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PUBLICATIONS

DE

L'OBSERVATOIRE ASTRONOMIQUE DE L'UNIVERSITÉ DE TARTU
(DORPAT)

TOME XXVII № 5

MEASURES OF DOUBLE STARS

(1926—1930)

SECOND SERIES

BY

E. ÖPIK

Tartu Riikliku Ülikooli
Raamatukogu
180477

TARTU 1932

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TOME XXVII A. 2

MEASURES OF DOUBLE STARS

(1928—1930)

SECOND SERIES

E. ÖPİK

Est. A

Tartu Riikliku Ülikooli
Raamatukogu

22315

The measures given below form the continuation of the series of measures printed in Tartu Publications, Tome XXVI № 5, 1927, where the necessary explanations may be found in the introduction. The probable errors are much similar to those of the first series and are given in the accompanying table. Miss Marta Blum has much helped in preparing these measures for press.

Probable error of one night, as derived from the internal agreement of the measures

Distance	Magnitude of fainter component												
	≤ 9.0		9.1 ... 10.0		10.1 ... 11.0		11.1 ... 12.0		12.1 ... 12.5		12.6 ... 13.2		
	p. e. angle	dist. n	p. e. angle	dist. n	p. e. angle	dist. n	p. e. angle	dist. n	p. e. angle	dist. n	p. e. angle	dist. n	
≤ 2."99	...	...	± 0."08	± 0."14	± 0."03	± 0."12	± 0."10	± 0."08	± 0."11	...	± 0."26	± 0."11	4
3."00 ... 4."99	...	...	± 0."05	± 0."18	± 0."07	± 0."20	± 0."12	± 0."09	± 0."27	± 0."27	± 0."17	± 0."10	10
5."00 ... 9."99	± 0."06	± 0."11	± 0."05	± 0."27	± 0."08	± 0."23	± 0."28	± 0."10	± 0."10	± 0."12	± 0."12	± 0."15	10
10."00 ... 24."99	± 0."02	± 0."07	± 0."10	± 0."20	± 0."11	± 0."21	± 0."51	± 0."18	± 0."25	± 0."40	± 0."15	± 0."28	31
≥ 25."0	± 0."02	± 0."07	± 0."10	± 0."19	± 0."13	± 0."24	± 0."27	± 0."16	± 0."26	± 0."17	± 0."16	± 0."23	11

22	Es 113		9.2 ... 11.7
	8.194	125. ⁰³	7."18
	8.197	125.9	7. 22
	<u>1928.20</u>	<u>125.6</u>	<u>7. 20</u>

Position differs from β . G. C.
 $\alpha = 0^{\text{h}}06^{\text{m}}.8$, $\delta = 66^{\circ}51'$ (1928)

29	Es 114		9.3 ... 12.1
	8.194	162. ⁰⁰	4."73
	8.197	164.5	4. 89
	<u>1928.20</u>	<u>163.2</u>	<u>4. 81</u>

Vide β . G. C. 22

$\alpha = 0^{\text{h}}06^{\text{m}}.6$, $\delta = 66^{\circ}44'$ (1928)
c. p. m. ?

40	Σ 6 rej.		9.7 ... 11.6
	6.036	193. ⁰³	21."88
	7.723	192.9	21. 34
	<u>1926.88</u>	<u>193.1</u>	<u>21. 61</u>

c. p. m.

42	H 1002		9.3 ... 12.5
	7.723	28. ⁰¹	27."15
	7.739	26.7	26. 66
	<u>1927.73</u>	<u>27.4</u>	<u>26. 90</u>

45	Kr 1		9.2 ... 9.7
	8.194	190. ⁰¹	2."13
	8.197	192.7	2. 52
	<u>1928.20</u>	<u>191.4</u>	<u>2. 32</u>

48	H. 1003		8.9 ... 11.3
	8.189	32. ⁰¹	11."51
	8.194	33.9	10. 84
	<u>1928.19</u>	<u>33.0</u>	<u>11. 18</u>

49	H 617		9.4 ... 12.9
	7.838	58. ⁰¹	13."15
	7.893	57.1	12. 04
	7.917	59.5	14. 47
	<u>1927.88</u>	<u>58.2</u>	<u>13. 22</u>

f.

59	Hd 3		9.3 ... 13.1
	7.838	107. ⁰⁵	24."67
	7.893	112.0	25. 24
	7.895	110.9	24. 02
	<u>1927.88</u>	<u>110.1</u>	<u>24. 64</u>

f. ?

80	Hn 1		8.6 ... 12.1
	8.211	12. ⁰⁸	3."56
	8.214	14.8	2. 86
	<u>1928.21</u>	<u>13.8</u>	<u>3. 21</u>

85	Kr 3		9.3 ... 9.4
	8.211	224. ⁰⁴	3."56
	8.214	222.0	3. 62
	<u>1928.21</u>	<u>223.2</u>	<u>3. 59</u>

f.

88	H 1008	A and B	8.0 ... 11.0
	8.211	126. ⁰⁴	21."24
	8.214	126.3	21. 27
	<u>1928.21</u>	<u>126.4</u>	<u>21. 26</u>

f. ?

89	Hd 8		9.5 ... 12.3
	7.838	322. ⁰⁷	27."56
	7.893	322.3	27. 56
	<u>1927.87</u>	<u>322.5</u>	<u>27. 56</u>

Change (*opt. ?*)

89	a ...		7.1 ... 12.9
	7.838	128. ⁰²	6."37
	7.893	139.3	6. 45
	7.895	132.8	...
	<u>1927.88</u>	<u>133.4</u>	<u>6. 41</u>

94	H 1946		10.4 ... 10.9
	7.723	56. ⁰⁰	7."38
	7.736	53.6	8. 44
	7.739	56.0	8. 28
	<u>1927.73</u>	<u>55.2</u>	<u>8. 03</u>

108	H 2		9.6 ... 12.1
	7.723	160.09	20."38
	7.736	159.4	20.44
	1927.73	160.2	20.41
109	Ku 4		9.3 ... 10.1
	7.723	134.09	2."59
	7.736	137.7	2.05
	1927.73	136.3	2.32
<i>f.</i>			
114	Weisse I		8.9 ... 9.0
	7.723	106.05	5."65
	7.805	105.5	5.08
	1927.76	106.0	5.36
<i>f.</i>			
117	Σ 21 rej.		10.1 ... 10.4
	7.723	50.01	8."08
	7.805	52.0	7.75
	1927.76	51.0	7.92
121	A. G. I.		8.7 ... 9.4
	7.723	210.08	11."44
	7.736	210.3	12.33
	1927.73	210.6	11.88
<i>f.</i>			
134	H 1015	A and B	9.5 ... 10.0
	7.723	320.03	6."84
	7.805	320.7	6.19
	1927.76	320.5	6.52
		A and C	... 12.5
	7.723	263.08	25."42
	7.805	262.5	25.27
	1927.76	263.2	25.34
	No prior measures.		
137	Kr 4		8.3 ... 9.8
	8.211	189.09	2."69
	8.216	198.6	2.25
	1928.21	194.2	2.47
139	H 620		9.7 ... 11.7
	7.895	182.01	14."42
	7.914	182.4	14.57
	1927.90	182.2	14.50
160	H 1020		8.5 ... 11.6
	7.890	181.05	10."48
	7.893	178.5	11.17
	1927.89	180.0	10.82
169	H 1959		9.4 ... 10.3
	7.890	285.00	26."70
	7.893	286.4	26.92
	1927.89	285.7	26.81
174	Hd 15		9.7 ... 11.9
	7.917	270.07	24."99
	7.928	271.6	24.62
	1927.92	271.2	24.80
199	H 622		9.2 ... 9.2
	7.895	130.08	19."61
	7.914	131.0	19.60
	1927.90	130.9	19.60
233	H 1973		8.8 ... 12.3
	8.189	42.05	18."16
	8.197	41.9	18.44
	1928.19	42.2	18.30
240	Kr 7		9.6 ... 10.0
	8.189	06.03	3."39
	8.197	05.7	3.79
	1928.19	06.0	3.59
280	A. G. 3		9.9 ... 10.3
	7.895	32.07	4."43
	7.914	30.9	4.39
	1927.90	31.8	4.41
	In β . G. C. declination by 10' too large.		
280 a			8.9 ... 9.8
	7.895	27.04	22."03
	7.914	27.3	22.30
	1927.90	27.4	22.16
	At the printed place of β . G. C. 280.		
297	Es 3		8.3 ... 10.1
	1928.216	156.05	7."82
313	Hd 26		9.8 ... 11.9
	7.890	101.00	22."70
	7.914	102.2	23.05
	1927.90	101.6	22.88

321	Hd 28	8.9 . . . 10.3
	7.890	341.07 22."80
	7.914	340.8 22. 31
	1927.90	341.2 22. 56

403	Arg. 2	A and B 8.0 . . . 9.5
	1928.216	114.04 10."91
	<i>opt.</i>	

		A and C . . . 12.8
	1928.216	90.03 24."76
	<i>opt.</i>	

465	A. G. 9	9.3 . . . 9.7
	1927.723	70.05 7."12
	<i>c. p. m.</i>	

720	Jones I	9.7 . . . 11.5
	6.046	15.03 4."03
	7.914	18.2 3. 92
	1926.98	16.8 3. 98

725	...	9.5 . . . 12.3
	6.046	25.01 5."71
	7.914	26.7 4. 95
	1926.98	25.9 5. 33
	<i>c. p. m.</i>	

752	H 2045	A and B 5.9 . . . 11.9
	8.211	81.06 27."26
	8.216	81.4 27. 52
	1928.21	81.5 27. 39

773	Ho 9	B and C 9.9 . . . 10.7
	6.046	94.03 2."80
	7.914	95.7 2. 55
	1926.98	95.0 2. 68
	<i>c. p. m.</i>	

		A and B 6.6
	6.046	72.09 79."44
	7.914	72.2 78. 55
	1926.98	72.6 79. 00

839	O Σ (App) 20	Aa 7.6 . . . 12.9
	1927.914	256.00 26."67
		A and B 7.8
	1927.914	314.04 92."87
	<i>opt.</i>	

1119	H 2113	A and B 9.1 . . . 12.9
	8.189	195.03 18."42
	8.197	195.1 18. 02
	1928.19	195.2 18. 22

1192	H 2122	9.5 . . . 9.8
	8.189	319.02 30."42
	8.197	319.1 31. 47
	1928.19	319.2 30. 94

1197	H 2123	A and B 8.3 . . . 13.1
	8.208	09.08 9."80
	8.211	03.5 8. 94
	1928.21	06.6 9. 37
	<i>opt. ?</i>	

		A and C 11.1
	8.208	34.08 29."62
	8.211	34.1 30. 09
	1928.21	34.4 29. 86
	<i>opt. ?</i>	

