KG
11366
107

1924phae.proj.1108

17

γ Aqqni C 18578
18577
18581
18585

Mira C 18601

Pleiades C 18644
18650
18683
HA...
18570
H 2696
2687
C 18568

Capella C 18583

Procyon C 18589

Betelgeuse C 18678 part
H 2680

α Persei C 18707, C 18656

Sirius C 18604, H 2699

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			page
	γ Cygni		
	c 18578	2 prisms	4
	18577	2 prisms	14
	18581	1 prism	30
	18585	1 prism	46
o Ceti	18601	1	58
Pleiades	18644	1	64
Capella	18583	1	70, 112
Procyon	18589	1	92
Pleiades	18646	1	102
"	18650	1	106
Betelgeuse	18678	1	114
Pleiades	18683	1	132
"	H	1	136
"	18570	2	142

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γ Cygni
c 18578 (2 prisms)
Apertures 1, 2, 3, 4

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4

ζ Cygni, C 18578 — Reduction Table

Scale	mag.	Scale	mag.	Scale	mag.
0	–	39	110	78	57
1	–	40	109	79	55
2	–	41	107	80	54
3	200	42	106	81	52
4	191	43	104	82	51
5	178	44	103	83	50
6	170	45	101	84	49
7	165	46	100	85	47
8	162	47	99	86	46
9	159	48	97	87	44
10	155	49	95	88	43
11	153	50	94	89	41
12	151	51	93	90	40
13	150	52	92	91	39
14	148	53	90	92	37
15	146	54	89	98	36
16	145	55	88	94	35
17	143	56	87	95	33
18	142	57	85	96	32
19	141	58	84	97	30
20	139	59	83	98	29
21	137	60	81	99	27
22	135	61	80	100	26
23	134	62	79	101	24
24	132	63	77	102	23
25	131	64	76	103	21
26	129	65	74	104	19
27	128	66	73	105	17
28	126	67	72	106	15
29	125	68	70	107	13
30	123	69	69	108	10
31	122	70	67	109	9
32	120	71	66	110	5
33	118	72	64		
34	117	73	63		
35	116	74	62		
36	114	75	61		
37	113	76	59		
38	112	77	58		

Lwie λ

1													
2													
3													
4													
5													
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16													
17													
18													
18a													
19													
20													
21													
22													
23													
24													
25	✓ 60	89	81	41	40	28	31 (59)	126	83	43	16	19 (35)	145
26	67	89.5	72	41	31	37	23 (60)	113	81	32	18	18 (36)	142
27	76	90	59	40	19	46	14 (60)	100	81	19	24	12 (36)	132
28	82	90	51	40	11	50	60?	94	81	13	30	6 (36)	128
29	74	90	62	40	22	43.5	17 (60.5)	104	80	24	27	9 (36)	128
30	41	91	80	39	41	20	81 (61)	123	80	43	17	28 (37)	143

