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Observations of southern double stars.

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(Communicated by *Ormond Stone*, Director.)

In forming the lists from which these stars were selected, the general idea was to include stars whose distances were less than 3", and which either exhibited signs of motion or had been mostly neglected for some time past. Also some stars were measured for the first time since their discovery, so far as known. In addition some wide, difficult pairs were included, and a few wide, easy pairs for observation on nights on which the seeing was too bad to measure those of less than 3". At first it was intended to measure each pair three times, and, if the measures were very discordant, oftener. This has been partly carried out, only a few stars measured on less than three nights being included, and they are stars that it was thought useless to observe further. The telescope used was the 66 cm equatorial, and the micrometer is the same that has always been used here. The screw-value was assumed to be 9".85. Double distance measures were always used if the objects were nearer than 8". Use

was made of the precautions generally observed in measuring double stars. The discordances were often due to the bad seeing caused by the comparatively low altitude of many of the stars measured. It may also be stated that about two thirds of the measures were made when the moon was up, for during the periods when the sky was free from moonlight, the telescope was used for other purposes. This circumstance made the measuring of faint stars difficult.

The number and the name of the stars are those of »Reference Catalogue of Southern Double Stars« by R. T. A. Innes. The RA. and Decl. are given for 1900.0. The first column is the date, the second the position angle with the number of settings, the third the distance with the number of double-distance measures. The fourth gives the hour-angle, the estimated difference in magnitude, and the seeing on a scale of 5, the fifth the power used.

1900+	θ	n	ρ	n	t	Δ	S.	Pow.
	$\alpha^h 3 \quad \beta 3063 \quad \alpha^h 2^m 29^s - 5^\circ 6'.0.$							
05.928	217.98	5	1.62	5	+0.3	1.5	4	850
06.028	220.58	5	1.84	7	+2.1	1.3	3	1300
06.782	216.09	6	1.67	4	+0.4	0.7	4	850
06.246	218.22		1.71					
	$\alpha^h 11 \quad \beta 393 \quad \alpha^h 13^m 13^s - 21^\circ 41'.6.$							
05.928	15.21	7	0.78	6	+0.4	2	3.5	950
	$\alpha^h 12 \quad \beta 256 \quad \alpha^h 14^m 2^s - 14^\circ 23'.$							
05.917	249.15	6	2.65	6	-0.2	0.5	4	1300
	$\alpha^h 44 \quad \beta 494 \quad \alpha^h 41^m 54^s - 1^\circ 47'.9.$							
05.872	171.48	5	1.37	4	+0.3	0.3	2	850
05.928	171.82	5	1.18	5	+0.4	0.2	3	950
06.028	172.37	4	1.54	4	+2.1	0.2	3.5	1300
05.943	171.89		1.36					
	$\alpha^h 49 \quad \text{O. Stone} \quad \alpha^h 47^m 18^s - 23^\circ 9'.3.$							
06.821	263.50	8	2.20	4	+0.2	0.7	3	850
06.837	260.92	6	2.06	4	+0.3	0.5	2.5	850
06.893	263.57	6	2.35	4	-0.3	0.7	2	850
06.850	262.66		2.20					

