ROYAL OBSERVATORY, GREENWICH.

OBSERVATIONS OF γ DRACONIS

WITH THE

WATER-TELESCOPE;

AND

REDUCTION OF THE OBSERVATIONS.

1871.

No. for Reference.	Day and Hour of Observation, 1871.	Observer.	Position of Telescope.	Thermometer Readings. Upper.	Thermometer Readings. Lower.	Wire used.	Constant for Reference to Wire 14.	Micrometer-Readings. A	Micrometer-Readings. B	Level-Readings. a	Level-Readings. b	Level-Readings. c	Level-Readings. d	Wire-interval from Center, at Observation.	Correction for Curvature of Path and Inclination of Wire.	Sum of Equivalents for Wire, Microm., and Level, corrected for Curvature and Inclination.	Adopted Zenith Point.	Star's Z. D. North from Observation.
	d h			°	°		″	r	r	div.	div.	div.	div.		″	″	″	″
1	Feb. 28. 19	JC	W	40·0	37·5	14	0·00	26·807	29·200	9·4	114·0	15·2	172·2	0·3	− 0·27	1259·35	1344·35	85·00
2			E	40·0	37·5	13	255·91	26·807	28·088	6·4	110·8	11·9	169·2	0·5	− 0·30	1429·95		85·60
3	March 1. 19	C	E	..	33±	14	0·00	29·000	29·340	4·3	112·9	10·4	173·6	0·7	+ 0·24	1429·56		85·21
4			W	..	33±	15	−257·60	30·146	29·340	5·6	114·3	10·9	173·6	1·0	+ 1·08	1258·14		86·21
5	March 3. 19	E	W	43·5	42·1	14	0·00	27·800	28·200	13·3	112·8	18·5	169·2	1·0	− 0·68	1259·06		85·29
6			E	43·6	41·8	13	255·91	27·800	27·094	6·6	106·2	14·4	163·4	1·0	− 0·70	1427·43		83·08
7	March 4. 19	WC	E	47·5	46·6	13	255·91	28·000	26·909	7·6	103·2	14·6	158·9	0·5	+ 0·20	1427·83		83·48
8			W	47·5	46·5	14	0·00	29·109	26·909	16·0	111·6	22·4	167·0	1·5	+ 1·77	1263·47		80·88
9	March 16. 18	JC	W	..	33·6	14	0·00	28·146	28·000	6·1	112·0	10·0	171·4	1·0	− 0·68	1258·84	1341·18	82·34
10			E	..	33·5	13	255·91	28·146	26·820	4·2	111·0	9·5	171·0	1·5	− 1·20	1426·09		84·91
11	March 17. 18	C	E	41·6	40·8	13	255·91	28·000	26·857	6·4	108·1	14·2	167·0	1·0	+ 0·30	1426·93		85·75
12			W	41·6	40·5	14	0·00	29·133	26·857	10·4	111·8	16·5	169·9	0·3	+ 0·23	1257·76		83·42
13	March 21. 18	C	E	38±	38·5	13	255·91	28·000	26·820	6·0	110·5	11·2	168·7	0·8	+ 0·27	1424·34		83·16
14			W	38±	38·1	14	0·00	29·155	26·820	8·2	112·6	13·4	170·8	1·0	+ 1·08	1256·60		84·58
15	March 23. 18	E	W	44·2	42·3	14	0·00	27·982	28·000	12·6	112·2	17·4	168·6	0·5	− 0·39	1257·24		83·94
16			E	44·2	41·7	13	255·91	27·982	26·844	7·3	107·0	12·5	163·5	0·5	+ 0·20	1422·70		81·52
17	March 24. 18	JC	E	47·3	45·3	13	255·91	28·000	26·869	6·6	103·2	12·4	159·3	1·0	+ 0·30	1424·27		83·09
18			W	47·2	45·3	14	0·00	29·064	26·869	15·2	112·0	20·2	167·2	1·0	+ 1·08	1255·91		85·27
19	March 26. 17	L	W	51·0	49·7	13	255·91	27·970	24·500	19·4	113·0	25·0	167·2	0·0	0·00	1257·49		83·69
20			E	51·0	49·6	12	513·19	27·970	23·472	7·2	101·0	12·9	155·3	1·5	− 1·20	1425·56		84·38
21	March 27. 17	WC	E	38±	37·2	13	255·91	28·000	26·836	5·8	110·0	10·9	168·2	0·0	0·00	1424·88		83·70
22			W	38±	37·1	14	0·00	29·143	26·836	9·7	114·0	14·0	171·4	1·0	+ 1·08	1257·92		83·26
23	August 29. 7	HC	E	76·0	74·9	13	255·91	28·000	26·626	12·7	82·4	23·6	131·5	0·5	+ 0·43	1398·62	1279·18	119·44
24			W	75·0	73·9	14	0·00	27·814	26·626	36·8	108·8	46·2	156·6	1·0	+ 1·31	1154·43		124·75
25	Sept. 5. 7	C	W	73·5	71·9	14	0·00	26·523	28·000	33·6	107·4	43·4	157·4	0·5	− 0·51	1157·24		121·94
26			E	72·6	71·0	13	255·91	26·523	28·124	11·4	86·5	22·5	137·8	1·0	− 1·03	1400·91		121·73
27	Sept. 7. 7	JC	E	72·3	71·4	13	255·91	28·000	26·631	11·3	85·8	22·3	135·5	0·5	+ 0·37	1400·23		121·05
28			W	71·9	71·1	14	0·00	27·847	26·631	35·0	109·1	45·0	158·3	1·0	+ 1·31	1156·99		122·19
29	Sept. 9. 6	C	W	65·5	64·4	14	0·00	26·528	28·000	30·6	112·1	39·6	164·0	0·5	− 0·51	1158·74		120·44
30			E	65·0	64·0	13	255·91	26·528	28·090	7·1	89·4	18·5	143·0	0·5	− 0·47	1399·27		120·99
31	Sept. 11. 6	L	E	80·6	78·9	13	255·91	27·500	27·183	14·7	81·0	25·4	128·8	1·0	+ 0·63	1403·02		123·84
32			W	80·3	78·2	14	0·00	27·271	27·183	38·7	105·6	49·8	153·7	2·0	+ 3·02	1157·09		122·11
33	Sept. 15. 6	L	W	74·2	72·8	15	−257·60	29·993	28·000	35·8	109·3	45·8	158·4	1·0	− 0·91	1157·09		122·09
34			E	73·8	72·4	14	0·00	29·993	28·136	12·4	86·3	22·5	135·6	1·0	− 1·03	1401·50		122·32
35	Sept. 17. 6	JC	E	66·4	65·5	13	255·91	28·000	26·628	10·8	90·0	22·7	143·2	0·5	+ 0·78	1403·24		124·06
36			W	66·0	65·0	14	0·00	27·897	26·628	31·2	111·0	41·3	162·8	1·0	+ 1·31	1160·18		119·00