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γ Cygni C 18578 2 prisms

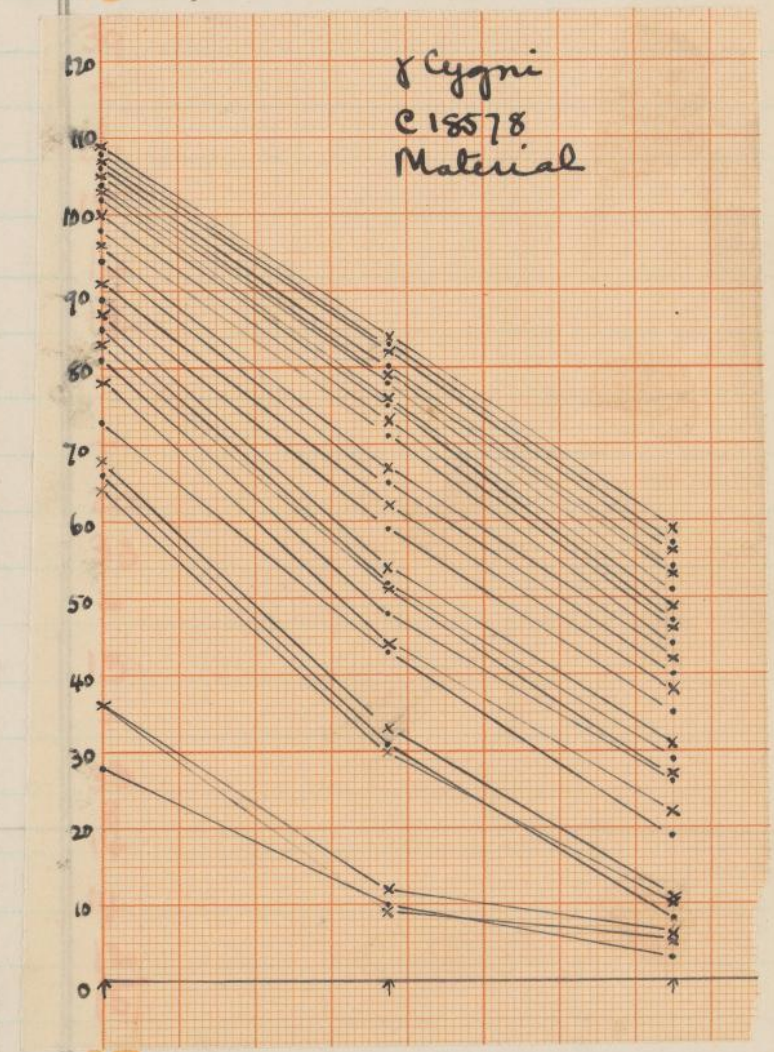
Line	λ		ap.1 n	ap.1 mtn	ap.1 [n]	ap.1 [mtn]	Δm	ap.2 n	ap.2 mtn	ap.2 [n]	ap.2 [mtn]	Δm	ap.3 n	ap.3 mtn	ap.3 [n]
1			-2	62	—	79		-11	27		128		—	—	
2		✓✓	28	64	126	76	50	10	30 ~~20~~	155	123	32	3	~~13~~ 10	200
3		✓✓	36	66	114	73	41	12	31 ~~19~~	151	122	29	6	~~8~~ 14	170
4			37	66.5	113	73	40	12	32 ~~20~~	151	120	31	7	~~8~~ 15 16	165
5		✓✓	36	68	114	70	44	9	33 ~~21~~	159	118	41	5	#	178
6		✓	-6	73	—	63		-7	39	—	113		-2	~~19~~ 21 21	—
7			42	77	106	58	48	15.5	41.5 ~~26~~	146	107	39	9	~~12~~	159
8		✓	63	78	77	57	20	34	44 10	117	103	14	16	6 22	145
9			66	78	73	57	16	33	44 11	118	103	15	16	23.5 7.5	145
10			69	79	69	55	14	32	45 13	120	101	19	19	24 5	141
11			—	—	—	—	—	—	—	—	—	—	—	—	—
12			—	—	—	—	—	—	—	—	—	—	—	—	—
13			—	—	—	—	—	33	48 15	118	97	21	14	26 2	151
14		✓	57	81	85	52	33	25	48 23	131	97	34	12	27	143
15			—	—	—	—	—	—	—	—	—	—	—	—	—
16		✓	71	83	66	50	16	36	51 15	114	93	21	20	27 7	139
17			—	—	—	—	—	—	—	—	—	—	—	—	—
18			53	84	90	49	41	25	52 27	131	92	39	15	24 13	146
18a		✓	79	85	55	47	8	45	52 7	101	92	9	24	29 5	132
19			74	86	62	46	16	41	54 13	107	89	18	24	31 7	132
20		✓	75	87	61	44	17	42	54 12 55.5	106	89	17	26	31 5	129
21			78	~~88~~	57	43	14	45.5	10	101	88	13	28	34 6	126
22			77	88	58	43	15	44	56 12 57.5	103	87	16	23.5	33.5 10	133
23			68	89	70	41	29	34	23.5	117	84	33	20	34 14	139
24			80	89	54	41	13	50	56.5 8.5	94	84	10	26	34 8	129
25		✓	60	89	81	41	40	28	59 31	126	83	43	16	35 19	145
26			67	89.5	72	41	31	37	60 23	113	81	32	18	36 18	142
27			76	90	59	40	19	46	60 14	100	81	19	24	36 12	132
28			82	90	51	40	11	50	60?	94	81	13	30	36 6	128
29			74	90	62	40	22	43.5	60.5 17	104	80	24	27	36 9	128
30			41	91	80	39	41	20	61 21	103	80	43	17	37 20	143