1900+	θ	n	ρ	n	t	Δ	S.	Pow.
	$\alpha^h 54 \quad \beta 233 \quad \alpha^h 50^m 9^s - 17^\circ 59'.1.$							
05.872	95.66	5	1.30	5	+0.4	—	3	850
05.928	93.03	7	1.29	5	+0.6	1.0	3.5	950
05.925	94.02	5	1.36	4	-0.1	—	1.5	850
05.908	94.24		1.32					
	$\alpha^h 55 \quad \text{Howe 1} \quad \alpha^h 50^m 52^s - 16^\circ 54'.5.$							
05.872	114.24	5	1.64	7	+0.7	0.3	3	850
05.928	115.04	5	1.70	5	+0.9	0.3	3.5	950
06.821	118.33	6	1.85	4	+0.2	0.7	3	850
06.837	118.77	10	1.70	4	0.0	0.2	3	850
06.364	116.60		1.72					
	$\alpha^h 61 \quad \text{Washburn 62} \quad \alpha^h 57^m 2^s - 9^\circ 23'.7.$							
05.928	291.36	10	1.18	6	+1.2	0.2	3	1300
06.028	292.72	4	1.42	4	+1.7	0.1	4	850
05.978	292.04		1.30					
	$\alpha^h 40 \quad \text{Lalande 8} \quad \alpha^h 36^m 49^s - 11^\circ 49'.1.$							
05.893	89.49	6	3.11	6	+0.5	1.8	2.5	850
	$\alpha^h 54 \quad \beta 183 \quad \alpha^h 48^m 20^s - 17^\circ 13'.5.$							
05.893	231.26	5	2.49	5	+0.5	2.2	2	850
06.821	227.72	4	2.65	5	-0.5	0.6	3	850
06.837	225.65	4	2.69	4	-0.2	1.2	2.5	850
06.517	228.21		2.61					

1900+	θ	n	ρ	n	t	Δ	S.	Pow.
$2^h 8^m$ Hastings 1 $2^h 11^m 4^s - 18^\circ 42'0$.								
05.893	356.82	9	1.89	6	+0.5	1.2	2	850
05.928	356.18	5	2.19	6	+0.4	0.5	4	1300
06.079	356.74	5	2.06	6	+1.6	0.5	3	850
05.967	356.58		2.05					
$2^h 9^m$ Cordoba [5] $2^h 12^m 38^s - 33^\circ 27'5$.								
05.896	268.70	6	2.44	5	+0.8	0.2	2-3	850
06.013	273.78	10	2.38	5	+0.4	—	1.5	850
06.079	271.86	10	2.24	5	+2.3	?	1.5	850
05.996	271.45		2.35					
$2^h 10^m$ O. Stone $2^h 13^m 4^s - 31^\circ 11'0$.								
05.896	202.15	6	2.56	5	+0.3	1.8	3.5	850
06.079	202.76	5	2.64	8	+2.0	0.7	2	850
05.988	202.46		2.60					
$2^h 17^m$ β 739 $2^h 20^m 26^s - 30^\circ 18'7$.								
05.928	268.41	8	1.73	5	+1.3	—	3	1300
06.013	266.24	8	1.86	5	+0.8	0.2	2	850
06.028	263.24	5	1.88	5	+1.4	0.2	3	1300
05.990	265.96		1.82					
$2^h 19^m$ Howe 3 $2^h 26^m 40^s - 8^\circ 2'3$.								
05.893	207.28	7	2.15	5	+0.6	0.4	2.5	850
$3^h 14^m$ A. Clark 2 $3^h 13^m 15^s - 1^\circ 17'7$.								
05.983	202.34	6	0.36	4	+0.4	?	3	2000
$3^h 30^m$ Σ 408 $3^h 25^m 40^s - 4^\circ 36'9$.								
05.893	336.92	6	1.33	5	+0.4	0.2	2.5	850
06.085	340.21	7	1.57	5	+0.9	0.1	2.5	850
06.112	338.29	11	1.20	5	+1.3	0.3	3	850
06.030	338.47		1.37					
$3^h 56^m$ Washburn 70 $3^h 53^m 11^s - 5^\circ 11'1$.								
05.896	271.45	5	3.24	5	+0.4	2	3	850
06.085	269.78	7	3.59	7	+0.8	1.7	2.5	850
06.110	272.22	7	—	—	+1.2	—	1	850
06.030	271.15		3.42					
$3^h 60^m$ β 1004 $3^h 58^m 12^s - 34^\circ 45'6$.								
05.928	136.05	7	1.86	4	+0.2	0.5	3	1300
06.079	139.68	13	1.64	5	+1.3	0.4	2	850
06.082	144.74	10	1.58	5	0.0	1.2	2.5	850
06.085	142.21	7	—	—	+0.1	—	1	850
06.104	143.32	14	2.06	7	+0.7	1.2	2.5	850
06.056	141.20		1.78					
$4^h 6^m$ Innes 153 $4^h 4^m 26^s - 33^\circ 7'4$.								
05.928	347.94	5	1.00	6	+0.6	?	3	1300
06.082	348.86	9	1.01	5	+0.2	?	2	850
06.120	349.26	5	0.86	5	+0.9	—	2	2000
06.043	348.69		0.96					