1199	Σ 247 <i>rej.</i>	9.6 . . . 9.7
	7.917	211.05 7."85
	8.958	210.5 6. 69
	1928.44	211.0 7. 27

1202	β 437	7.9 . . . 11.5
	7.917	30.09 7."39
	8.958	29.6 7. 24
	1928.44	30.2 7. 32

1218	H 2125	9.5 . . . 10.7
	8.197	89.07 27."45
	8.208	90.3 27. 63
	1928.20	90.0 27. 54

1232	H 2129	9.2 . . . 12.5
	8.197	153.03 17."09
	8.208	154.5 17. 08
	1928.20	153.9 17. 08

1236	H 2132	A and B 9.5 . . . 10.5
	8.197	154.06 29."36
	8.211	155.1 29. 61
	1928.20	154.8 29. 48

1242	H 1116	8.9 . . . 12.1
	8.197	125.09 6."77
	8.211	126.7 6. 42
	1928.20	126.3 6. 60

The angle by Cogshall in 1904. + must be changed by 180⁰.

1243	Es 7		6.6 ... 13.0
	8.208	253. ⁰⁷	11."08
	8.216	254. 1	9. 83
	1928.21	253. 9	10. 46

Perhaps change.

1248	Σ 259 rej.		9.0 ... 12.1
	6.101	16. ⁰⁰	13."32
	6.161	17. 7	12. 43
	7.112	19. 9	13. 63
	1926.46	17. 9	13. 13

f.

1251	H 2133	A and B	9.1
	8.197	150. ⁰⁵	28."29
	8.211	150. 5	28. 71
	1928.20	150. 5	28. 50
		B and C	10.7 ... 11.4
	8.197	147. ⁰⁰	4."29
	8.211	142. 5	3. 66
	1928.20	144. 8	3. 98

1280	Σ 270	A and D	. . . . . 13.1
	6.101	. . . . .	. . . . .
	8.208	271. ⁰¹	42."39
	8.216	273. 1	42. 42
	1927.51	272. 1	42. 40

opt.

		A and B	6.6 ... 8.8
	1926.101	303. ⁰⁵	20."85

c. p. m.

		A and C	. . . . . 11.5
	1926.101	336. ⁰⁹	38."29

opt.

1308	H 652		9.5 ... 9.9
	7.917	318. ⁰⁰	3."90
	8.958	315. 9	4. 10
	1928.44	317. 0	4. 00

1316	Hn 63		8.7 ... 9.1
	5.939	291. ⁰³	1."09
	7.917	298. 7	1. 16
	1926.93	295. 0	1. 12

f. ?

1327	H 2146		9.5 ... 9.7
	8.197	83. ⁰⁷	32."91
	8.211	82. 9	32. 25
	1928.20	83. 3	32. 58

1331	Kr 14		9.1 ... 10.7
	6.162	288. ⁰⁷	10."08
	7.112	289. 4	10. 11
	1926.64	289. 0	10. 10

opt. ?

2013	β 544		5.3 ... 12.9
	7.203	258. ⁰¹	25."53
	7.205	258. 1	25. 70
	1927.20	258. 1	25. 62

f. ?

2052	Ho 327	A and B	7.6 ... 12.3
	7.200	309. ⁰⁹	15."27
	7.203	309. 9	14. 72
	1927.20	309. 9	15. 00

opt.

		A and C	. . . . . 13.3
	7.200	159. ⁰¹	14."85
	7.203	160. 4	14. 80
	1927.20	159. 8	14. 82

2059	β 546		8.9 ... 9.1
	6.238	23. ⁰⁴	1."30
	7.200	33. 4	0. 87
	1926.72	28. 4	1. 08

f.

2100	β 86		9.5 ... 10.1
	6.238	47. ⁰⁴	4."28
	6.994	47. 8	4. 93
	1926.62	47. 6	4. 60

f.

2107	H 673		9.3 ... 11.2
	6.238	194. ⁰⁵	21."51
	6.994	196. 3	21. 08
	1926.62	195. 4	21. 30

f.

2140	β 310		7.5 ... 12.6
	7.200	172. ⁰³	19."35
	7.203	170. 2	19. 44
	1927.20	171. 2	19. 40

f.

2182	H 676	A and B	10.1 ... 11.1
	6.994	244. ⁰⁸	14."19
	7.112	245. 1	14. 09
	1927.05	245. 0	14. 14

	A and C	10.2	
	6.994	42. ⁰⁰	18." ⁹⁶
	7.112	41.4	17.55
	1927.05	41.7	18.26
2407	Σ 612	A and C 7.9 ...	13.0
	1927.203	235. ⁰⁶	46." ⁶⁶
	<i>opt.</i>		
2551	Σ 648	A and C	12.9
	1927.203	114. ⁰³	40." ²⁵
	<i>opt.</i>		
	A and D	13.1	
	1927.203	66. ⁰⁰	38." ³⁸
	<i>opt.</i>		
2760	H 2267	7.4 ...	12.9
	7.203	109. ⁰⁷	25." ⁵⁷
	7.205	110.1	25.99
	1927.20	109.9	25.78
The p. m. in Ci 18, o."17 in 211 ⁰ , seems suspicious for this star of spectrum B ₃ ; there is no relative change in this pair for 22 years.			
2969	H 3279	A and B 4.3 ...	12.7
	7.205	300. ⁰⁵	17." ⁷⁹
	7.208	301.5	17.85
	1927.21	301.0	17.82
	A and C	12.3	
	7.205	182. ⁰²	24." ⁹⁹
	7.208	180.7	24.24
	1927.21	181.4	24.62
3187	...	A and B 8.3 ...	12.3
	6.230	337. ⁰¹	14." ⁴⁷
	7.230	335.8	15.12
	1926.73	336.4	14.80
	Change?		
	A and D	11.3	
	6.230	275. ⁰²	37." ⁹⁵
	7.230	276.9	37.96
	1926.73	276.0	37.96
	No other meas.		
3210	H 721	9.5 ...	12.9
	8.219	140. ⁰¹	7." ⁰²
	8.225	139.9	6.81
	1928.22	140.0	6.92

3249	H 723	9.5 ...	9.8
	8.219	213. ⁰⁰	15." ²²
	8.215	212.0	14.56
	1928.22	212.5	14.89
3256	β 193	A and B 7.9 ...	12.4
	6.194	88. ⁰³	...
	7.208	90.7	18." ³¹
	7.230	92.9	18.95
	1926.88	90.6	18.63
3262	H 2305	8.4 ...	9.9
	8.230	17. ⁰⁹	24." ⁰⁰
	9.134	18.5	24.87
	1928.68	18.2	24.44
3295	H 385	A and B 8.5 ...	9.7
	8.219	46. ⁰⁰	1." ⁸²
	8.225	51.2	2.06
	1928.22	48.6	1.94
	A and C	12.7	
	8.219	52. ⁰⁶	5." ⁰⁵
	8.225	57.0	4.96
	1928.22	54.8	5.00
	A and D	12.5	
	8.219	297. ⁰⁴	8." ²⁵
	8.225	298.3	8.47
	1928.22	297.8	8.36
	A and E	11.7	
	8.219	59. ⁰⁸	16." ³⁵
	8.225	60.3	16.84
	1928.22	60.0	16.60
3319	Σ 895 <i>rej.</i>	8.0 ...	9.5
	7.208	57. ⁰⁹	29." ³²
	7.227	57.8	29.21
	1927.22	57.8	29.26
3320	H 725	7.6 ...	11.3
	7.208	69. ⁰¹	23." ⁸³
	7.227	70.3	23.16
	1927.22	69.7	23.50
3406	Ho 514	6.7 ...	13.1
	7.230	123. ⁰⁵	19." ²⁶
	7.233	122.0	20.23
	1927.23	122.8	19.74
	Apparently <i>opt.</i>		

3409	Ho 340		7.4 . . . 12.8
	7.230	20. ⁰ ₁	6."69
	7.233	22. 6	6. 64
	1927.23	21. 4	6. 66
3413	Ku 26		9.5 . . . 9.7
	8.219	161. ⁰ ₄	2."08
	8.225	157. 3	2. 72
	1928.22	159. 4	2. 40
3431	OΣ 144 <i>rej.</i>		7.7 . . . 12.3
	1928.219	145. ⁰ ₄	22."48
	<i>opt.</i>		
3438	H 2320		8.5 . . . 10.9
	6.205	325. ⁰ ₀	8."88
	7.112	324. 7	8. 90
	1926.66	324. 8	8. 89
	<i>f. ?</i>		
3441	H 392		8.9 . . . 9.1
	7.112	36. ⁰ ₁	23."96
	7.205	35. 3	24. 37
	1927.16	35. 7	24. 16
3442	H II. 37		8.9 . . . 10.3
	7.227	83. ⁰ ₆	5."15
	7.230	82. 8	5. 12
	1927.23	83. 2	5. 14
	In a cluster; <i>f.</i>		
3489	H 395		9.4 . . . 11.8
	7.112	138. ⁰ ₇	16."18
	7.205	137. 5	16. 21
	1927.16	138. 1	16. 20
3853	Ho 519		6.3 . . . 13.1
	1927.233	102. ⁰ ₆	22."21
	<i>opt.</i>		
3882	Weisse 14		8.5 . . . 10.7
	9.194	163. ⁰ ₁	2."63
	9.214	157. 9	2. 35
	1929.20	160. 5	2. 49
3891	Ho 31		9.6 . . . 10.1
	9.194	10. ⁰ ₂	11."14
	9.203	08. 8	10. 98
	1929.20	09. 5	11. 06
3897	Ho 32		9.7 . . . 9.8
	9.194	157. ⁰ ₆	4."46
	9.203	161. 9	4. 55
	1929.20	159. 8	4. 50
3923	H 753		8.5 . . . 10.3
	9.194	05. ⁰ ₁	21."91
	9.203	04. 5	21. 83
	1929.20	04. 8	21. 87
3933	Pritchett		9.4 . . . 9.5
	9.194	219. ⁰ ₂	7."68
	9.203	220. 6	8. 55
	1929.20	219. 9	8. 12
3950	Hu 619		9.3 . . . 10.3
	0.252	266. ⁰ ₅	15."86
	0.255	267. 6	16. 81
	1930.25	267. 0	16. 34
3959	Hd 102		9.3 . . . 10.2
	9.203	337. ⁰ ₈	15."37
	9.214	338. 6	15. 57
	1929.21	338. 2	15. 47
3960	H 416 A and B		9.9 . . . 10.1
	9.203	74. ⁰ ₉	9."37
	9.214	75. 9	9. 06
	1929.21	75. 4	9. 22
3961	H 2371		8.9 . . . 11.9
	0.140	232. ⁰ ₇	27."38
	0.167	232. 8	27. 21
	1930.16	232. 8	27. 30
3967	H 2372		8.0 . . . 12.5
	9.203	03. ⁰ ₁	21."43
	9.214	03. 0	21. 40
	1929.21	03. 0	21. 42
	Change?		
3968	Ho 33		9.5 . . . 11.7
	9.216	331. ⁰ ₇	2."25
	0.244	333. 2	2. 55
	1929.73	332. 4	2. 40
3983	A. G. 138		9.3 . . . 9.7
	9.203	319. ⁰ ₈	24."43
	9.214	319. 6	24. 67
	1929.21	319. 7	24. 55