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aperture 4 omitted in reduction

[mtn]	Δm	n	mtn	ap.4 [n]	[mtn]	Δm	
		−2	12				
150	50	3.5	8				41
148	22	5.5	6				35
146	19	4.5	8				35
145	33	2	10				
137		−1.5	16				
137	22	5.5	11				
135	10	12.5	6 (18.5)				
133	12	12	6.5 (18.5)				
132	9	14	6 (20)				
—	—	—	—				
—	—	—	—				
129	19	—	—				
128	15	10	11 (21)				
—	—	—	—				
128	11	15	9 (22)				
—	—	—	—				
126	20	9.5	14 (23.5)				
125	7	20	7 (24)				
122	10	18	9 (25)				
122	7	21	5 (26)				
117	9	22	5 (27)				
118	75	19	8 (27)				
117	22	14.5	13 (27.5)				28
117	12	20	8 (28)				12
116	29	12	17 (29)				37
114	28	15	14 (29)				30
114	18	22	9 (29)				19
114	9	28	1 (29)				10
114	14	21	9 (30)				20
113	30	16	13 (31)				38



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aperture 4 omitted in reduction

[mtn]	Δm	n	mtn	ap.4 [n]	[mtn]	Δm	
		−2	12				
150	50	3.5	8				41
148	22	5.5	6				35
146	19	4.5	8				35
145	33	2	10				39
137		−1.5	16				−
137	22	5.5	11				36
135	10	12.5	6 (18.5)				15
133	12	12	6.5 (18.5)				14
132	9	14	6 (20)				14
−	−	−	−				−
−	−	−	−				−
129	19	−	−				20
128	15	10	11 (21)				33
−	−	−	−				−
128	11	15	9 (22)				13
−	−	−	−				−
126	20	9.5	14 (23.5)				33
125	7	20	4 (24)				8
122	10	18	9 (25)				14
122	7	21	5 (26)				14
117	9	22	5 (27)				12
118	75	19	8 (27)				15
117	22	14.5	13 (27.5)				28
117	12	20	8 (28)				12
116	29	12	17 (29)				37
114	28	15	14 (29)				30
114	18	22	9 (29)				19
114	9	28	1 (29)				10
114	14	21	9 (30)				20
113	30	16	15 (31)				38



