ 5·1	+ 4·3	+ 7·6
February	6	M	4	1	5	0·135	F	+ 9·0	+ 12·4	+ 10·5
	11	M	2	1	5	0·090	F	+ 10·4	+ 3·2	+ 10·0
	15	M	2	1	5	0·161	F	+ 11·5	+ 23·6	+ 31·5
March	15	M	2	1	5	0·209	F	+ 16·8	— 1·3	— 3·7
α CANIS MINORIS (*Procyon*).										
February	6	M	4	1	5	0·135	F	+ 7·3	+ 0·9	+ 1·5
	11	M	4	1	5	0·090	F	+ 8·7	+ 16·1	+ 28·0
	12	N	2	1	5	0·204	F	+ 9·0	+ 37·5	+ 43·9
	15	M	2	1	5	0·161	F	+ 9·8	— 5·4	— 5·5
March	10	M	4	1	5	0·215	F	+ 14·9	— 26·4	— 25·4
	15	M	4	1	5	0·209	F	+ 15·7	— 33·3	— 33·7
April	10	M	4	1	6	0·063	F	+ 17·5	+ 9·1	+ 4·3
December	15	M	2	1	5	0·154	F	— 0·9	— 12·6	— 12·1
β GEMINORUM (*Pollux*).										
February	6	M	2	1	5	0·135	F	+ 8·0	— 38·5	— 33·8
	11	M	2	1	5	0·190	F	+ 9·4	— 38·1	— 38·5
	15	M	4	1	5	0·161	F	+ 10·5	— 62·2	— 61·4
March	15	M	2	1	5	0·209	F	+ 16·4	— 36·8	— 39·8
	24	M	2	1	5	0·090	F	+ 17·4	— 50·1	— 47·4
α HYDRÆ.										
March	24	M	2	1	5	0·090	b_1	+ 10·7	+ 15·1	+ 19·3
α LEONIS (*Regulus*).										
February	6	M	2	1	5	0·180	F	— 3·4	+ 6·0	+ 6·0
March	15	M	2	1	5	0·209	F	+ 8·6	+ 20·0	+ 18·1
April	10	M	2	1	6	0·063	F	+ 14·7	— 5·9	— 3·9
	12	N	2	1	6	0·292	F	+ 15·0	— 19·4	— 15·0
	28	M	2	1	5	0·208	F	+ 17·1	— 8·0	+ 2·2
May	13	N	2	1	5	0·282	F	+ 17·9	+ 5·7	+ 7·2
	30	M	2	1	5	0·162	F	+ 17·5	— 11·9	— 9·3

Date, 1884.	Observer.	Number of Measures.	Number of Prisms.	Position Circle.	Width of Slit.	Line.	Earth's Motion in Miles per Second.	Concluded Motion of Star in Miles per Second.	
								Measured.	Estimated.
γ^1 Leonis.									
				°	r				
March 24	M	2	1	5	0·090	b_1	+ 10·9	− 3·1	− 8·2
β Leonis.									
April 10	M	2	1	6	0·063	F	+ 9·3	− 37·3	− 31·7
28	M	2	1	5	0·208	F	+ 13·4	− 53·4	− 53·5
May 22	N	2	1	6	0·194	F	+ 16·7	− 41·5	− 42·2
ϵ Virginis.									
March 24	M	2	1	5	0·090	b_1	− 1·1	+ 1·0	+ 1·1
α Virginis (*Spica*).									
April 5	N	1	1	6	0·182	F	− 1·8	− 37·7	− 38·8
May 30	M	2	1	5	0·162	F	+ 13·2	− 15·8	− 13·2
α Boötis (*Arcturus*).									
March 24	M	2	1	5	0·090	b_1	− 4·8	− 53·0	− 49·7
April 5	N	2	1	6	0·182	F	− 1·6	− 49·8	− 49·1
12	N	3	1	6	0·292	F	+ 0·3	− 55·1	− 54·3
28	M	2	1	5	0·208	F	+ 4·4	− 38·9	− 41·5
May 13	N	2	1	5	0·282	F	+ 8·0	− 68·6	− 73·0
22	N	2	1	6	0·194	F	+ 9·8	− 53·5	− 59·3
30	M	3	1	5	0·162	F	+ 11·3	− 54·4	− 55·1
June 2	M	2	1	5	0·162	F	+ 11·8	− 47·2	− 44·6
26	N	3	1	6	0·227	F	+ 14·6	− 51·6	− 55·7
July 12	N	2	1	15	0·216	F	+ 15·3	− 64·6	− 64·1
August 5	M	2	1	6	0·185	F	+ 14·3	− 52·9	− 51·2
29	M	2	1	5	0·165	F	+ 11·1	39·4	− 47·4
September 25	M	2	1	5	0·097	b_1	+ 5·2	− 53·5	− 49·0