3984	H 417		8.5 ... 11.8
	9.203	66.06	18."18
	9.214	67.9	17.76
	1929.21	67.2	17.97

3995	H 757		9.5 ... 9.9
	9.203	106.06	5."33
	9.214	107.1	5.69
	1929.21	106.8	5.51

3999	Ho 243		9.9 ... 10.1
	9.214	169.04	2."39
	9.216	169.1	2.33
	1929.22	169.2	2.36

4005	Ho 345	A and B	9.6 ... 9.6
	1928.219	241.07	1."14
		AB — C (8.8)	... 12.8
	9.216	227.08	25."46
	0.249	226.3	24.30
	1929.73	227.0	24.88

4015	Ku 29		9.5 ... 10.1
	9.214	146.03	3."39
	9.216	147.3	3.29
	1929.22	146.8	3.34

4017	H 3291	A and B	9.5 ... 10.4
	9.216	116.07	4."66
	0.140	117.3	4.30
	0.167	116.7	4.93
	1929.84	116.9	4.63

		A and C	... 11.8
	9.216	291.08	16."04
	0.140	294.5	17.16
	0.167	291.9	16.46
	1929.84	292.7	16.55

4020	H 420		9.7 ... 10.9
	9.216	06.01	11."81
	0.167	06.7	11.80
	1929.69	06.4	11.80

4021	H 422		8.5 ... 11.1
	9.216	193.08	23."82
	0.167	194.2	24.20
	1929.69	194.0	24.01

4024	H 2378		9.9 ... 10.9
	0.170	122.06	21."41
	0.183	123.2	21.63
	1930.18	122.9	21.52

4036	H 2377		9.1 ... 10.7
	0.252	258.06	19."34
	0.255	258.4	19.65
	1930.25	258.5	19.50

Change?

4040	H 3292		9.1 ... 12.0
	0.167	163.08	15."00
	0.170	161.2	15.56
	1930.17	162.5	15.28

4042	Ho 346		7.7 ... 11.0
	0.170	57.01	12."93
	0.183	56.3	12.70
	1930.18	56.7	12.82

4057	A. G. 141		9.9 ... 9.9
	9.214	30.06	4."28
	9.216	31.7	4.48
	1929.22	31.2	4.38

4063	H 2382		10.4 ... 11.1
	0.252	239.06	8."69
	0.255	240.0	8.67
	1930.25	239.8	8.68

4066	Hu 621		9.0 ... 12.5
	9.216	339.01	3."19
	0.244	346.6	3.42
	1929.73	342.8	3.30

4070	$O\Sigma$ (App) 85	A and a	6.6 ... 11.3
	7.112	130.09	33."15
	7.205	130.5	33.99
	1927.16	130.7	33.57

opt. ?

4073	$O\Sigma$ 172	rej.	7.1 ... 12.3
	9.214	247.06	15."13
	9.216	247.4	15.69
	1929.22	247.5	15.41

4089	Σ 1096	rej.	7.7 ... 9.8
	9.214	325.07	28."65
	9.216	325.1	29.28
	1929.22	325.4	28.96

4099	Ho 34		9.9 ... 9.9
	0.170	06.01	2."42
	0.244	03.6	2.66
	1930.21	04.8	2.54

4108	β 22		8.0 ... 11.0
	0.241	146. ⁰⁸	6."64
	0.244	147. 2	6. 78
	1930.24	147. 0	6. 71

f.

4116	H 3294		10.2 ... 10.5
	0.241	176. ⁰⁴	4."98
	0.244	177. 8	5. 81
	1930.24	177. 1	5. 40

4132	H 2396		9.3 ... 9.9
	0.170	292. ⁰²	14."90
	0.183	292. 0	14. 56
	1930.18	292. 1	14. 73

4136	Hu 622		9.1 ... 10.3
	0.252	31. ⁰⁵	3."26
	0.255	30. 0	3. 36
	1930.25	30. 8	3. 31

4137	Ku 30		8.5 ... 9.3
	0.241	112. ⁰¹	3."65
	0.244	109. 9	3. 22
	1930.24	111. 0	3. 44

f. ?

4138	H 2395		9.6 ... 12.3
	0.252	208. ⁰⁰	18."58
	0.255	207. 0	18. 59
	1930.25	207. 5	18. 58

4148	Σ 1118 <i>rej.</i>		6.7 ... 9.6
	0.241	15. ⁰⁸	23."40
	0.244	16. 3	23. 46
	1930.24	16. 0	23. 43

f. ?

4155	H 2399		8.7 ... 10.7
	0.252	66. ⁰⁶	12."95
	0.255	65. 8	12. 47
	1930.25	66. 2	12. 71

4177	H 763		9.7 ... 10.0
	0.170	201. ⁰²	8."07
	0.183	199. 9	8. 24
	1930.18	200. 6	8. 16

4183	H 765		8.7 ... 12.0
	0.183	215. ⁰²	23."16
	0.244	215. 7	23. 04
	1930.21	215. 4	23. 10

4204	Ho 523		9.2 ... 10.6
	0.183	324. ⁰⁰	9."26
	0.246	324. 6	7. 92
	1930.21	324. 3	8. 59

4227	Σ 1134 A and C		7.5 ... 10.8
	1927.205	347. ⁰⁴	85."52

opt.

4231	H 4212		9.1 ... 9.5
	0.183	167. ⁰⁸	8."27
	0.246	168. 4	7. 61
	1930.21	168. 1	7. 94

4259	Σ 1139 <i>rej.</i>		9.6 ... 10.1
	0.246	13. ⁰⁴	16."52
	0.249	13. 6	16. 52
	1930.25	13. 5	16. 52

4306:4307	H 5471/5472 A and B		9.5 ... 10.0
	7.112	248. ⁰⁴	10."68
	7.205	248. 9	10. 41
	1927.16	248. 6	10. 54

	A and C		10.1
	7.112	258. ⁰⁸	64."39
	7.205	258. 2	65. 36
	1927.16	258. 5	64. 88

4313	Hu 711		6.5 ... 12.5
	0.252	191. 7	4."72
	0.255	201. 6	3. 78
	1930.25	196. 6	4. 25

4321	Weisse 16		9.1 ... 9.3
	0.246	36. ⁰⁵	22."88
	0.249	37. 2	22. 97
	1930.25	36. 8	22. 92

4329	H 3303		10.0 ... 12.7
	0.246	33. ⁰⁷	12."18
	0.249	35. 8	11. 81
	1930.25	34. 8	12. 00

4339	A. G. 146		9.1 ... 9.2
	0.246	284. ⁰⁰	2."76
	0.249	283. 0	2. 79
	1930.25	283. 5	2. 78

4368	H 3305		9.9 ... 10.1
	0.246	225. ⁰⁸	4."80
	0.249	224. 8	5. 09
	1930.25	225. 3	4. 94

4390	Hu 713		9.4 ... 9.3
	0.246	129. ⁰⁶	4."62
	0.252	129. 4	4. 75
	1930.25	129. 5	4. 68

f. ?

4398	H 2424		4.1 ... 10.1
	1930.252	148. ⁰⁴	42."28

4427	Σ 1180 <i>rej.</i>		8.7 ... 10.6
	0.255	255. ⁰⁹	23."80
	0.271	255. 3	23. 59
	1930.26	255. 6	23. 70

4428	A. G. 147		9.5 ... 10.5
	0.255	139. ⁰⁷	11."34
	0.271	140. 6	11. 14
	1930.26	140. 2	11. 24

4429	H 2428		9.1 ... 11.1
	0.271	77. ⁰⁸	9."48
	0.318	74. 0	9. 50
	1930.29	75. 9	9. 49

opt.

4432	Es 70	B and C	12.5 ... 12.7
	6.279	347. ⁰⁰	6."48
	7.334	348. 5	8. 12
	1926.81	347. 8	7. 30

Angle probably misprinted in β . G. C.

		A and B	3.6
	6.279	266. ⁰¹	45."37
	7.334	266. 1	45. 34
	1926.81	266. 1	45. 36

4439	H 80		9.9 ... 12.3
	7.200	105. ⁰²	21."74
	7.203	104. 4	22. 03
	1927.20	104. 8	21. 88

4462	A. G. 150		9.3 ... 9.3
	7.200	28. ⁰³	5."05
	7.203	28. 6	5. 38
	1927.20	28. 4	5. 22

f.