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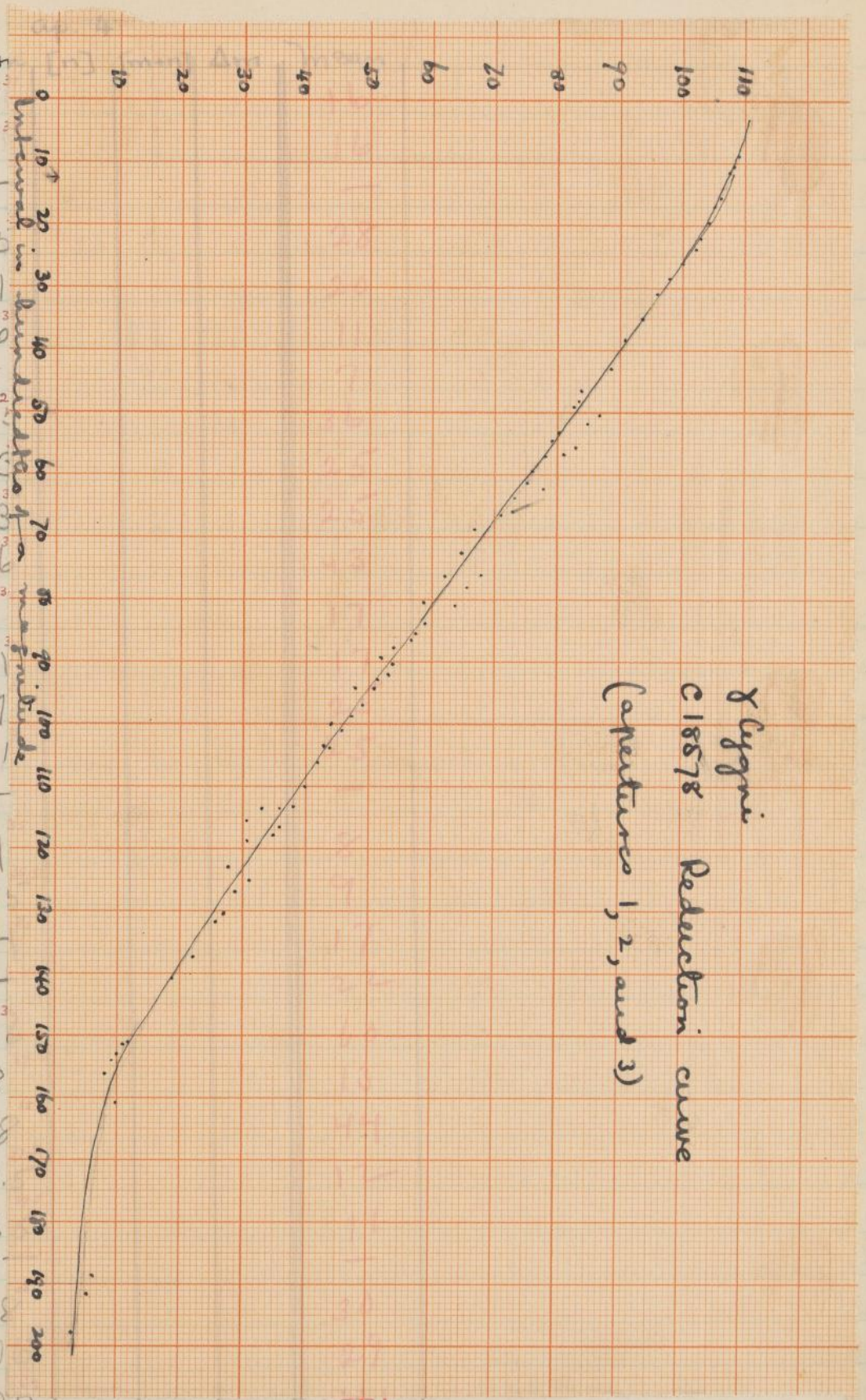
γ Cyg C18578