1900+	θ	n	ρ	n	t	Δ	S.	Pow.
$4^h 7^m$ Howe 5 $4^h 8^m 57^s - 28^\circ 47'8$.								
06.082	37.30	7	2.46	5	+0.8	0.2	2.5	850
06.120	38.99	9	2.45	5	+1.1	0.3	3	850
06.101	38.14		2.46					
$6^h 54^m$ A. Clark 1 Sirius $6^h 40^m 44^s - 16^\circ 34'7$.								
06.079	103.51	9	6.86	9	0.0	—	3	850
06.120	105.83	7	6.99	6	-0.7	—	3	850
06.128	104.83	14	7.01	9	+0.6	—	4	850
06.109	104.72		6.95					
$6^h 66^m$ β 324 $6^h 45^m 35^s - 23^\circ 57'6$.								
06.001	204.59	5	1.52	4	+1.3	1.7	3	850
06.079	204.74	5	1.83	5	-0.8	1.2	3.5	850
06.104	206.35	11	1.85	7	-1.2	1.7	3	850
06.061	205.23		1.73					
$6^h 82^m$ β 327 $6^h 53^m 28^s - 2^\circ 23'4$.								
06.128	97.21	15	0.85	5	+0.8	0.3	4	2000
06.136	94.55	6	0.94	6	+1.8	—	3	950
06.221	95.86	8	0.83	8	—	0.1	3.5	950
06.162	95.87		0.87					
$6^h 89^m$ Innes 183 $6^h 56^m 42^s - 25^\circ 30'2$.								
06.001	144.49	5	3.22	4	+1.8	2.5	3	850
06.079	143.78	5	3.11	7	0.0	2	2	850
06.104	147.43	7	3.25	5	-0.7	2.5	4	850
06.061	145.23		3.19					
$6^h 90^m$ β 573 $6^h 57^m 7^s - 10^\circ 44'4$.								
06.128	262.36	7	0.90	5	+1.1	0.6	4	2000
06.136	263.90	6	0.88	4	+2	—	—	950
06.221	266.28	8	0.87	4	+1.6	?	3	850
06.162	264.18		0.88					
$7^h 40^m$ β 199 $7^h 20^m 49^s - 20^\circ 58'6$.								
06.104	27.31	9	1.79	5	-0.4	0.5	3	850
06.136	25.02	—	1.89	—	+2.2	1.0	2	950
06.175	23.93	6	1.88	4	-0.1	0.9	3.5	560
06.138	25.42		1.85					
$7^h 47^m$ Σ 1104 $7^h 24^m 49^s - 14^\circ 47'1$. AB.								
06.189	333.89	6	2.17	4	0.0	1	3	850
06.221	334.75	6	2.09	4	+0.8	0.8	3	850
06.205	334.32		2.13					
AC.								
06.189	188.29	4	19.93	2	+0.1	—	3	850
06.221	187.82	2	—	—	+0.9	—	3	850
06.205	188.06		19.93					
$9^h 2^m$ Howe 10 $9^h 2^m 7^s - 31^\circ 11'6$.								
06.066	303.57	5	3.41	7	-0.3	0.5	1.5	850
06.136	307.30	6	3.32	6	+1.0	0.3	2	850
06.221	303.92	6	3.30	4	+0.3	0.3	3	560
06.141	304.93		3.34					