Date, 1884.		Observer.	Number of Measures.	Number of Prisms.	Position Circle.	Width of Slit.	Line.	Earth's Motion in Miles per Second.	Concluded Motion of Star in Miles per Second.	
									Measured.	Estimated.
α CORONÆ BOREALIS.										
					°	r				
April	28	M	2	1	5	0·208	F	− 0·3	+ 41·0	+ 44·8
May	22	N	2	1	6	0·194	F	+ 4·7	+ 16·3	+ 17·9
June	2	M	2	1	5	0·162	F	+ 6·8	+ 7·2	+ 8·0
	26	N	2	1	6	0·227	F	+ 10·4	+ 16·1	+ 17·3
July	17	M	2	1	6	0·212	F	+ 12·3	− 60·7	− 54·4
August	5	M	2	1	6	0·185	F	+ 12·8	+ 23·8	+ 30·9
September	2	M	2	1	5	0·122	F	+ 11·2	− 27·8	− 19·8
α OPHIUCHI.										
June	26	N	4	1	6	0·227	F	+ 3·7	− 29·8	− 32·8
July	17	M	2	1	6	0·212	F	+ 8·3	− 14·2	− 16·7
August	5	M	2	1	6	0·185	F	+ 11·6	− 20·4	− 19·8
	22	M	2	1	5	0·175	F	+ 13·6	− 38·4	− 36·4
	23	N	2	1	5	0·139	F	+ 13·7	− 36·0	− 36·8
September	2	M	2	1	5	0·122	F	+ 14·4	− 62·4	− 55·3
γ DRACONIS.										
September	25	M	4	1	5	0·097	b_1	+ 4·7	− 24·3	− 32·9
α LYRÆ (*Vega*).										
May	13	N	2	1	5	0·282	F	− 6·5	− 22·0	− 21·4
	22	N	2	1	6	0·194	F	− 5·6	− 21·0	− 22·7
June	26	N	2	1	6	0·227	F	− 1·2	− 60·3	− 58·8
July	12	N	2	1	15	0·216	F	+ 1·1	− 36·1	− 39·2
	17	M	2	1	6	0·212	F	+ 1·8	− 41·3	− 39·7
	19	M	2	1	6	0·212	F	+ 2·0	− 38·5	− 44·1
	30	N	2	1	7	0·206	F	+ 3·5	− 49·4	− 52·1
August	7	M	2	1	6	0·178	F	+ 4·5	− 30·3	− 41·9
	19	M	2	1	5	0·121	F	+ 5·9	− 34·8	− 32·2
	21	N	2	1	5	0·160	F	+ 6·1	− 38·0	− 37·1
	22	M	2	1	5	0·175	F	+ 6·2	− 33·7	− 36·6
	23	N	2	1	5	0·139	F	+ 6·3	− 37·9	− 40·3
	29	M	2	1	5	0·165	F	+ 6·9	− 20·3	− 25·1
September	2	M	2	1	5	0·122	F	+ 7·2	− 45·4	− 39·5
	4	M	2	1	5	0·140	F	+ 7·4	− 33·5	− 32·7
	10	M	2	1	6	0·167	F	+ 7·8	− 33·3	− 37·3
	12	M	2	1	7	0·161	F	+ 7·9	− 25·4	− 24·0
	17	N	2	1	5	0·196	F	+ 8·2	− 52·2	− 50·9
	18	M	2	1	7	0·191	F	+ 8·2	− 49·5	− 40·3