		ap. 1					ap. 2					ap. 3	
		n	mm	[n]	[mtn]	Δm	n	mtn	[n]	[mtn]	Δm	n	mtn	[n]
31		80	91	54	39	15	49	~~62 12~~	95	79	16	27	~~38 11~~	128
32		81	91	52	39	13	48	~~62 11~~	97	79	18	27	~~39 12~~	128
33		—	—	—	—	—	—	—	—	—	—	—	—	—
34	✓	71	91	66	39	27	38	~~62 24~~	112	79	33	21	~~38 17~~	137
35		76	91.5	59	38	21	45	~~63 18~~	101	77	24	26.5	~~38.0 11.5~~	128
36		85	91.5	47	38	9	52	~~63 11~~	92	77	15	30	~~38 6~~	120
37		—	—	—	—	—	—	—	—	—	—	35	~~40 5~~	116
38		65	92	74	37	37	36	63 38	116	77	39	19	~~39 20~~	141
39		72	92	64	37	27	42	63 21	106	77	29	25	~~38 18~~	131
40		75	93	61	36	25	42	~~64 22~~	106	76	30	27	~~39 12~~	128
41		81	98.5	52	36	16	19	~~64~~ 64	141	76	65	9	~~39 30~~	159
42		81	94	52	35	17	51	64 13	93	76	17	29	~~40 11~~	125
43		—	—	—	—	—	49	64 15	95	76	19	29	~~40 11~~	125
44	✓	75	94	61	35	26	45	65 20	101	74	27	24	~~40 16~~	132
45		—	—	—	—	—	44.5	65 20.5	102	74	28	26	~~41 15~~	129
46		—	—	—	—	—	—	—	—	—	—	—	—	—
47		89	95	41	33	8	58	65.5 9.5	84	74	10	35	~~40 5~~	116
48		88	95	43	33	10	58.5	65.5 9	84	74	10	35.5	~~40.5 6~~	115
49		82	95	51	33	18	51	65 14	93	74	19	30	~~40 10~~	123
50		79	95.5	55	32	23	48	66 18	97	73	24	27	~~40 13~~	128
51		47	96	99	32	67	19	66 47	141	73	68	10	~~40 30~~	155
52		87	96	44	32	12	55	67 12	88	72	16	35	42	116
53		74	96	104	32	72	42	~~67 5~~ 25	105	72	33	24	42	132
54	✓	87	96	44	32	12	57	67 10	85	72	13	33	~~42 9~~	118
55		87	96.6	44	31	13	59	~~67.5~~ 67	83	72	11	36	~~43 7~~	114
56		—	—	—	—	—	—	—	—	—	—	—	—	—
57		77	96.5	58	31	27	42	67 25	106	72	34	22	~~42 20~~	135
58		77	97	58	30	28	44	68 24	103	70	33	24	~~42 18~~	132
59		69	97	69	30	39	35	68 33	116	70	46	17	~~43 26~~	143
60		73	97	63	30	33	39.5	68.5 29	110	70	40	22	~~42 20~~	135

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[mm]	Δm	n	m+
112	16	22	9
110	18	22	9
—	—	—	—
112	25	16	15
112	16	20	11
112	8	25.5	6
109	7	—	—
110	31	27	13
112	19	19	13
110	18	20	13
110	49	7.5	26
109	16	27	7
109	16	28	11
109	23	18	17
107	22	25	11
—	—	—	—
109	7	31	4
108	7	26	9
109	14	22	12
109	19	—	—
109	46	10	2
106	10	29	8
106	26	20	18
106	12	29	8
104	10	30	7
—	—	—	—
106	29	20	18
106	26	23	17
104	39	15	24
106	29	21	19



γ Cygni
C 18578 Reduction curve
(apertures 1, 2, and 3)

T1
34

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ap. 4

[m+n]	Δm	n	m+n	[n]	[m+n]	Δm	mean
112	16	22	9 31				16
110	18	22	9 31				16
—	—	—	—				—
112	25	16	15 31				28
112	16	20	11 31				20
112	8	25.5	6 31.5				11
109	7	—	—				7
110	31	27	15? 32				36
112	19	19	13 32				25
110	18	20	13 33				25
110	49	7.5	26 33.5				43
109	16	27	9 34				17
109	16	28	11 34				17
109	23	18	17 35				25
107	22	25	11 36				25
—	—	—	—				—
109	7	31	4 35				8
108	7	26	9.5 35.5				9
109	14	22	14 36				17
109	19	—	—				22
109	46	10	26 36				60
106	10	29	8 37				13
106	26	20	18 38				44
106	12	29	8.5 37.5				12
104	10	30	7.5 37.5				11
—	—	—	—				—
106	29	20	18 38				30
106	26	23	16 39				29
104	39	15	24 39				41
106	29	21	19 40				34