1900+	θ	n	ρ	n	t	Δ	S.	Pow.
$9^h 7^m \beta 410 \quad 9^h 5^m 22^s - 25^\circ 23'8.$								
06.066	165.77	6	1.55	5	+0.4	?	2.5	850
06.136	164.40	6	1.61	6	+1.3	1.3	2.5	560
06.221	164.54	6	1.76	4	+0.4	1.5	1.5	850
06.141	164.90		1.64					
$9^h 21^m h 4193 \quad 9^h 11^m 49^s - 22^\circ 42'7.$								
06.221	118.44	6	3.05	4	+0.5	0.6	3	850
06.251	118.23	4	3.02	6	+0.3	0.3	4	850
06.254	119.57	8	2.90	4	+1.3	0.7	4	560
06.242	118.75		2.99					
$9^h 23^m H. C. Wilson \quad 9^h 15^m 46^s - 23^\circ 3'3.$								
06.254	39.33	4	1.21	4	+1.6	2.5	3	850
06.251	36.03	4	1.28	4	+0.5	2.0	4	850, 2000
06.252	37.68		1.24					
$10^h 76^m \Sigma 1476 \quad 10^h 44^m 13^s - 3^\circ 29'7.$								
06.251	4.51	4	2.02	4	+0.4	0.5	4	850
06.271	4.07	6	1.93	6	0.0	?	2	560
06.313	6.40	4	1.86	4	-0.5	1.8	2	850
06.278	4.99		1.94					
$11^h 55^m h 4478 \quad \beta Hydrae \quad 11^h 47^m 51^s - 33^\circ 21'1.$								
06.254	353.37	6	1.52	6	0	?	2	850
06.321	358.20	6	1.58	4	+0.7	?	2	850
06.424	358.06	6	1.45	6	+1.5	0.4	3	850
06.333	356.54		1.52					
$12^h 18^m Howe 19 \quad 12^h 8^m 25^s - 33^\circ 14'2.$								
06.321	177.98	4	1.11	4	+1.0	?	2	850
06.398	175.98	6	1.09	4	+0.4	2 $\pm$	2.5	1300
06.360	176.98		1.10					
$12^h 24^m \beta 920 \quad 12^h 10^m 36^s - 22^\circ 47'8.$								
06.321	267.72	6	1.13	4	+1.2	—	2.5	850
06.398	268.10	6	1.06	4	+0.7	1.2	3	850
06.424	266.07	8	0.95	6	+2.2	2 $\pm$	3	850
06.381	267.30		1.05					
$12^h 51^m \beta 28 \quad 12^h 24^m 56^s - 12^\circ 50'3.$								
06.321	15.90	4	1.63	4	—	—	2.5	850
06.340	17.08	4	1.56	4	+1.4	3 $\pm$	1.5	850
06.357	18.30	6	1.59	5	+0.7	—	2.5	1300
06.339	17.09		1.59					
$12^h 55^m Leavenworth \quad 12^h 28^m 56^s - 17^\circ 38'5.$								
06.398	25.20	6	1.31	4	+1.0	2.5	3.5	850
06.463	27.13	6	1.08	4	+2.0	2	3	850
06.468	26.20	10	1.26	4	+2.3	2 $\pm$	1.5	850
06.443	26.18		1.22					
$12^h 62^m \beta 607 \quad 12^h 36^m 2^s - 0^\circ 54'3.$								
06.468	309.23	6	1.35	4	+1.9	1.3	3.5	850
06.488	312.61	8	1.21	4	+2.7	1 $\pm$	3.5	850, 1300
06.478	310.92		1.28					