Date, 1884.	Observer.	Number of Measures.	Number of Prisms.	Position Circle.	Width of Slit.	Line.	Earth's Motion in Miles per Second.	Concluded Motion of Star in Miles per Second.	
								Measured.	Estimated.
α LYRE (*Vega*)—*cont.*									
				°	r				
October 22	M	2	1	6	0·240	F	+ 8·4	− 23·9	− 27·7
25	N	3	1	6	0·196	F	+ 8·3	− 86·3	− 86·6
November 6	M	2	1	6	0·183	F	+ 7·6	− 40·7	− 31·0
7	N	2	1	6	0·122	F	+ 7·5	− 32·0	− 31·1
γ LYRÆ.									
August 19	M	2	1	5	0·121	F	+ 6·2	− 42·2	− 35·8
September 12	M	4	1	7	0·161	F	+ 9·0	− 25·8	− 30·9
ζ AQUILÆ.									
July 17	M	2	1	6	0·212	F	+ 1·9	− 62·1	− 43·9
August 19	M	2	1	5	0·121	F	+ 9·2	− 11·8	− 12·5
September 10	M	2	1	6	0·167	F	+ 12·7	− 32·2	− 27·4
12	M	2	1	7	0·161	F	+ 13·0	− 44·3	− 43·8
October 22	M	2	1	6	0·240	F	+ 14·7	− 49·2	− 53·4
δ AQUILÆ.									
September 12	M	4	1	7	0·161	F	+ 14·1	− 14·2	− 12·1
δ CYGNI.									
August 22	M	2	1	5	0·175	F	+ 2·1	− 29·8	− 27·9
September 12	M	2	1	7	0·161	F	+ 4·6	+ 28·2	+ 24·1
17	N	3	1	5	0·196	F	+ 5·1	− 35·5	− 35·7
October 22	M	2	1	6	0·240	F	+ 7·8	− 43·1	− 35·4
α AQUILÆ (*Altair.*)									
June 26	N	2	1	6	0·227	F	− 6·4	− 36·7	− 41·0
July 17	M	2	1	6	0·212	F	− 1·1	− 38·1	− 34·0
19	M	2	1	6	0·212	F	− 0·7	− 39·1	− 34·4

Date, 1884.		Observer.	Number of Measures.	Number of Prisms.	Position Circle.	Width of Slit.	Line.	Earth's Motion in Miles per Second.	Concluded Motion of Star in Miles per Second.	
									Measured.	Estimated.
α AQUILÆ (*Altair*)—*cont.*										
					°	r				
August	5	M	2	1	6	0·185	F	+ 3·7	— 39·8	— 37·9
	19	M	2	1	5	0·121	F	+ 7·2	— 23·2	— 23·6
	21	N	2	1	5	0·160	F	+ 7·6	— 41·3	— 37·4
	22	M	2	1	5	0·175	F	+ 7·9	— 26·4	— 26·2
	23	N	2	1	5	0·139	F	+ 8·1	— 36·7	— 36·5
	25	M	2	1	5	0·163	F	+ 8·5	— 30·0	— 27·4
	29	M	2	1	5	0·165	F	+ 9·5	— 48·8	— 49·4
September	1	N	1	1	5	0·138	F	+ 10·1	— 36·5	— 39·8
	4	M	2	1	5	0·140	F	+ 10·7	— 37·3	— 35·3
	12	M	2	1	7	0·161	F	+ 12·2	+ 9·8	+ 11·7
	17	N	2	1	5	0·196	F	+ 13·1	— 52·5	— 54·7
	18	M	2	1	7	0·191	F	+ 13·2	— 19·3	— 16·4
October	22	M	2	1	6	0·240	F	+ 16·2	+ 0·7	+ 11·4
	25	N	2	1	6	0·196	F	+ 16·2	— 46·6	— 50·4
	28	N	2	1	6	0·170	F	+ 16·2	— 48·6	— 45·3
γ CYGNI.										
September	27	M	2	1	5	0·187	b_1	+ 6·7	+ 5·9	+ 3·4
October	22	M	2	1	6	0·240	F	+ 9·3	— 25·6	— 31·4
α DELPHINI.										
August	19	M	2	1	5	0·121	F	+ 3·0	— 29·4	— 27·6
	22	M	2	1	5	0·175	F	+ 3·8	— 40·0	— 40·2
September	12	M	2	1	7	0·161	F	+ 8·7	+ 3·0	+ 3·6
	18	M	2	1	7	0·191	F	+ 9·9	— 50·6	— 36·7
October	22	M	2	1	6	0·240	F	+ 15·0	+ 46·8	+ 40·2
α CYGNI.										
July	19	M	2	1	6	0·212	F	— 5·2	— 35·3	— 32·7
	21	M	2	1	6	0·212	F	— 5·0	— 28·6	— 32·9
September	12	M	2	1	7	0·161	F	+ 2·6	— 35·3	— 32·7
	17	N	3	1	5	0·196	F	+ 3·4	— 41·8	— 41·3
	20	M	3	1	6	0·131	F	+ 3·8	— 45·2	— 42·3
	25	M	2	1	5	0·097	b_1	+ 4·5	— 6·2	— 13·8
	27	M	2	1	5	0·187	b_1	+ 4·8	— 33·7	— 36·9
October	22	M	2	1	6	0·240	F	+ 7·7	— 50·3	— 53·7
	24	M	2	1	6	0·107	F	+ 7·9	— 49·6	— 30·7
	28	N	2	1	6	0·170	F	+ 8·3	— 34·2	— 34·2
November	6	M	2	1	6	0·183	F	+ 8·9	— 43·4	— 29·5
	7	N	2	1	6	0·122	F	+ 9·0	— 34·4	— 34·2