7, 8. Image bad.

9, 10, 11, 12. The telescope not quite in focus.

13, 14. The telescope was well in focus, and the image of the star good.

19, 20. The focus very good and the star very steady.

33, 34. Image very steady and well-defined.

March 18. The object-glass was raised about $0^{in}\cdot03$.

15, 16. Image good.

23, 24. The focus good.

35, 36. The focus not good.

No. of Reading.	Day and Hour of Observation, 1871.	Observer.	Position of Telescope.	Thermometer Readings. Upper.	Thermometer Readings. Lower.	Wire used.	Constant for Reference to Wire 14.	Micrometer-Readings. A	Micrometer-Readings. B	Level-Readings. a	Level-Readings. b	Level-Readings. c	Level-Readings. d	Wire-interval from Center, at Observation.	Correction for Curvature of Path and Inclination of Wire.	Sum of Equivalents for Wire, Microm., and Level, corrected for Curvature and Inclination.	Adopted Zenith Point.	Star's Z. D. North from Observation.
	d h			°	°		″	″							″	″	″	″
1	Sept. 20. 6	L	E	61·5	60·2	13	255·91	26·408	28·152	6·5	90·8	15·0	143·2	0·5	− 0·47	1394·37	1267·94	126·13
2	Sept. 22. 6	C	E	62·0	61·4	13	255·91	28·000	26·470	6·2	90·0	18·0	145·7	1·0	+ 0·63	1389·71		121·77
3			W	61·6	61·0	14	0·00	27·858	26·470	29·6	114·0	40·0	168·0	1·0	+ 1·31	1146·94		121·00
4	Sept. 24. 6	C	W	53·0	52·0	14	0·00	26·354	28·000	26·2	117·1	36·0	174·0	1·0	− 0·91	1147·26		120·68
5			E	53·0	52·0	13	255·91	26·354	28·085	2·5	93·5	13·4	151·6	0·0	0·00	1387·28		119·34
6	Oct. 1. 5	JC	E	59·3	58·7	13	255·91	28·000	26·461	3·8	89·3	16·0	145·6	1·0	+ 0·63	1387·74		119·80
7			W	59·2	58·6	14	0·00	27·876	26·461	28·2	114·0	38·5	168·0	0·8	+ 0·94	1146·50		121·44
8	Oct. 2. 5	L	W	58·0	57·3	14	0·00	26·364	28·000	28·2	114·6	39·3	170·3	1·0	− 0·91	1147·77		120·17
9			E	58·1	57·5	13	255·91	26·364	28·139	2·4	88·7	14·2	145·1	1·0	− 1·03	1388·34		120·40
10	Oct. 3. 5	E	E	58·4	57·6	13	255·91	28·000	26·466	8·2	93·2	19·5	149·5	1·0	+ 0·63	1392·03		124·09
11			W	57·8	56·8	14	0·00	27·932	26·466	26·8	113·0	37·3	169·0	0·0	0·00	1149·41		118·53
12	Oct. 4. 5	HC	W	57·3	56·0	14	0·00	26·334	28·000	26·7	112·9	37·6	168·6	1·0	− 0·91	1143·90		124·04
13			E	57·3	56·0	13	255·91	26·334	28·161	6·6	92·6	17·8	149·3	0·0	0·00	1392·73		124·79
14	Oct. 6. 5	L	E	62·1	61·5	13	255·91	28·000	26·467	4·0	87·2	14·8	141·5	1·0	+ 0·63	1386·38		118·44
15			W	61·6	61·3	14	0·00	27·855	26·467	29·6	113·4	39·6	166·6	0·5	+ 0·60	1145·19		122·75

September 18. The object-glass was raised by two turns of the screw = $0^{in}\cdot04$.

2, 3. Cloudy; very faint at the bisection telescope W.

12, 13. Star faint; the sky thick and hazy.

1, 2, 3, 12, 13. The focus good.

10, 11. Image very good.