1900+	θ	n	ρ	n	t	Δ	S.	Pow.
$12^h 64^m \gamma Virginis \quad 12^h 36^m 36^s - 0^\circ 54'0.$								
06.321	325.72	6	6.13	4	+1 ^h	?	2.5	850
06.340	327.52	6	5.64	4	+0.8	0.0	2	1300
06.348	327.43	6	5.77	4	+0.5	?	1.5	560
06.463	327.65	6	6.09	4	+1.5	?	3	850
06.468	327.15	6	5.77	4	+1.7	0.2	3	850
06.488	327.23	6	5.82	4	+2.3	0.2	3.5	560
06.405	327.12		5.87					
$12^h 85^m O\Sigma 256 \quad 12^h 51^m 19^s - 0^\circ 24'6.$								
06.321	259.58	8	0.63	4	+1.5	—	3	850, 1300
06.340	257.38	6	0.73	4	+1.3	0.3	2.5	850
06.357	256.83	4	0.83	4	+0.6	0.3	3	1300
06.339	257.93		0.73					
$12^h 95^m \beta 929 \quad 12^h 58^m 45^s - 3^\circ 7'5.$								
06.340	220.10	4	0.61	4	+1.5	0.5	3	850
06.357	219.92	6	0.52	4	0.0	0.4	3	1300
06.389	220.10	4	0.68	4	+1.1	?	2.5	1300
06.362	220.04		0.60					
$13^h 86^m \Sigma 1788 \quad 13^h 49^m 43^s - 7^\circ 34'0.$								
06.340	78.40	4	2.90	6	+0.9	0.4	3	850
06.357	77.18	4	2.76	4	+0.4	0.8	3	850
06.389	78.37	6	2.72	4	-0.2	1.5	3	850
06.362	77.98		2.79					
$14^h 84^m \Sigma 1876 \quad 14^h 41^m 4^s - 6^\circ 57'7.$								
06.340	79.18	4	1.09	6	+0.6	0.2	2	850
06.357	79.22	6	1.09	4	—	—	3	850
06.389	81.62	6	—	—	-0.3	?	2	1300
06.362	80.01		1.09					
$14^h 90^m \beta 106 \quad 14^h 43^m 50^s - 13^\circ 43'9.$								
06.340	345.55	4	1.23	6	+0.8	2 $\pm$	2	850
06.408	344.00	4	1.42	4	-0.8	0.4	4	850
06.411	347.44	8	1.34	4	+0.1	0.4	2	850
06.386	345.66		1.33					
$15^h 1^m \beta 119 \quad 15^h 0^m 14^s - 6^\circ 37'5.$								
AB.								
06.408	302.85	4	1.54	4	-0.8	0.3	4	850
06.411	299.55	8	1.64	4	+0.1	0.4	3.5	850
06.488	299.45	4	1.68	4	+0.7	0.5	4	1300
06.436	300.62		1.62					
AC.								
06.408	102.10	4	53.63	4	-0.8	—	4	850
$15^h 116^m \xi Scorpii \quad 15^h 58^m 52^s - 11^\circ 5'8.$								
06.398	62.49	8	7.45	4	-0.9	3 $\pm$	2	850
06.408	63.03	4	7.34	4	-0.2	2 $\frac{1}{2}$	2	850
06.411	62.88	4	7.34	4	-0.2	3 $\pm$	2	850
06.406	62.80		7.38					