Date, 1884.	Observer.	Number of Measures.	Number of Prisms.	Position Circle.	Width of Slit.	Line.	Earth's Motion in Miles per Second.	Concluded Motion of Star in Miles per Second.	
								Measured.	Estimated.
ε CYGNI.									
				°	r				
September 25	M	2	1	5	0·097	b_1	+ 7·2	− 11·0	− 20·5
27	M	2	1	5	0·187	b_1	+ 7·5	− 2·8	+ 2·6
October 22	M	2	1	6	0·240	F	+ 10·9	+ 15·4	+ 22·2
α CEPHEI.									
July 17	M	1	1	6	0·212	F	− 6·2	− 26·0	− 21·8
August 19	M	3	1	5	0·121	F	− 4·5	− 30·7	− 39·5
September 11	N	2	1	6	0·165	F	− 2·4	− 57·0	− 56·6
12	M	2	1	7	0·161	F	− 2·3	− 18·3	− 18·3
20	M	2	1	6	0·131	F	− 1·5	− 40·0	− 33·8
October 22	M	2	1	6	0·240	F	+ 2·1	− 29·9	− 38·0
November 6	M	2	1	6	0·183	F	+ 3·7	− 58·2	− 36·5
ε PEGASI.									
September 20	M	2	1	6	0·131	F	+ 8·0	+ 17·2	+ 17·7
25	M	4	1	5	0·097	b_1	+ 9·2	− 17·9	− 16·8
27	M	2	1	5	0·187	b_1	+ 9·8	− 29·0	− 27·5
October 22	M	2	1	6	0·240	F	+ 14·9	− 26·3	− 25·9
ζ PEGASI.									
August 22	M	2	1	5	0·175	F	− 4·2	− 11·7	− 11·0
September 10	M	2	1	6	0·167	F	+ 1·2	− 14·9	− 18·0
12	M	2	1	7	0·161	F	+ 1·8	− 34·3	− 29·1
20	M	2	1	6	0·131	F	+ 4·1	+ 2·0	+ 0·8
α PISCIS AUSTRALIS (*Fomalhaut*).									
September 12	M	2	1	7	0·161	F	+ 5·3	+ 26·6	+ 25·5
β PEGASI.									
September 27	M	4	1	5	0·187	b_1	+ 2·1	+ 15·6	+ 16·5