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γ Cyg C18578

No.	λ	Op. 1 n	Op. 1 m+n	Op. 1 [n]	Op. 1 [m+n]	Op. 1 Δm	Op. 2 n	Op. 2 m+n	Op. 2 [n]	Op. 2 [m+n]	Op. 2 Δm	Op. 3 n	Op. 3 m+n	Op. 3 [n]	[m+n]
61		83	97	50	30	20	49	69 20	95	69	26	27	74 17	128	10
62		86	97	46	30	16	55	70	88	67	21	34	44 10	117	10
63		70	98	67	29	36	36	70 34	114	67	47	21	44 23	137	10
64		81	98	52	29	23	60	70 10	81	67	14	37	44 7	113	10
65		80	98	54	29	25	50	70 20	94	67	27	28	43 15	126	10
66		87	98	44	29	15	57	70 13	85	67	18	33	43 10	118	10
67		81	98	52	29	23	47.5	70 22.5	98	67	31	26	44 18	129	10
68		81	98	52	29	23	48	70 22	97	67	30	28	44 16	126	10
69	✓	90	98	40	29	11	60	71 11	81	66	15	36	44 8	114	10
70		77	98.5	58	28	30	43	71 28	104	66	38	25	44 19	131	10
71		87	98.5	44	28	16	55	71 16	88	66	22	34	45 11	117	10
72		89	98.5	41	28	13	58	71 13	84	66	18	35	45 10	116	10
73		66	99	73	27	46	32	71 39	120	66	54	14	45 31	148	10
74		66	99.5	73	26	47	33	71 38	118	66	52	13	45 30	146	10
75		—	—	—	—	—	52	71 19	92	64	28	25	45 20	131	10
76		78	99.5	57	26	31	45	72 27	101	64	37	25	45	131	10
77		74	99.5	62	26	36	41	72 31	107	64	43	26	45.5 19.5	129	10
78		81	99.5	52	26	26	48	72 24	97	64	33	26	45 19	129	10
79		83	100	50	26	24	50	72 22	94	64	30	—	—	—	—
80		70	100	67	26	41	35.5	72.5 37	115	64	51	20	46 26	139	10
81	✓	76	100	59	26	33	45	73 28	101	63	38	24	46 22	132	10
82		70	100	64	26	38	39	73 34	110	63	47	20	46 26	139	10
83		85	100	47	26	21	53	73 10	90	63	27	26.5	46.5 20	128	10
84		92	100.5	37	25	12	62	73 11	79	63	16	38	46.5 8.5	112	10
85		72	100.5	64	25	39	38	73.5 35.5	112	62	50	22	47 25	135	9
86		91	101	39	24	15	60	74 14	81	62	19	35	46 11	116	10
87		87	101	44	24	20	55	74 19	88	62	26	29	47 18	125	9
88		80	101	54	24	30	45	74 29	101	62	39	22	47 25	135	9
89		78	101	57	24	33	35	74.5 39.5	116	62	54	15.5	46.5 31	146	10
89a		99	101	27	24	3	70	75 5	67	61	6				

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p.3 [n]	[m+n]	Δm	n	ap.4 m+n	[n]	[m+n]	Δm	Mean
28	103	25	26	15 40				24
17	103	14	26.5	14 40.5				17
37	103	34	18	22 40				39
13	103	10	33	10 43				16
26	104	22	25	16 41				25
18	104	14	30	11 41				16
29	103	26	25	16 41				27
26	103	23	24	17 41				25
14	103	11	32	9 41				12
31	103	28	24	17 41				32
17	101	16	32	9 42				18
16	101	15	30	13 43				15
48	101	47	13	29 42				49
46	101	45	18	30 43				48
31	101	30	—	—				29
31	101	30	28	20 43				33
129	100	29	22	21 43				36
29	101	28	25	19 44				29
—	—	—	26	18 44				27
39	100	39	19.5	24 43.5				44
32	100	32	23	20 43				34
39	100	39	19	25 44				41
128	100	28	26	18 44				25
12	100	12	35	9 44				13
135	99	36	20	24 44				42
16	100	16	35.5	10 45.5				17
25	99	26	27	18 45				24
135	99	36	21	24 45				35
46	100	46	18	27 45				44
			42	4 46				5