1900+	θ	n	ρ	n	t	Δ	S.	Pow.
16 ^h 13 Jacob [9] 16 ^h 6 ^m 10 ^s — 19° 11'.4.								
06.398	49.28	6	2.08	4	— 1.2	0.8	3	850
06.408	47.75	4	1.93	4	0.0	—	2	850
06.411	48.78	6	1.82	4	— 0.3	0.6	2.5	850
06.406	48.60		1.94					
16 ^h 14 β 120 16 ^h 6 ^m 11 ^s — 19° 12'.1.								
06.398	0.85	6	0.90	4	— 1.4	1.5	2	850
06.408	7.35	4	—	—	— 0.3	—	2	850
06.411	6.10	6	1.06	4	0.0	—	2	850
06.406	4.77		0.98					
16 ^h 37 β 1115 16 ^h 19 ^m 24 ^s — 23° 13'.8.								
06.424	20.38	6	0.82	4	— 0.8	?	3	850
06.488	15.70	6	0.80	4	+ 0.5	?	3	1300
06.496	21.39	10	0.88	4	— 0.7	?	2.5	850
06.469	19.16		0.83					
16 ^h 40 H. II.19 16 ^h 19 ^m 35 ^s — 23° 13'.0.								
06.398	353.95	4	2.92	4	— 0.6	—	2.5	850
06.424	353.01	6	3.01	4	— 1.2	0.3	2.5	850
06.488	354.25	6	3.26	4	+ 0.3	0.4	3.5	1300
06.493	355.11	8	3.21	4	— 0.5	0.5	2	850
06.496	355.51	8	3.27	4	— 0.4	0.6	2	540
06.460	354.37		3.13					
16 ^h 47 Burg Antares 16 ^h 23 ^m 16 ^s — 26° 12'.6.								
06.398	270.70	6	2.93	4	— 0.9	—	1	850
06.411	272.99	8	2.89	4	— 0.1	3 ±	1.5	850
06.424	274.06	6	3.14	4	—	—	2	850
06.493	273.48	6	3.00	4	— 0.2	—	2.5	850
06.432	272.81		2.99					
19 ^h 47 H. I.13 19 ^h 33 ^m 14 ^s — 10° 22'.9.								
05.787	318.90	7	3.35	6	—	—	3	560
06.474	322.03	4	3.41	4	— 0.9	2 +	2	300
06.685	317.78	4	3.64	4	+ 1.8	2	4	850
06.315	319.57		3.47					
19 ^h 72 A. Clark 12 19 ^h 53 ^m 11 ^s — 2° 30'.1.								
06.685	319.68	4	1.33	6	+ 2.1	—	4	850
06.779	326.95	4	1.25	4	+ 2.0	—	2.5	850
06.790	329.34	6	1.34	4	+ 1.5	—	2	850
06.751	325.32		1.31					
20 ^h 29 Schjellerup 33 20 ^h 15 ^m 25 ^s — 8° 3'.4.								
06.818	217.72	4	2.84	4	+ 1.6	1.5	2	850
06.821	218.28	8	2.78	6	+ 2.5	1.0	2	850
06.837	218.43	6	2.85	6	+ 3.6	1	2.5	850
06.825	218.14		2.82					
20 ^h 54 h 1537 20 ^h 30 ^m 32 ^s — 15° 39'.5.								
06.818	21.70	4	3.63	4	+ 1.7	0.5	2	850
06.821	22.52	4	3.26	4	+ 2.6	0.4	3	850
06.837	22.21	8	3.49	4	+ 2.6	—	2	850
06.825	22.14		3.46					