Date, 1884.		Observer.	Number of Measures.	Number of Prisms.	Position Circle.	Width of Slit.	Line.	Earth's Motion in Miles per Second.	Concluded Motion of Star in Miles per Second.	
									Measured.	Estimated.
					°	r				
α PEGASI.										
August	5	M	2	1	6	0·185	F	− 10·3	− 24·0	− 26·6
	12	N	2	1	5	0·150	F	− 8·7	+ 3·6	+ 5·2
	22	M	2	1	5	0·175	F	− 6·2	− 34·3	− 30·2
	23	N	2	1	5	0·139	F	− 6·0	− 22·6	− 22·4
	25	M	2	1	5	0·163	F	− 5·4	− 17·1	− 13·0
September	4	M	2	1	5	0·140	F	− 2·7	− 18·3	− 19·8
	10	M	2	1	6	0·167	F	− 1·0	− 23·8	− 23·5
	12	M	2	1	7	0·161	F	− 0·4	+ 2·6	+ 4·5
	17	N	2	1	5	0·196	F	+ 1·1	− 38·8	− 39·5
	18	M	2	1	7	0·191	F	+ 1·4	− 57·8	− 42·0
	20	M	4	1	6	0·131	F	+ 2·0	+ 3·6	+ 2·4
October	22	M	2	1	6	0·240	F	+ 10·8	− 52·4	− 51·2
	24	M	2	1	6	0·107	F	+ 11·3	− 45·0	− 34·1
	28	N	2	1	6	0·170	F	+ 12·2	− 44·4	− 44·5
November	6	M	2	1	6	0·183	F	+ 14·1	− 11·7	− 14·1
MOON.										
February	2	N	1	1	5	0·185	F	..	+ 5·1	..
	6	M	5	1	5	0·135	F	..	+ 2·3	..
	11	M	5	1	5	0·090	F	..	+ 2·0	..
	12	N	2	1	5	0·204	F	..	− 5·9	..
	29	N	2	1	5	0·216	F	..	− 8·2	..
March	10	M	5	1	5	0·215	F	..	− 0·2	..
	12	M	2	1	5	0·226	F	..	− 2·7	..
April	5	N	3	1	6	0·182	F	..	− 6·0	..
	10	M	5	1	6	0·063	F	..	+ 4·7	..
	12	N	2	1	6	0·292	F	..	− 2·3	..
May	13	N	2	1	5	0·282	F	..	− 2·5	..
	30	M	5	1	5	0·162	F	..	− 1·2	..
June	2	M	5	1	5	0·162	F	..	− 2·6	..
July	12	N	2	1	15	0·216	F	..	− 4·1	..
August	5	M	5	1	6	0·185	F	..	− 1·8	..
	7	M	3	1	6	0·178	F	..	− 1·7	..
	11	M	5	1	6	0·161	F	..	+ 0·8	..
	12	N	2	1	5	0·150	F	..	− 9·1	..
	14	N	1	1	5	0·193	F	..	− 4·0	..
September	1	N	2	1	5	0·138	F	..	− 2·0	..
	2	M	5	1	5	0·122	F	..	− 1·4	..
	4	M	5	1	5	0·140	F	..	− 0·7	..
	10	M	5	1	6	0·167	F	..	− 5·6	..
	11	N	4	1	6	0·165	F	..	− 0·7	..
	27	M	5	1	5	0·187	b_1	..	+ 8·9	..
October	28	N	2	1	6	0·170	F	..	− 6·1	..
November	7	N	4	1	6	0·122	F	..	− 1·0	..

Date 1884.		Observer.	Number of Measures.	Number of Prisms.	Position Circle.	Width of Slit.	Line.	Earth's Motion in Miles per Second.	Concluded Motion of Star in Miles per Second.	
									Measured.	Estimated.
SKY.										
					°	r				
January	28	M	5	1	5	0·125	F	..	+ 1·9	..
	29	M	4	1	5	0·188	F	..	+ 3·0	..
February	16	M	5	1	5	0·161	F	..	+ 2·2	..
June	27	N	2	1	6	0·227	F	..	− 5·9	..
August	22	N	2	1	5	0·160	F	..	− 4·9	..
	26	M	5	1	5	0·163	F	..	+ 2·8	..
September	19	M	5	1	7	0·191	F	..	− 0·3	..
	22	M	5	1	6	0·131	F	..	+ 0·1	..
November	7	M	5	1	5	0·183	F	..	− 2·2	..
VENUS.										
February	21	M	2	1	5	0·216	F	..	− 23·2	− 33·6
	29	N	2	1	5	0·216	F	..	− 49·5	− 45·7
March	24	M	4	1	5	0·090	b_1	..	− 43·2	− 34·1
MARS.										
March	15	M	2	1	5	0·209	F	..	+ 17·3	+ 13·4
	24	M	2	1	5	0·090	b_1	..	+ 12·6	+ 20·5
ORION NEBULA.										
February	15	M	4	1	5	0·161	F	+ 15·0	− 33·5 ?	− 31·0 ?
	18	M	4	1	5	0·175	F	+ 15·3	− 51·5 ?	..
March	10	M	..	1	5	0·215	F	+ 16·3	..	− 16·3 ?
	12	M	..	1	5	0·226	F	+ 16·3	..	− 16·3 ?
ROTATION OF JUPITER. Displacement between the p and f limbs.										
February	6	M	5	1	17	0·180	F	..	+ 33·5	..
March	24	M	4	1	17	0·150	b_1	..	+ 16·4	..