4487	H 441		10.4 ... 11.9
	7.200	66. ⁰¹	20."65
	7.203	65. 6	21. 83
	1927.20	65. 8	21. 24

4500	Σ 1203 <i>rej.</i>		7.8 ... 12.6
	7.200	235. ⁰¹	19."74
	7.203	235. 8	19. 38
	1927.20	235. 4	19. 56

4521	Σ 1209 <i>rej.</i>		9.3 ... 10.1
	7.205	160. ⁰¹	20."77
	7.208	160. 1	20. 97
	1927.21	160. 1	20. 87

The angle by β in 1903.9 is 142.⁰¹; may be *opt.* with a large relative *p. m.* of about 0."3 yearly.

4548	H 444		8.1 ... 10.0
	1927.279	97. ⁰¹	36."34

4556	β 1320	A and BC	9.5 ... 10.6
	7.279	359. ⁰²	4."90
	8.186	358. 1	4. 78
	1927.73	358. 6	4. 84

f.

4564	H 783		9.5 ... 12.0
	8.186	60. ⁰⁹	18."76
	8.214	61. 1	19. 28
	1928.20	61. 0	19. 02

4566	H 445		9.6 ... 12.1
	7.279	174. ⁰⁴	15."36
	8.186	175. 0	16. 64
	1927.73	174. 7	16. 00

4598	Schj. 9		9.9 ... 10.0
	8.186	327. ⁰²	3."65
	8.214	322. 1	3. 58
	1928.20	324. 6	3. 62

4613	Σ 1229 <i>rej.</i>		9.2 ... 11.6
	8.186	115. ⁰³	22."45
	8.214	115. 1	22. 84
	1928.20	115. 2	22. 64

4614	H 448		8.6 ... 11.3
	8.186	322. ⁰⁹	30."77
	8.214	322. 4	30. 15
	1928.20	322. 6	30. 46

opt. ?

4622	H 2448	9.5 ... 11.0			
	8.214	299.09	31."05		
	8.216	299.9	31.24		
	1928.22	299.9	31.14		
4629	H 93	9.4 ... 9.5			
	8.214	98.08	17."91		
	8.216	97.3	18.04		
	1928.22	98.0	17.98		
4637	H 450	9.9 ... 9.9			
	8.214	125.07	6."75		
	8.216	125.7	7.17		
	1928.22	125.7	6.96		
4640	H 2451	8.7 ... 10.0			
	7.279	181.09	19."58		
	8.214	183.7	19.49		
	1927.75	182.8	19.54		
4659	H 1161	9.3 ... 12.3			
	6.320	30.04	19."73		
	7.203	30.4	20.68		
	1926.76	30.4	20.20		
4667	H 97	9.6 ... 10.1			
	8.214	278.05	11."51		
	8.216	279.3	11.54		
	1928.22	278.9	11.52		
4669	A. G. 153	9.5 ... 9.7			
	7.235	91.09	2."79		
	7.276	91.9	2.83		
	1927.26	91.9	2.81		
	<i>f.</i>				
4671	Ku 31	9.4 ... 10.1			
	8.214	15.03	5."74		
	8.216	15.3	5.98		
	1928.22	15.3	5.86		
4680	Σ 1247 <i>rej.</i>	9.6 ... 10.7			
	8.214	14.07	27."81		
	8.216	14.3	27.52		
	1928.22	14.5	27.66		
4682	A. G. 154	9.3 ... 9.4			
	7.235	04.07	2."33		
	7.276	03.6	2.29		
	1927.26	04.2	2.31		
	<i>f.?</i>				
4683	H 3310	9.5 ... 11.4			
	9.140	66.05	13."43		
	9.151	68.9	12.82		
	1929.15	67.7	13.12		
4689	H 454	8.6 ... 11.9			
	1929.140	270.01	38."32		
4702	Σ 1252 <i>rej.</i>	9.5 ... 10.0			
	8.225	50.01	19."31		
	8.230	49.8	18.04		
	1928.23	50.0	18.68		
4707	H 2460	9.3 ... 10.9			
	0.271	31.07	32."10		
	0.315	31.9	31.97		
	1930.29	31.8	32.04		
4709	Σ 1255	B and C 6.5 ... 12.8			
	8.219	13.01	43."87		
	8.222	14.1	45.13		
	1928.22	13.6	44.50		
	<i>opt.</i>				
		B and D ... 12.5			
	*1928.219	45.09	56."93		
	<i>opt.</i>				
4728	H 2462	9.2 ... 9.3			
	8.225	26.08	15."20		
	8.230	26.5	14.79		
	1928.23	26.6	15.00		
4733	Σ 1257 <i>rej.</i>	6.1 ... 11.3			
	0.315	128.07	25."77		
	0.318	128.4	25.39		
	1930.32	128.6	25.58		
4740	H 455	9.3 ... 10.9			
	9.151	342.08	10."06		
	9.189	344.7	10.23		
	1929.17	343.8	10.14		
4752	A 553	9.3 ... 11.6			
	7.235	76.06	3."05		
	7.276	72.9	3.08		
	1927.26	74.8	3.06		
	<i>c. p. m.</i>	4752 identical with J. C. [1822].			

4754	Σ 1267 <i>rej.</i>		9.3 ... 12.4
	9.140	60.01	8."19
	9.151	57. 8	8. 24
	1929.15	59. 0	8. 22

4757	Kr 31		9.4 ... 10.0
	0.315	276.08	7."41
	0.318	275. 9	7. 29
	1930.32	276. 4	7. 35

4758	Ho 251		9.1 ... 12.2
	8.230	150.01	4."03
	8.315	150. 2	3. 80
	1928.27	150. 2	3. 92

4764	H 4131		9.7 ... 10.3
	8.230	138.06	19."26
	8.315	139. 3	19. 44
	1928.27	139. 0	19. 35

4767	H 458		8.9 ... 12.4
	8.230	307.01	20."33
	8.315	306. 4	20. 74
	1928.27	306. 8	20. 54

4775	Σ 1277 <i>rej.</i>		9.3 ... 9.9
	8.230	270.05	15."90
	8.315	271. 0	15. 42
	1928.27	270. 8	15. 66

4784	Kr 32		9.7 ... 9.9
	0.315	12.00	4."56
	0.318	13. 8	4. 59
	1930.32	12. 9	4. 58

4799	Ku 33		9.6 ... 10.1
	8.230	99.03	8."85
	8.315	99. 0	6. 54
	1928.27	99. 2	7. 70

4802	A. G. 156		9.2 ... 9.5
	8.230	249.00	10."71
	8.315	250. 9	10. 54
	1928.27	250. 0	10. 62

4804	A. G. 157		9.2 ... 9.5
	8.230	72.03	2."32
	8.315	68. 5	2. 48
	1928.27	70. 4	2. 40

4817	Σ 1286 <i>rej.</i>		9.5 ... 10.8
	9.140	81.00	29."01
	9.172	81. 5	29. 19
	1929.16	81. 2	29. 10

4825	Arg. 21		9.3 ... 9.5
	0.315	117.07	18."64
	0.318	116. 4	18. 59
	1930.32	117. 0	18. 62

4833	A. G. 158		9.6 ... 9.6
	0.271	336.01	4."92
	0.315	337. 8	5. 12
	1930.29	337. 0	5. 02

4840	H 1163		9.4 ... 9.9
	0.271	171.07	16."82
	0.315	171. 2	17. 12
	1930.29	171. 4	16. 97

4845	A. G. 159		9.9 ... 10.3
	8.230	99.07	6."01
	8.315	99. 1	5. 75
	1928.27	99. 4	5. 88

4855	H 2473		8.1 ... 12.3
	0.318	243.07	18."54
	0.329	244. 8	18. 06
	1930.32	244. 2	18. 30

4856	H 461		9.8 ... 12.5
	9.137	288.07	15."50
	9.203	288. 5	15. 82
	1929.17	288. 6	15. 66

4861	Σ 1294 <i>rej.</i>		9.3 ... 10.3
	9.151	340.02	15."55
	9.194	339. 3	15. 32
	1929.17	339. 8	15. 44

4879	Ho 360		8.4 ... 12.4
	9.151	156.09	4."30
	9.189	145. 3	...
	9.197	140. 1	3. 70
	1929.18	147. 4	4. 00

4881	Σ 1299 <i>rej.</i>		9.4 ... 10.9
	9.151	117.00	21."23
	9.172	117. 0	21. 71
	1929.16	117. 0	21. 47

4884	H 2479		9.5 ... 11.3
	9.189	324. ⁰ 4	20."80
	9.194	322.4	21.44
	1929.19	323.4	21.12

4898	H 2478		9.7 ... 10.6
	0.271	199. ⁰ 1	17."94
	0.318	196.4	18.38
	1930.29	197.8	18.16

4899	Es 72		9.1 ... 12.3
	0.271	296. ⁰ 6	11."48
	0.318	300.0	12.04
	1930.29	298.3	11.76

4906	H 803		9.7 ... 11.0
	9.197	14. ⁰ 4	11."80
	9.203	13.0	12.06
	1929.20	13.7	11.93

4907	A. G. 160		9.3 ... 9.2
	6.290	59. ⁰ 0	4."68
	6.320	61.4	3.42
	7.203	60.3	3.82
	1926.60	60.2	3.97

c. p. m.

4913	H 115		9.1 ... 11.2
	9.197	122. ⁰ 6	23."20
	9.203	122.6	22.77
	1929.20	122.6	22.98

4918	A. G. 161		9.5 ... 9.9
	9.197	221. ⁰ 6	4."49
	9.203	221.6	4.70
	1929.20	221.6	4.60

4925	A. G. 162		9.3 ... 9.6
	9.197	106. ⁰ 3	4."06
	9.203	105.4	4.22
	1929.20	105.8	4.14

4926	H 1164	A and B 8.9 ... 9.2	
	0.329	179. ⁰ 4	...
	0.331	177.9	6."92
	1930.33	178.6	6.92

		A and C 11.0	
	0.329	271. ⁰ 2	33."10
	0.331	272.2	32.61
	1930.33	271.7	32.86

opt. ?

4956	H 2483		9.4 ... 10.8
	9.197	193. ⁰ 0	15."99
	9.203	191.7	15.46
	1929.20	192.4	15.72

4957	H 805		9.5 ... 9.6
	9.197	70. ⁰ 4	9."50
	9.203	68.3	8.48
	1929.20	69.4	8.99

4975	Σ 1323 <i>rej.</i>		9.1 ... 10.5
	9.197	212. ⁰ 1	21."05
	9.203	211.1	20.85
	1929.20	211.6	20.95

4976	A. G. 163		9.4 ... 9.9
	9.197	319. ⁰ 9	4."99
	9.203	319.8	5.39
	1929.20	319.8	5.19

 $\delta = 24^{\circ}33'$ (1880); in β . G. C. misprinted.