1900+	θ	n	ρ	n	t	Δ	S.	Pow.
20 ^h 70 Innes 300 20 ^h 40 ^m 53 ^s — 17° 3'.8.								
06.818	297.92	6	3.72	5	+ 1.8	0.4	2.5	850
06.821	296.15	4	3.73	4	+ 2.7	0.2	2.5	850
06.837	297.93	6	3.62	6	+ 2.3	0.3	2.5	850
06.825	297.33		3.69					
20 ^h 78 β 154 20 ^h 47 ^m 13 ^s — 16° 32'.5.								
06.818	60.22	6	2.84	4	+ 2.0	0.7 ?	3-1	850
06.821	60.17	6	2.85	6	+ 3.0	0.6	2.5	850
06.837	57.95	6	2.94	4	+ 2.3	0.7	2	850
06.825	59.45		2.88					
20 ^h 91 Hough 461 20 ^h 54 ^m 58 ^s — 17° 28'.3.								
05.785	223.15	6	2.20	6	—	0.6	1.5	560
05.865	226.02	5	2.23	4	—	—	2	1300
06.687	227.80	4	2.67	4	+ 0.6	0.3	4	850
06.112	225.66		2.37					
20 ^h 101 Hough 462 20 ^h 59 ^m 34 ^s — 11° 29'.1.								
05.832	219.09	5	2.31	6	—	—	3.5	1300
06.474	218.32	4	2.54	4	— 2.0	1.2	2.5	560
06.498	218.33	4	—	—	— 1.4	—	3.5	540
06.268	218.58		2.42					
21 ^h 5 β 473 21 ^h 2 ^m 28 ^s — 10° 36'.7.								
05.782	117.73	5	2.44	5	—	—	2	—
05.832	114.49	5	2.35	5	—	—	3	1300
06.474	113.37	6	1.86	4	— 1.5	—	2	560
06.770	120.34	8	2.01	4	+ 0.2	1.4	2.5	850
06.214	116.48		2.16					
21 ^h 10 H. I.47 21 ^h 6 ^m 50 ^s — 15° 24'.5.								
05.782	318.57	6	2.85	4	—	0.3	2	—
05.793	318.12	5	2.81	4	—	—	3.5	850
06.498	318.13	4	3.08	4	— 2.0	0.2	3.5	540
06.685	318.80	4	3.18	4	+ 1.3	0.2	3	850
06.190	318.40		2.98					
21 ^h 13 Lalande 170 21 ^h 11 ^m 24 ^s — 8° 4'.3.								
05.782	172.59	4	2.92	7	—	—	1.5	560
05.865	172.89	7	2.59	5	—	0.6	—	560
06.759	171.18	6	2.73	4	+ 1.0	0.2	3	850
06.135	172.22		2.75					
21 ^h 26 Hough 158 21 ^h 19 ^m 56 ^s — 10° 19'.8.								
05.793	352.70	7	1.06	3	—	—	2.5	850
06.685	353.28	4	1.34	4	+ 1.3	0.4	3.5	850
06.770	350.22	6	1.43	4	+ 0.2	0.3	3	850
06.416	352.07		1.28					
21 ^h 47 λ ... 21 ^h 37 ^m 23 ^s — 20° 52'.1.								
05.785	61.16	5	2.98	5	—	2.5	1.5	560
05.865	59.43	8	2.88	5	—	—	3	560
06.687	61.15	6	3.26	4	+ 0.3	1.5	4	850
06.112	60.58		3.04					

1900+	θ	n	ρ	n	t	Δ	S.	Pow.
$21^h 57^m \Sigma 2826 \quad 21^h 42^m 2^s - 13^\circ 35' 1''.$								
05.793	81.94	5	4.06	8	—	—	3	2000, 850
05.865	81.94	6	4.05	6	—	—	3	560
05.829	81.94		4.06					
$21^h 70^m \Sigma 2847 \quad 21^h 52^m 56^s - 3^\circ 58' 0''.$								
05.785	305.83	6	1.52	7	—	—	1.5	560
06.770	303.88	4	1.33	4	-0.1	0.4	4	—
06.779	302.22	4	1.29	4	+0.6	?	2.5	850
06.445	303.98		1.38					
$21^h 71^m h 3074 \quad 21^h 53^m 9^s - 2^\circ 18' 2''.$								
05.785	293.30	7	2.68	6	—	—	1.5	560
06.770	293.65	6	2.27	4	0.0	?	3.5	850
06.779	290.90	4	2.39	4	+0.9	?	2.5	850
06.445	292.62		2.45					
$22^h 5^m \lambda 470 \quad 22^h 4^m 57^s - 24^\circ 2' 6''.$								
06.818	38.35	6	1.71	4	+1.6	0.6?	2.5	850
06.837	36.57	6	1.65	4	+2.1	0.3	2.5	850
06.840	36.67	6	1.79	4	+0.8	?	2.0	850
06.832	37.20		1.72					

Leander Mc Cormick Observatory, Charlottesville Va., 1906 December.