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1994phae.proj.110P

γ Cyg C18578

No.	λ	Ap. 1 n	m+n	[n]	[m+n]	Δm	Ap. 2 n	m+n	[n]	[m+n]	Δm	Ap 3 n	m+n	[n]	[m+n]
90		45	101	61	24	37	40	34 74	109	62	47	23	24 47	134	
91		84	101	49	24	25	51	23 74	93	62	31	29	17 46	125	
92		85	101.5	47	24	23	52	23 75	92	61	31	30	18 48	103	
93		92	102	37	23	14	66	75	81	61	20	36	11 47	114	
94	✓	77	102	58	23	35	44	91 75	103	61	42	24	28 47	132	
95		87	102	44	23	21	53	75	90	61	29	30	17 47	123	
96		93	102	36	23	13	44	32 76	103	59	44	36.5	11 47.5	114	
97		90	102	40	23	17	58	18 76	84	59	25	35	13 48	116	
98		88	102.5	43	22	21	56	76	87	59	28	32	16 48	120	
98a		—	—	—	—	—	63	76	77	59	18	—	—	—	
98b		97	102.5	30	22	8	70	6 76	67	59	8	44	4 48	103	
98c		97	102.5	30	22	8	67	9 76	72	59	13	39	9 48	110	
99		82	103	51	21	30	49	~~27~~ 76	75	59	36	26	22 48	129	
100		91	103	39	21	18	58	76.5	84	58	26	35	14 49	116	
101		99	103	27	21	6	69	76.5	69	59	10	44	5 49	103	
102		96	103	32	21	11	66	11 77	73	58	15	41	7 48	107	
103	✓	99	103	27	21	6	59	77	83	58	25	36	13 47	114	
104		96	103	32	21	11	65	12 77	74	58	16	41	7 48	107	
105		90	103	40	21	19	58	19 77	84	58	26	32	17 49	120	
106		73	103.5	63	20	43	37	40 77	113	58	55	20	30 50	139	
107		87	103.5	44	20	24	53	24 77	90	58	32	32	18 50	120	
108		91	103.5	39	20	19	59	~~19~~ 78	83	57	26	38.5	11 49.5	111	
109		71	104	66	19	47	40	78	109	57	52	20	30 50	139	
110		75	104	61	19	42	42	86 78	106	57	49	21	29.5 50.5	137	
111		89	104	41	19	22	58	20 78	84	57	27	32	18 50	120	
112	✓	88	104	43	19	24	56	22 78	87	57	30	30	21 51	123	
113		78	104	57	19	38	44.5	34 78.5	102	56	46	23	28 51	134	
114		92	104	37	19	18	69	~~19~~ 79	69	55	14	40	12 52	109	
114a		97	104	30	19	11	71	79	66	55	11	46	5 51	100	
115		93	104.5	36	18	18	62	17 79	79	55	24	38	17 52	112	

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Ap. 3 | Ap. 4

[m+n]	Δm	n	m+n	[n]	[m+n]	Δm	mean
99	35	23.5	45 23.5				30
100	25	28	46 8				27
97	26	28	46 18				27
99	15	35	46 11				16
99	33						37
99	24						25
98	16						24
97	19						20
97	23						24
—	—						18
97	6						7
97	13						11
97	32						33
95	21	32	48 16				22
95	8	41	48 7				8
97	10	38	48 10				12
95	19	33	48 15				17
97	10	36	48 12				12
95	25	30	48 18				23
94	35	20.5	48.5 28				44
94	26	30	49 19				27
94	17	33	48 15				21
94	45	20	49 29				48
94	43	20	49 29				45
94	26	34	50 16				25
93	30	29	49 20				28
93	41	23	50 27				42
92	17	41	49 8				16
93	7	40	50 10				10
92	28	35	49.5 14				21