4986	H 1165		9.1 ... 12.3
	6.320	115. ⁰ 4	26."10
	7.235	116.7	25.74
	1926.78	116.0	25.92

c. p. m.

5019	Σ 1330 <i>rej.</i>		9.7 ... 10.5
	0.318	302. ⁰ 3	24."59
	0.331	301.7	24.99
	1930.32	302.0	24.79

5058	Σ 1347		4.9 ... 5.8
	1928.219	311. ⁰ 1	21."35

c. p. m.

5089	Ho 366	AB and C 8.1 ... 11.5	
	1927.276	65. ⁰ 2	50."57

opt.

5116	Σ 1360	A and C	A = 7.1; B = 7.3; C = 12.9
	1928.219	71. ⁰ 0	85."02

opt.

5124	Σ 1364	A and B 7.9 ... 9.1	
	7.276	155. ⁰ 8	16."45
	7.279	154.4	...
	1927.28	155.1	16.45

c. p. m.

	A and C	12.1
7.276	301. ⁰ 2	39."69
7.279	301. 0	39. 22
1927.28	301. 1	39. 46

opt.

5183	H 2503	9.3 . . .	9.3
1930.331	156. ⁰ 6	37."36	

5210	Σ 1382 <i>rej.</i>	A and C 6.5 . . .	12.8
6.320	253. ⁰ 6	32."20	
7.235	255. 9	32. 20	
1926.78	254. 8	32. 20	

opt. ?

	A and B	10.1
6.320	104. ⁰ 6	29."38
7.235	104. 4	29. 46
1926.78	104. 5	29. 42

opt.

5305	Σ 1405 <i>rej.</i>	7.3 . . .	11.2
6.320	249. ⁰ 5	21."94	
7.235	251. 5	21. 44	
1926.78	250. 5	21. 69	

c. p. m.

5457	Ku 35	9.5 . . .	10.3
7.340	364. ⁰ 1	1."31	
8.318	364. 5	1. 71	
1927.83	364. 3	1. 51	

5760	A. G. 174	9.5 . . .	9.8
7.348	106. ⁰ 5	2."03	
7.353	103. 3	1. 86	
1927.35	104. 9	1. 94	

c. p. m.

5829	H 2577	8.9 . . .	12.3
8.309	183. ⁰ 5	4."49	
8.312	184. 9	4. 48	
1928.31	184. 2	4. 48	

f. ?

5835	A. G. 135	9.3 . . .	9.9
8.320	187. ⁰ 2	2."10	
8.323	186. 1	1. 98	
1928.32	186. 6	2. 04	

5844	H 2579	9.9 . . .	10.7
8.309	351. ⁰ 3	13."99	
8.312	349. 9	13. 53	
1928.31	350. 6	13. 76	

5850	Ku 39	9.6 . . .	9.9
8.312	26. ⁰ 4	2."15	
9.337	35. 7	2. 25	
1928.72	31. 0	2. 20	

5868	A 560	8.9 . . .	12.8
8.309	355. ⁰ 7	4."78	
8.312	352. 5	4. 50	
1928.31	354. 1	4. 64	

5888	β 917	8.7 . . .	11.5
8.309	177. ⁰ 7	3."88	
8.312	177. 1	3. 79	
1928.31	177. 4	3. 84	

f.

5892	H 2583	9.2 . . .	9.2
8.309	57. ⁰ 7	31."62	
8.312	58. 0	31. 70	
1928.31	57. 8	31. 66	

5897	H 4469	9.0 . . .	10.2
8.312	165. ⁰ 6	28."11	
8.320	165. 5	28. 01	
1928.32	165. 6	28. 06	

5903	H 1196	9.5 . . .	11.1
8.320	189. ⁰ 4	31."51	
8.323	189. 1	30. 88	
1928.32	189. 2	31. 20	

5925	H 1199	10.3 . . .	10.6
8.323	45. ⁰ 6	25."76	
9.282	44. 6	26. 82	
1928.80	45. 1	26. 29	

5946	H 511	8.0 . . .	10.9
1928.320	246. ⁰ 7	34."11	
$\alpha = 11^{\text{h}}47^{\text{m}}.2$ (1928), in β . G. C. by 1^{m} too large.			

5959	H 512	A and B 9.1 . . .	12.4
8.323	156. ⁰ 1	20."55	
8.340	156. 7	21. 28	
1928.33	156. 4	20. 92	

opt.

	A and C	9.1
8.323	331. ⁰ 1	26."19
8.340	331. 1	26. 06
1928.33	331. 1	26. 12

opt.

5966	Ku 41		9.1 ... 9.3
	8.320	66. ⁰ 2	4." ³ 6
	8.323	67. 5	5. 41
	1928.32	66. 8	4. 88

5982	Σ 3077 <i>rej.</i>		9.6 ... 11.5
	8.323	46. ⁰ 4	9." ³ 1
	8.340	45. 1	9. 40
	1928.33	45. 8	9. 36

5989	Σ 1587 <i>rej.</i>		8.7 ... 10.8
	7.348	288. ⁰ 3	16." ⁴ 2
	7.353	288. 7	16. 26
	1927.35	288. 5	16. 34

c. p. m.

6011	H 515		8.6 ... 11.0
	1930.309	151. ⁰ 2	35." ⁸ 9

6020	Σ 1597 <i>rej.</i>		8.9 ... 9.9
	8.323	143. ⁰ 7	31." ⁰ 8
	8.340	144. 1	30. 58
	1928.33	143. 9	30. 83

6034	H δ 255		8.7 ... 12.7
	6.227	129. ⁰ 0	2." ⁹ 3
	8.318	127. 6	...
	1927.27	128. 3	2. 93

f. ?

6141	Hu 737		9.3 ... 9.8
	9.282	52. ⁰ 7	2." ⁴ 8
	9.326	44. 9	2. 05
	1929.30	48. 8	2. 26

6160	A. G. 177		9.4 ... 10.3
	7.323	216. ⁰ 7	7." ⁷ 9
	7.334	219. 6	7. 87
	1927.33	218. 2	7. 83

Increasing distance?

6267	$O\Sigma$ 255 <i>rej.</i>		7.5 ... 12.2
	9.282	342. ⁰ 8	18." ⁰ 4
	9.326	343. 3	17. 84
	1929.30	343. 0	17. 94

opt.

6276	Hn 117		9.7 ... 9.8
	8.348	11. ⁰ 3	2." ⁷ 2
	9.326	15. 1	2. 25
	1928.84	13. 2	2. 48

6290	Σ 1684 <i>rej.</i>		7.3 ... 11.1
	8.348	267. ⁰ 3	28." ⁶ 9
	9.282	267. 5	28. 05
	1928.82	267. 4	28. 37

6302	Σ 1688	A and C	9.3 ... 12.1
	7.348	359. ⁰ 6	76." ⁰ 9
	7.353	359. 1	76. 23
	1927.35	359. 4	76. 16

opt.

6339	Σ 1706 <i>rej.</i>		7.1 ... 11.3
	9.282	173. ⁰ 2	28." ⁷ 5
	9.326	172. 3	28. 55
	1929.30	172. 8	28. 65

6366	Σ 1713 <i>rej.</i>		8.5 ... 9.4
	8.348	280. ⁰ 9	32." ⁹ 8
	9.282	280. 9	32. 91
	1928.84	280. 9	32. 94

Distance probably misquoted in β . G. C.

6411	β 931		7.0 ... 11.9
	8.348	202. ⁰ 1	5." ⁴ 8
	9.282	205. 1	4. 90
	1928.84	203. 6	5. 19

f. ?

6441	A. G. 186		9.3 ... 10.2
	9.282	309. ⁰ 6	4." ¹ 8
	9.326	309. 2	3. 30
	1929.30	309. 4	3. 74

6449	H 222		8.6 ... 10.8
	8.348	142. ⁰ 4	30." ¹ 3
	9.282	143. 2	29. 81
	1928.84	142. 8	29. 97

6453	H 223		7.2 ... 11.6
	1928.348	351. ⁰ 3	36." ⁰ 1

6483	$O\Sigma$ 265 <i>rej.</i>		6.0 ... 11.5
	9.282	281. ⁰ 5	21." ⁷ 7
	9.309	283. 8	21. 77
	1929.80	282. 6	21. 77

opt.

6492	H 1232		9.5 ... 9.6
	9.326	306. ⁰ 7	12." ⁷ 9
	9.309	307. 0	12. 30
	1929.82	306. 8	12. 54

6497	A. G. 188	9.3 ... 12.1
	9.326 240.07	4."50
	0.309 239.5	3.89
	<hr/> 1929.82 240.1	4.20

6504	Σ 1749 rej.	9.0 ... 10.5
	9.326 351.09	21."25
	0.309 352.8	21.58
	<hr/> 1929.82 352.4	21.42

6512	$O\Sigma$ 268 rej. A and B	6.3 ... 12.7
	0.309 74.01	19."09
	0.315 75.3	19.08
	<hr/> 1930.31 74.7	19.08

c. p. m. ?

	A and C ...	6.3
1930.309	257.08	71."43

opt.

6515	H 531	9.3 ... 12.1
1930.309	39.01	36."31

6616	β 115	7.3 ... 12.3
1927.353	170.08	112."85

opt.

6646	S 655	A and B 8.7 ... 9.5
	7.348 81.07	40."29
	7.353 81.9	40.65
	<hr/> 1927.35 81.8	40.47

opt.

	A and C ...	13.0
7.348	05.06	59."09
7.353	05.4	60.42
1927.35	05.5	59.76

opt.

6726	H 1246	9.9 ... 11.2
	7.334 105.01	21."34
	7.337 105.3	21.94
	<hr/> 1927.34 105.2	21.64

6730	H 2701	9.1 ... 9.2
	7.334 36.00	12."53
	7.337 36.5	12.16
	<hr/> 1927.34 36.2	12.34

f.

6783	Σ 1823 AB and C	9.1 ... 9.6
	1927.334 146.09	3."80

c. p. m.