1900+	θ	n	ρ	n	t	Δ	S.	Pow.
$22^h 51^m \text{ Innes } 141 \quad 22^h 43^m 50^s - 20^\circ 47' 3''.$								
06.818	320.12	6	2.69	4	+1.3	0.6	3	850
06.837	321.33	6	2.60	4	+1.8	0.6	3	850
06.840	320.68	6	2.63	4	+0.5	0.7	1.5-2.5	850
06.832	320.71		2.64					
$23^h 15^m \beta 716 \quad 23^h 10^m 17^s - 9^\circ 37' 0''.$								
06.782	204.14	4	1.61	4	+0.4	0.8	4	850
06.821	207.10	6	1.75	4	+1.3	?	2.5	850
06.840	208.40	4	1.65	4	+0.5	?	3	850
06.814	206.55		1.67					
$23^h 69^m \beta 731 \quad 23^h 54^m 29^s - 8^\circ 21' 6''.$								
06.782	268.37	4	1.60	4	+0.4	0.4	4	850
06.840	266.30	4	1.81	4	+0.2	0.5	3	850
06.893	268.42	4	1.58	4	+0.3	0.4	3	850
06.838	267.70		1.66					

Charles P. Olivier.

Notiz betr. Barnard „An unexplained observation“ in A. N. 4106 und 4148.

Auf eine Anregung von Herrn M. Ebell hin habe ich nachgesehen, ob meine Aufnahmen, soweit sie dem Datum 1892 Aug. 12 nahe liegen, irgend etwas über die Natur des an diesem Tage von Barnard gesehenen hellen Objektes aussagen können. Nachdem ich zunächst konstatiert hatte, daß die vorhandenen Platten 1891 Dez. 22, 1892 Dez. 16, 19 und 26 in der Gegend $6^h 50^m 3^s + 17^\circ 2'$ (1855) kein helleres Objekt zeigen, habe ich die beiden Platten 1891 Dez. 22 und 1892 Dez. 26 in den Stereokomparator gebracht und

sie auch in bezug auf die schwächsten Sterne genau verglichen. Ich kann behaupten, daß an der angegebenen Stelle und in ihrer Umgebung die Platten bis zu den Sternen 14. Größe völlig identisch sind. Wenn also das von Barnard 1892 Aug. 12 gesehene helle Objekt eine Nova gewesen wäre, müßte sie, was nicht sehr wahrscheinlich ist, bis zum 26. Dezember desselben Jahres unter die 14. Größe heruntergegangen sein.

Astrophysikalisches Institut Königstuhl-Heidelberg, 1907 Jan. 18.

Max Wolf.

The orbit of ϵ Hydrae. A correction.

In my elements of the orbit of ϵ Hydrae AB, published in Lick Observatory Bulletin No. 36, there are two mistakes. In place of i ($54^\circ 5'$) its complement ($35^\circ 5'$) is given, and a wrong value of n is printed. It should be $+22^\circ 93'$ instead of $+22^\circ 293'$. The correct value of i was used in computing the table of residuals in my paper, but the wrong value of n .

	Date:	1888.29	1892.18
(O—C) L.O.B. 36		-4.0	-2.7
(O—C) corrected		+0.1	-0.3

The correct value of i is given as an erratum in Vol. III of the Lick Observatory Bulletins and both mistakes are rectified in my Catalogue of the Orbits of Visual Binary Stars (Lick Observatory Bulletin No. 84), but as Prof. Seeliger,

Lick Observatory, 1907 Febr. 16.

The use of the correct value of n improves the residuals as a whole though the effect is not very great as is shown in the following comparison for six dates covering the entire observed arc. The last residual, for a date three years after the orbit was computed, shows that the elements still represent the observed motion satisfactorily.

	1896.21	1899.15	1903.06	1906.05
	-11.3	0.0	+2.2	—
	-9.9	+1.0	+1.8	+4.4

to my great regret, was nevertheless inconvenienced by them (cf. A. N. 4149) I publish this further correction to prevent annoyance to others.

R. G. Aitken.