OBSERVATIONS of the SPECTRUM of COMET *b* 1883, made at the ROYAL OBSERVATORY, GREENWICH, in the YEAR 1884.

COMET *b* 1883 (PONS-BROOKS).

1884, January 10.

Half-prism Spectroscope. One "half-prism" reversed.

Observer, M.

The sky was very misty and the Comet exceedingly faint. The three usual cometary bands were, however, seen, but those in the yellow and blue were too faint for measurement. The green band was fairly bright, and the following measures of its sharp edge as compared with the sharp edge of the green band of the spectrum given by a vacuum tube containing alcohol-vapour were made:—

Greenwich Sidereal Time.	Comet-band – Alcohol-band:		Inferred Wave-length of Comet-band.
	Micrometer Reading.	Wave-length.	
h m	r	tenth-metres.	tenth-metres.
2. 10	1·662	30·4	5166·6
2. 20	1·647	30·1	5166·9
2. 30	1·664	30·5	5166·5
		Mean.....	5166·7

The slit was very wide, viz., 2r·455=23·0 tenth-metres. The continuous spectrum from the nucleus was bright, but very narrow, being not more than 1″ in breadth. A fainter continuous spectrum from the neighbouring parts of the head was traceable for a total breadth of about 24″. The green band was traced the entire height of the field, about 4′, and so far as could be ascertained, it extended in one direction as far as 10′ of arc.

Position-circle reading, 10°. Magnifying power, 15.

1884, January 12.

Half-prism Spectroscope. One "half-prism" reversed.

Observer, M.

Moonlight and mist interfered with observation, and the band spectrum of the Comet did not appear materially brighter than on December 6. The continuous spectrum appeared not to have changed since January 10, except as regards its brightness, which had somewhat increased; indeed it was bright enough to interfere considerably with the distinctness of the band in the yellow. The band in the green was by far the brightest of the three; the presence of the band in the blue could only just be suspected. No bands or lines other than these three were seen. The band in the green was as bright at its bright sharp edge as the very brightest part of the continuous spectrum, but it could not be traced over so wide an area as on former occasions, its total breadth being about 3′, whilst that of the band in the yellow was about 1′ 36″. The appearance of the Comet as seen in the finder of 3 inches aperture attached to the great telescope had not changed since December 6.

The following measures were obtained of the sharp edges of the bands in the yellow and green, as compared with the sharp edges of the bright bands nearest to them in the spectrum from a vacuum tube containing alcohol-vapour.

BAND IN THE YELLOW.

Greenwich Sidereal Time.	Comet-band – Alcohol-band.		Inferred Wave-length of Comet-band.
	Micrometer Reading.	Wave-length.	
h m	r	tenth-metres.	tenth-metres.
2. 0	2·774	68·0	5539·5
2. 5	2·763	67·7	5541·8
2. 10	2·779	68·1	5539·4
3. 10	3·108	76·1	5531·4
		Mean.....	5538·0 ± 1·4

BAND IN THE GREEN.

2. 15	2·025	37·1	5159·9
2. 19	1·441	26·4	5170·6
2. 23	1·512	27·7	5169·3
2. 27	1·798	32·9	5164·1
2. 30	2·090	38·2	5158·8
2. 33	1·847	33·8	5163·2
2. 36	1·834	33·6	5163·4
2. 40	1·757	32·2	5164·8
2. 42	1·643	30·1	5166·9
2. 45	1·795	32·8	5164·2
		Mean.....	5164·5

Mean of all observations of the Band in the Green.....5163·7 ± 0·6 tenth-metres.

Width of slit, 1r·180, corresponding to 11·1 tenth-metres for the band in the green, and to 15·0 tenth-metres for that in the yellow.

Position-circle reading, 10°. Magnifying power, 28.