6794	H 1250	8.7 ... 9.3
	7.334 05.02	19."29
	7.337 05.2	18.84
	<hr/> 1927.34 05.2	19.06

f. ?

6809	H 544	9.9 ... 12.5
	7.334 328.05	9."17
	7.337 327.3	8.35
	<hr/> 1927.34 327.9	8.76

6815	H 2708	9.9 ... 10.1
	7.334 314.06	22."33
	7.337 314.3	22.40
	<hr/> 1927.34 314.4	22.36

6819	H 1252	8.5 ... 11.7
	7.334 274.01	11."66
	7.337 272.2	11.41
	<hr/> 1927.34 273.2	11.54

6824	Ho 541	9.7 ... 11.4
	7.337 86.00	2."42
	8.318 87.0	2.16
	<hr/> 1927.83 86.5	2.29

6882	Ho 543	9.0 ... 9.3
	7.334 235.02	5."30
	7.337 237.1	4.36
	8.318 235.8	5.05
	<hr/> 1927.66 236.0	4.90

6904	A. G. 195	9.6 ... 9.7
	7.337 155.08	1."60
	8.318 158.9	2.12
	<hr/> 1927.83 157.4	1.86

6916	Ho 387	8.8 ... 12.2
	7.334 248.05	8."47
	7.337 246.9	9.10
	<hr/> 1927.34 247.7	8.78

6928	Σ 1857 rej.	9.3 ... 12.1
	7.334 344.00	18."12
	7.337 342.4	18.42
	<hr/> 1927.34 343.2	18.27

7196	H ₀ 547		7.7 ... 12.7
	7.337	305. ⁰⁸	4."70
	8.318	304. 2	5. 02
	1927.83	305. 0	4. 86

c. p. m.

7501	Σ 2013	rej.	8.7 ... 9.4
	6.778	284. ⁰¹	22."80
	7.742	282. 7	22. 88
	1927.26	283. 4	22. 84

7522	Σ 2020	rej.	9.2 ... 10.3
	6.778	234. ⁰³	26."36
	7.742	234. 1	26. 42
	1927.26	234. 2	26. 39

7664	Copeland		9.3 ... 9.6
	7.742	67. ⁰⁰	1."47
	7.772	72. 8	1. 33
	1927.76	69. 9	1. 40

7682	Young		8.2 ... 10.1
	7.742	212. ⁰⁸	1."39
	7.772	214. 5	1. 47
	1927.76	213. 6	1. 43

f.

7683	β 356		8.7 ... 10.8
	6.778	118. ⁰⁰	7."78
	7.742	116. 4	7. 22
	1927.26	117. 2	7. 50

f. ?

8484	A. G. 218		9.3 ... 9.6
	7.684	282. ⁰³	2."60
	7.742	278. 6	2. 50
	1927.71	280. 4	2. 55

f.

8486	A. G. 219		9.5 ... 10.3
	7.684	33. ⁰⁸	8."91
	7.742	33. 5	8. 67
	1927.71	33. 6	8. 79

8527	H 858		8.5 ... 9.5
	7.684	227. ⁰⁸	12."49
	7.742	228. 3	12. 83
	1927.71	228. 0	12. 66

f.

8568	β 464	A and B	9.6 ... 10.1
	7.742	110. ⁰¹	1."31
	7.772	112. 3	1. 31
	1927.76	111. 2	1. 31

f.

		AB and C	... 10.9
	7.742	86. ⁰⁵	26."69
	7.772	86. 1	25. 90
	1927.76	86. 3	26. 30

8596	Hd Zones		9.6 ... 11.6
	1927.684	214. ⁰¹	5."78

f.

10026	Hd Zones A and B		8.6 ... 10.1
	1927.684	265. ⁰⁰	1."17

A and C ... 10.3

	7.682	270. ⁰⁹	31."11
	7.684	271. 7	31. 45
	1927.68	271. 3	31. 28

f.

10219	H ₀ 129		8.5 ... 13.1
	7.742	148. ⁰⁰	4."70
	7.838	141. 7	5. 61
	1927.79	144. 8	5. 16

10312	H 1530		9.5 ... 10.1
	7.805	242. ⁰⁶	16."21
	7.838	243. 1	16. 55
	1927.82	242. 8	16. 38

10331	H 1539	A and B	9.3 ... 10.7
	7.805	202. ⁰⁷	9."67
	7.838	203. 8	9. 66
	1927.82	203. 2	9. 66

A and C ... 11.9

	7.805	52. ⁰⁷	17."61
	7.838	52. 5	17. 02
	1927.82	52. 6	17. 32

10341	H 609	a)	8.9 ... 9.4
	7.805	266. ⁰⁸	9."87
	7.838	266. 1	9. 63
	1927.82	266. 4	9. 75

At the place of β . G. C., but another pair.

b) 9.2 ... 12.4

7.805	301. ⁰ 0	16." ⁰ 21
7.838	301. 0	16. 92

1927.82	301. 0	16. 56
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3' in 180° from a).

c) 8.5 ... 8.8

7.805	325. ⁰ 5	26." ⁰ 02
7.838	325. 5	25. 84

1927.82	325. 5	25. 93
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7' to S and 6' to W from a): this is H 609; in β . G. C. coordinates wrong: this pair measured by Espin.

10797 Σ 2772 *rej.* 9.4 ... 10.7

8.764	226. ⁰ 2	11." ⁰ 51
8.832	228. 2	11. 67

1928.80	227. 2	11. 59
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10800 H 1618 A and B 8.4 ... 11.9

1929.851	168. ⁰ 2	21." ⁰ 78
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10803 Σ 2773 8.6 ... 9.4

1929.851	115. ⁰ 5	3." ⁰ 19
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10811 H 1622 9.4 ... 11.3

8.832	297. ⁰ 0	12." ⁰ 49
8.865	295. 8	12. 36

1928.85	296. 4	12. 42
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10812 H 1619 9.0 ... 11.3

8.695	173. ⁰ 7	7." ⁰ 09
8.701	169. 9	7. 24

1928.70	171. 8	7. 16
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10816 Σ 2774 *rej.* 8.0 ... 11.2

8.695	336. ⁰ 0	27." ⁰ 43
8.701	335. 3	27. 63

1928.70	335. 6	27. 53
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10825 H 278 9.0 ... 11.1

8.695	262. ⁰ 3	22." ⁰ 61
8.701	262. 1	22. 55

1928.70	262. 2	22. 58
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10826 H 3015 10.5 ... 10.8

8.695	273. ⁰ 8	15." ⁰ 06
8.701	274. 5	15. 50

1928.70	274. 2	15. 28
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10828 β 682 8.2 ... 12.7

8.695	94. ⁰ 3	5." ⁰ 98
8.715	94. 2	6. 77

1928.70	94. 2	6. 38
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Change?

10836 H 1626 9.5 ... 10.3

8.701	163. ⁰ 7	9." ⁰ 10
8.715	165. 7	8. 89

1928.71	164. 7	9. 00
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10848 H 284 8.8 ... 9.8

8.701	86. ⁰ 4	3." ⁰ 76
8.715	87. 9	3. 70

1928.71	87. 2	3. 73
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10858 H 1630 9.5 ... 10.3

8.832	128. ⁰ 1	18." ⁰ 55
8.865	128. 9	18. 32

1928.85	128. 5	18. 44
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10860 H 1629 8.9 ... 9.4

8.715	73. ⁰ 4	12." ⁰ 70
8.761	72. 5	12. 55

1928.74	73. 0	12. 62
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10865 A 294 A and B 9.5 ... 11.9

8.715	211. ⁰ 7	4." ⁰ 89
9.745	208. 9	4. 45

1929.23	210. 3	4. 67
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A and C ... 13.1

1928.715	180. ⁰ 2	13." ⁰ 70
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10868 H 3019 9.3 ... 10.7

8.715	310. ⁰ 4	15." ⁰ 19
8.767	310. 9	15. 57

1928.74	310. 6	15. 38
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10870 Es 97 9.1 ... 10.7

8.715	290. ⁰ 1	7." ⁰ 02
8.761	289. 7	7. 38

1928.74	289. 9	7. 20
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10887 H0 154 8.1 ... 11.6

8.715	213. ⁰ 2	4." ⁰ 09
8.832	209. 9	3. 79

1928.77	211. 6	3. 94
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10894	H 1634		8.7 ... 9.2
	8.715	138. ⁰⁵	27." ⁵²
	8.761	138. 3	27. 39
	1928.74	138. 4	27. 46
10897	Σ 2788 <i>rej</i>		8.3 ... 9.4
	8.832	355. ⁰³	7." ⁸⁸
	8.865	354. 5	8. 04
	1928.85	354. 9	7. 96
10901	A. G. 270		9.1 ... 9.7
	8.715	113. ⁰⁰	5." ⁶¹
	8.761	113. 7	5. 37
	1928.74	113. 4	5. 49
10902	$O\Sigma$ 434 <i>rej.</i>		6.5 ... 9.4
	8.715	121. ⁰¹	24." ⁷⁹
	8.761	121. 4	24. 96
	1928.74	121. 2	24. 88
	<i>f.</i>		
10909	Ho 155		8.8 ... 9.6
	8.715	38. ⁰⁵	2." ⁰⁶
	8.832	28. 2	2. 30
	1928.77	33. 4	2. 18
10917	H 281		8.9 ... 9.7
	8.715	335. ⁰⁶	13." ⁷³
	8.767	335. 3	14. 10
	1928.74	335. 4	13. 92
	<i>f.</i>		
10918	Es 98	A and B	6.6 ... 9.4
	8.761	310. ⁰⁵	26." ⁰⁷
	8.865	309. 9	26. 19
	1928.81	310. 2	26. 13
		A and C	... 9.5
	8.761	87. ⁰¹	30." ⁰⁹
	8.865	87. 4	30. 40
	1928.81	87. 2	30. 24
10929	β 839	A and C	A = 8.5; B = 11.6; C = 10.1.
	8.761	196. ⁰⁹	22." ²³
	9.851	196. 3	21. 95
	1929.31	196. 6	22. 09
		C and B	
	1928.761	03. ⁰⁸	6." ⁹⁸
		A and B	
	1929.851	201. ⁰³	15." ²⁵
10934	Holmes		8.9 ... 9.3
	8.832	65. ⁰⁶	13." ⁷⁰
	8.865	64. 5	13. 63
	1928.85	65. 0	13. 66
10940	Es 139		9.7 ... 11.9
	8.832	355. ⁰¹	5." ¹⁸
	8.865	355. 5	4. 96
	1928.85	355. 3	5. 07
10942	H 1637		8.5 ... 11.3
	9.745	103. ⁰⁹	13." ⁵⁵
	9.851	102. 1	13. 23
	1929.80	103. 0	13. 39
10949	Ho 157		9.0 ... 9.3
	9.745	21. ⁰⁵	4." ¹⁹
	9.851	21. 3	4. 19
	1929.80	21. 4	4. 19
10956	H 282		8.8 ... 12.7
	8.767	72. ⁰⁰	24." ⁰⁴
	9.728	71. 7	23. 82
	1929.25	71. 8	23. 93
10957	Ku 60		10.1 ... 10.1
	8.767	226. ⁰⁵	7." ³⁷
	8.895	225. 5	7. 15
	1928.83	226. 0	7. 26
10982	H 3028		9.5 ... 10.7
	8.767	242. ⁰⁵	20." ⁸¹
	9.728	242. 9	20. 03
	1929.25	242. 7	20. 42
11012	H 284		8.6 ... 10.9
	8.767	322. ⁰⁷	23." ⁷⁹
	9.717	322. 9	22. 80
	1929.24	322. 8	23. 30
11029	H 3031		9.6 ... 11.3
	9.717	252. ⁰⁷	26." ⁵⁰
	9.728	252. 2	26. 24
	1929.72	252. 4	26. 37
11037	H 3033		8.7 ... 10.3
	8.767	244. ⁰⁴	24." ¹⁷
	9.717	243. 4	24. 04
	1929.24	243. 9	24. 10

11039	H 3032		7.9 ... 13.0
	8.767	89. ⁰ 4	17."96
	9.728	89. 4	17. 31
	1929.25	89. 4	17. 64

opt.

11041	H 1655		9.7 ... 11.9
	9.728	27. ⁰ 9	20."13
	9.731	25. 5	20. 64
	1929.73	26. 7	20. 38

11060	β 273		8.7 ... 12.1
	9.728	84. ⁰ 1	6."29
	9.745	87. 4	6. 32
	1929.74	85. 8	6. 30

11069	H 3039		8.7 ... 9.8
	9.717	153. ⁰ 3	11."37
	9.728	152. 0	11. 50
	1929.72	152. 6	11. 44

f. ?

11079	H 938		8.6 ... 12.6
	9.728	145. ⁰ 5	16."06
	9.745	144. 1	15. 79
	1929.74	144. 8	15. 92

11083	H 1661		9.2 ... 9.2
	9.717	83. ⁰ 5	12."16
	9.728	83. 3	11. 94
	1929.72	83. 4	12. 05

11085	Ho 163		8.7 ... 12.3
	9.728	30. ⁰ 0	6."64
	9.745	30. 6	6. 68
	1929.74	30. 3	6. 66

Change in angle?

11086	H 1664		10.1 ... 10.1
	9.717	86. ⁰ 1	7."91
	9.728	86. 7	7. 57
	1929.72	86. 4	7. 74

11105	H 1668		9.0 ... 10.5
	9.731	36. ⁰ 5	8."78
	9.745	35. 7	8. 67
	1929.74	36. 1	8. 72

11137	A. G. 274		9.7 ... 10.3
	9.731	153. ⁰ 7	9."04
	9.745	153. 2	9. 37
	1929.74	153. 4	9. 20

11172	H 3050		9.7 ... 10.7
	9.731	43. ⁰ 0	22."74
	9.769	43. 9	22. 88
	1929.75	43. 4	22. 81

11177	Σ 2818 <i>rej</i>		7.5 ... 9.4
	9.731	21. ⁰ 3	22."28
	9.769	20. 9	22. 67
	1929.75	21. 1	22. 48

opt.

11193	H 1683	A and B	9.7 ... 11.3
	9.731	167. ⁰ 8	12."18
	9.769	166. 6	12. 16
	1929.75	167. 2	12. 17

A and C ... 10.2

	9.731	311. ⁰ 3	25."99
	9.769	310. 8	25. 93
	1929.75	311. 0	25. 96

11197	H 3053		9.5 ... 10.0
	9.731	191. ⁰ 9	25."57
	9.769	192. 3	25. 63
	1929.75	192. 1	25. 60

11480	H 1724		10.1 ... 10.2
	7.052	225. ⁰ 2	12."57
	7.058	225. 9	13. 23
	1927.06	225. 6	12. 90

11491	β 474		7.9 ... 12.1
	7.942	344. ⁰ 9	15."83
	8.058	346. 7	16. 26
	1928.00	345. 8	16. 04

f.

11494	Es 103		9.3 ... 9.6
	7.942	206. ⁰ 1	1."98
	8.058	210. 3	2. 09
	1928.00	208. 2	2. 04

11496	Ho 611		9.3 ... 12.7
	7.706	81. ⁰ 3	17."59
	7.736	84. 1	18. 89
	1927.72	82. 7	18. 24

11501	H 1729		9.0 ... 10.6
	7.052	98. ⁰ 0	8."12
	7.058	97. 4	7. 97
	<u>1927.06</u>	97. 7	8. 04

11505	Ho 612		7.4 ... 12.5
	7.939	68. ⁰ 9	22."07
	7.942	68. 9	22. 00
	<u>1927.94</u>	68. 9	22. 04

opt.

11511	H 3093		10.1 ... 11.6
	7.052	10. ⁰ 5	10."23
	7.058	14. 4	10. 53
	<u>1927.06</u>	12. 4	10. 38

11522	H 1733		8.4 ... 12.4
	7.052	251. ⁰ 9	18."54
	7.058	254. 6	19. 26
	<u>1927.06</u>	253. 2	18. 90

11532	H 3096		9.8 ... 10.7
	8.156	340. ⁰ 8	7."49
	8.159	343. 9	7. 75
	<u>1928.16</u>	342. 4	7. 62

11535	H 1737		9.4 ... 9.5
	7.052	167. ⁰ 5	5."89
	7.058	166. 3	6. 47
	<u>1927.06</u>	166. 9	6. 18

11536	H 1739		9.3 ... 11.5
	7.058	66. ⁰ 3	18."21
	7.939	65. 3	18. 49
	<u>1927.50</u>	65. 8	18. 35

11551	Es —		9.0 ... 12.6
	7.939	229. ⁰ 3	6."32
	7.942	229. 0	6. 58
	<u>1927.94</u>	229. 2	6. 45

11552	H 1742		6.7 ... 8.4
	7.058	332. ⁰ 9	22."90
	7.890	334. 1	22. 73
	<u>1927.47</u>	333. 5	22. 82

Angle agrees with H, but disagrees with β .

11555	Ho 178		9.3 ... 12.6
	6.720	221. ⁰ 6	3."18
	6.889	236. 6	3. 28
	<u>1926.78</u>	229. 1	3. 23

11558	H 3097	A and B	9.5
	7.912	35. ⁰ 0	19."95
	7.917	36. 5	20. 41
	<u>1927.91</u>	35. 8	20. 18

		B and b	11.7 ... 13.0
	7.912	345. ⁰ 7	5."8 \pm
	7.917	346. 8	5. 49
	<u>1927.91</u>	346. 2	5. 64

		A and C	... .. 13.1
	1927.917	338. ⁰ 1	23."86

11587	Es 146		9.9 ... 10.0
	7.939	46. ⁰ 8	2."56
	7.942	49. 5	2. 59
	<u>1927.94</u>	48. 2	2. 58

11592	Σ 2877	A = 6.6; B = 8.5; B and C C = 9.6	
	6.923	299. ⁰ 3	99."61
	7.022	299. 5	99. 66
	<u>1926.97</u>	299. 4	99. 64

		A and C	
	1926.923	307. ⁰ 0	105."99

11605	H 1747	A and B	9.7 ... 11.1
	7.939	87. ⁰ 4	12."00
	7.942	89. 6	11. 44
	<u>1927.94</u>	88. 5	11. 72

		A and C	... .. 10.7
	7.939	212. ⁰ 8	19."35
	7.942	213. 0	20. 37
	<u>1927.94</u>	212. 9	19. 86

11612	Ho 614		7.7 ... 11.6
	7.890	173. ⁰ 5	4."55
	7.934	170. 4	4. 90
	<u>1927.91</u>	172. 0	4. 72

11631	H 1748		10.3 ... 10.6
	7.890	278. ⁰ 5	7."52
	7.934	279. 9	6. 97
	<u>1927.91</u>	279. 2	7. 24

11635	Kr. 57		9.1 ... 9.2
	7.942	226.05	1."54
	8.058	226.9	1.82
	1928.00	226.7	1.68

11636	β 378	A and B	9.0 ... 10.2
	7.942	88.03	2."98
	8.058	90.4	2.76
	8.156	89.3	2.96
	1928.05	89.3	2.90

f.?

		A and C	... .. 12.3
	7.942	31.08	5."81
	8.156	34.1	6.69
	1928.05	33.0	6.25

11639	H 3105		9.1 ... 12.5
	6.747	114.01	18."65
	6.821	114.6	18.48
	1926.78	114.4	18.56

11645	H 1750		9.0 ... 12.3
	6.747	248.01	21."80
	6.821	249.4	22.01
	1926.78	248.7	21.90

11647	H 1751	A and B	9.5 ... 10.1
	8.159	115.03	11."08
	8.172	114.3	10.70
	1928.17	114.8	10.89

11661	H 1754	A and B	9.7 ... 10.3
	7.890	155.08	8."62
	7.934	152.7	8.72
	1927.91	154.2	8.67

11662	H 1753		10.1 ... 10.1
	7.890	183.02	4."75
	7.934	184.3	4.79
	1927.91	183.8	4.77

f.

11672	Kr. 58		9.5 ... 9.7
	8.159	26.01	2."32
	8.172	27.1	2.10
	1928.17	26.6	2.21

11673	Σ 2899	rej.	7.7 ... 12.3
	6.690	30.07	18."32
	6.821	30.7	19.14
	1926.76	30.7	18.73

11682	H α 292		8.5 ... 12.2
	6.821	56.07	4."50
	6.892	59.8	4.33
	1926.86	58.3	4.42

11684	H 3112		9.6 ... 10.5
	8.156	131.07	21."57
	8.159	131.5	21.60
	1928.16	131.6	21.58

11688	H 3109		9.6 ... 10.7
	6.821	300.03	28."62
	6.920	300.0	28.32
	1926.87	300.2	28.47

11700	H 1762		9.5 ... 10.3
	7.890	357.08	17."72
	7.934	356.1	18.06
	1927.91	357.0	17.89

11711	H 963		9.5 ... 10.6
	6.821	60.05	7."12
	6.920	58.1	7.08
	1926.87	59.3	7.10

f.

11712	H α 616		7.8 ... 12.9
	7.706	356.01	18."56
	7.739	350.7	19.45
	1927.72	353.4	19.00

opt.?

11723	H 3116		10.1 ... 12.8
	7.706	257.09	...
	7.736	263.0	24."12
	7.739	261.7	24.32
	1927.73	260.9	24.22

First distance rejected, — probably some misreading.

11734	H 1766		9.1 ... 10.4
	7.890	264.09	13."57
	7.934	264.1	14.09
	1927.91	264.5	13.83

11740	H 1768		8.6 ... 9.0
	1927.890	08.03	24."79

f.

11747	Hd Zones		9.7 ... 10.0
	7.706	177. ⁰ 7	3."16
	7.736	177. 0	3. 02
	1927.72	177. 4	3. 09

11748	Kr 59		8.7 ... 9.3
	8.156	344. ⁰ 0	1."92
	8.159	347. 5	1. 76
	1928.16	345. 8	1. 84

11758	H 965		8.9 ... 10.0
	6.923	141. ⁰ 6	30."91
	7.005	142. 1	30. 44
	1926.96	141. 8	30. 68

11788	β 479		10.0 ... 11.7
	8.156	30. ⁰ 6	2."39
	8.159	19. 7	2. 26
	1928.16	25. 2	2. 32

11794	H 1779		7.5 ... 10.6
	6.923	217. ⁰ 1	22."18
	7.005	217. 1	21. 60
	1926.96	217. 1	21. 89

f.

11804	H 3121		9.1 ... 10.8
	6.821	30. ⁰ 7	16."88
	6.920	30. 5	16. 59
	1926.87	30. 6	16. 73

11806	H 1781		8.5 ... 12.6
	7.005	291. ⁰ 5	22."45
	7.709	289. 3	22. 27
	1927.36	290. 4	22. 36

11810	H 476		9.2 ... 9.9
	6.821	206. ⁰ 2	7."04
	6.920	207. 6	6. 95
	1926.87	206. 9	7. 00

f.

11811	H 1784		9.7 ... 10.7
	8.156	347. ⁰ 4	14."13
	8.159	350. 3	13. 26
	1928.16	348. 8	13. 70

11813	Ho 477		9.3 ... 11.9
	6.923	162. ⁰ 1	12."20
	7.005	161. 1	13. 15
	1926.96	161. 6	12. 67

11818	H 1785		7.3 ... 8.5
	6.920	172. ⁰ 6	14."27
	6.923	172. 0	13. 99
	1926.92	172. 3	14. 13

f. ?

11824	Arg. 44		8.9 ... 9.0
	6.923	168. ⁰ 4	7."31
	7.005	168. 7	7. 45
	1926.96	168. 6	7. 38

f.

11825	H 966		7.2 ... 12.3
	6.923	264. ⁰ 2	12."79
	7.005	277. 3	13. 22
	7.052	277. 7	13. 40
	1926.99	273. 1	13. 14

Discordant measures in angle.

11829	H 1788		8.5 ... 9.1
	6.923	300. ⁰ 1	3."50
	7.005	300. 0	3. 08
	1926.96	300. 0	3. 29

f.

11830	Kr 61	A and B	9.6 ... 10.5
	6.923	108. ⁰ 8	3."48
	7.005	120. 0	3. 92
	1926.96	114. 4	3. 70

f.

		A and C	... 11.5
	6.923	154. ⁰ 2	19."85
	7.005	153. 5	19. 19
	1926.96	153. 8	19. 52

		A and D	... 11.5
	6.923	36. ⁰ 0	38."82
	7.005	34. 2	36. 93
	1926.96	35. 1	37. 87

11845	H 1791	A and B	7.1 ... 8.1
	1926.920	60. ⁰ 5	17."49

c. p. m.

11862	β 1092	AB and C	6.6 ... 12.1
	1926.920	261. ⁰ 0	32."61

opt.

		AB and D	... 7.3
	1926.920	136. ⁰ 8	42."45

c. p. m.

11902 Σ 2931 A and B 9.3 ... 10.1

1927.706 146.08 4."60

c. p. m.

A and C ... 13.1

7.706 356.02 29."36

7.736 356.6 29.41

1927.72 356.4 29.38

opt.

11904 H 3134 9.9 ... 10.3

7.928 138.03 17."59

7.942 137.3 17.92

1927.94 137.8 17.76

11915 Σ 2933 *rej.* 9.5 ... 11.8

7.928 210.09 5."08

7.939 212.5 3.73

7.942 214.3 3.49

1927.94 212.6 4.10

11925 H 1801 A and B 9.3 ... 13.0

7.928 338.07 17."31

7.942 345.7 18.06

1927.94 342.2 17.68

Change ?

A and C ... 9.5

7.928 295.03 29.61

7.942 295.3 29.49

1927.94 295.3 29.55

11982 H 1811 9.4 ... 11.1

7.928 154.08 6."55

7.939 154.0 6.52

1927.93 154.4 6.54

11999 H 1817 9.3 ... 10.0

7.928 240.05 10."97

7.939 239.4 10.98

1927.93 240.0 10.98

12002 H 1818 9.5 ... 12.1

7.928 43.04 16."61

7.939 42.8 15.26

7.942 44.1 16.16

1927.94 43.4 16.01

12038 $O\Sigma$ (App.) 238 B and C

A = 5.6; B = 6.6; C = 12.6

1928.156 257.04 45."56

Largely differs from Burnham's estimate $250^0:25''$

12053 H 974 7.9 ... 10.9

7.706 86.06 44."37

7.736 86.8 43.67

1927.72 86.7 44.02

12191 Σ 2983 *rej.* 8.7 ... 10.5

7.706 272.06 29."78

7.736 273.1 30.23

1927.72 272.8 30.00

opt.

12200 Σ 2985 6.1 ... 7.2

6.046 253.09 15."76

6.923 254.4 15.87

1926.48 254.2 15.82

Some change ?

12449 Σ 3025 *rej.* 9.3 ... 12.3

7.739 58.06 22."51

7.805 58.0 22.41

1927.77 58.3 22.46

opt. ?

12539 Σ 3035 *rej.* 8.7 ... 10.3

7.739 311.00 28."92

7.805 309.9 27.43

1927.77 310.4 28.18

c. p. m. ?

12758 Hu 1003 8.7 ... 10.7
 1928.159 26.⁰1 2."12

Measured in looking for β . G. C. 22, for which the position in β . G. C. is wrong.

12772 Hu 1006 9.6 ... 9.9
 7.723 200.⁰9 2."16
 8.156 199.9 2.98

 1927.94 200.4 2.57

c. p. m.

13285 Hu 1153 8.5 ... 11.9
 7.337 286.⁰2 4."00
 8.318 287.5 3.65

 1927.83 286.8 3.82

c. p. m.

13639 Hu 993 9.7 ... 11.6
 8.156 222.⁰0 2."85
 8.159 219.2 2.76

 1928.16 220.6 2.80

c. p. m.

[56] A 1805 9.5 ... 12.1

0^h20^m.0; + 9^o31'

7.917	314.08	4."46
7.928	318.3	5.13
1927.92	316.6	4.80

c. p. m.

64 Ptselm

0^h44^m.7; + 16^o38'

A and B 4.1 ... 11.9

1927.914	324.02	71."66
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opt.

A and C ... 12.6

1927.914	164.08	75."93
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opt.

B. D. + 62^o722 8.7 ... 9.0

4^h56^m.6; + 62^o56'

7.112	120.05	12."69
7.203	120.6	12.80
1927.16	120.6	12.74

B. D. + 0^o1316 9.5 ... 10.1

6^h08^m.1; + 0^o52'

8.230	141.07	32."17
9.134	141.7	32.74
1928.68	141.7	32.46

B. D. + 9^o1182 10.2 ... 11.5

6^h13^m.7; + 9^o21'

7.230	229.07	5."37
7.233	231.3	5.92
1927.23	230.5	5.64

5' in 270^o from β . G. C. 3279.

B. D. + 4^o1310 9.2 ... 12.1

6^h29^m.0; + 5^o01'

7.230	99.04	...
7.233	103.2	5."54
8.219	96.8	6.04
1927.56	99.8	5.79

12' in 90^o from β . G. C. 3442.

[1988] A 2143 9.5 ... 9.6

10^h05^m.0; + 41^o48'

7.340	125.05	1."07
8.318	120.3	1.06
1927.83	122.9	1.06

c. p. m.

[3693] A. G. 9.5 ... 10.1

22^h20^m.6; + 3^o27'

7.706	139.09	3."42
7.736	143.6	2.89
1927.72	141.8	3.16

[3769] Jk. 209 9.7 ... 12.8

22^h40^m.1; + 17^o27'

5.939	43.04	5."15
6.046	43.0	6.29
7.736	42.8	5.10
1926.57	43.1	5.51

Change in dist.?

Est.

A-11123

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Les Publications

de l'Observatoire Astronomique de l'Université de Tartu (Dorpat)

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- 1) *Observationes astronomicas* etc. Vol. I—VIII (1817—1839).
- 2) *Beobachtungen der Kais. Univ.-Sternwarte Dorpat*. Band IX—XX (1839—1899).
- 3) *Труды Астрономической Обсерватории Императорскаго Юрьевского Университета*. Томъ XXI—XXIV (1899—1917).



Remarque. Du tome XXIII seulement la 1-re partie est apparue. Les trois parties du tome XXIV constituent le tome complet.

Plusieurs volumes anciens et tome XXIII, p. 1 sont épuisés.