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γ Cyg C18578

No.	λ	Ap. 1 n	m+n	[n]	[m+n]	Δm	Ap. 2 n	m+n	[n]	[m+n]	Δm	Ap. 3 n	m+n	[n]	[m+n]
116		85	104.5	47	18	29	48	~~81~~ 79	97	55	42	22.5	~~24.5~~ 57	127	91
117		93	104.5	36	18	18	60	~~79~~ 79	81	55	26	37	15 52	113	97
118	✓	98	105	29	17	12	66	~~79~~ 79	73	55	18	42	11 53	106	90
119		75	105	61	17	44	41	~~39~~ 80	107	54	53	17	~~35~~ 52	143	92
120		69	105	77	17	60	27	~~52~~ 79	128	55	73	11	41 52	153	93
121		91	105	39	17	22	57	~~80~~ 80	85	54	31	33.5	~~19.5~~ 53	118	90
122		99	105	27	17	10	62	80	79	54	25	43	~~10~~ 53	104	90
123		85	105	47	17	30	50	~~80~~ 80	94	54	40	26	~~27~~ 53	129	90
124		100	106	26	15	11	69	~~11~~ 80	69	54	15	44	~~10~~ 54	103	88
125	✓	95	106	38	15	18	62	18 80	79	54	25	38	16 54	112	88
126	x	102	106	23	15	8	76	~~8~~ 81	59	52	7	49	~~5~~ 54	95	88
126a		—	106	—	15		79	~~6~~ 82	55	52	3	51	~~4~~ 55	93	88
127		97	106	30	15	15	65	~~10~~ 81	74	52	22	38	~~17~~ 55	112	88
128		85	106.5	47	14	33	49	~~98~~ 82	95	51	44	27	~~99~~ 55	128	88
128a		104	106.5	19	14	5	95	~~6~~ 81	61	52	9	50	~~5~~ 55	94	88
129		80	106.5	54	14	40	46	~~86~~ 82	100	51	49	23	~~32~~ 55	134	88
130		99	107	27	13	14	66	~~16~~ 82	73	51	22	40	~~15~~ 55	109	88
131	✓	89	107	41	13	28	53	~~21~~ 82	90	51	39	31	~~25~~ 56	122	87
132		88	107	50	13	37	49	~~99~~ 82	95	51	44	28	~~28~~ 56	126	88
133		100	107	26	13	13	69	~~11~~ 83	69	50	19	45	~~11~~ 56	101	87
134		94	107	35	13	22	62	~~21~~ 83	79	50	29	35	~~21~~ 56	116	87
134a		—	—	—	—	—	70	~~13~~ 83	67	50	17	44	~~18~~ 56	103	88
135		91	107	39	13	26	56	~~27~~ 83	87	50	37	31	~~25~~ 56	122	88
136	✓	88	108	48	10	33	53	~~30~~ 83	90	50	40	29	~~28~~ 57	125	88
137		97	108	30	10	20	65	~~18~~ 83	74	50	24	41	~~17~~ 58	107	84
138		100	108	26	10	16	71	~~12~~ 84	66	49	17	45	~~18~~ 58	101	84
139		98	108	29	10	19	78	84	56	49	7	43	~~15~~ 58	104	85
140		98	109	29	9	20	64	~~20~~ 84	76	49	27	39	~~19~~ 58	110	85
141		85	109	47	9	38	50	~~34~~ 84	94	49	45	25	~~33~~ 58	131	84
141a	✓	104	109	19	9	10	75	~~9~~ 84	61	49	12	57.5	~~7.5~~ 59	92	82

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δ Cygni; C 18 5 7 8

Ap. 4

[m+n]	Δm	n	m+n	[n]	[m+n]	Δm	mean
92	35	27	23 50				35
92	21	34	16 50				22
90	16	40	11 51				16
92	51	20	30 50				49
92	61	14	37 51				65
90	28	32	19				27
90	14	45	6				16
90	39	27	24				34
89	14	42	10				13
89	23	35	16 51				22
89	6	48	4				7
88	5	50	2				4
88	24	37	15				20
88	40	27	25				39
88	6	47	6				7
88	46	20	33				45
88	21	38	15				19
87	35	30	24				34
87	39	25	29				40
87	14	43	12				15
87	29	33	21				27
87	16						17
87	35	31	23				33
87	38	28	27 55				37
84	23						22
84	17						17
84	20						15
84	26						24
84	47						43
83	9						10

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1924phae.proj.110P

γ Cyg C18577

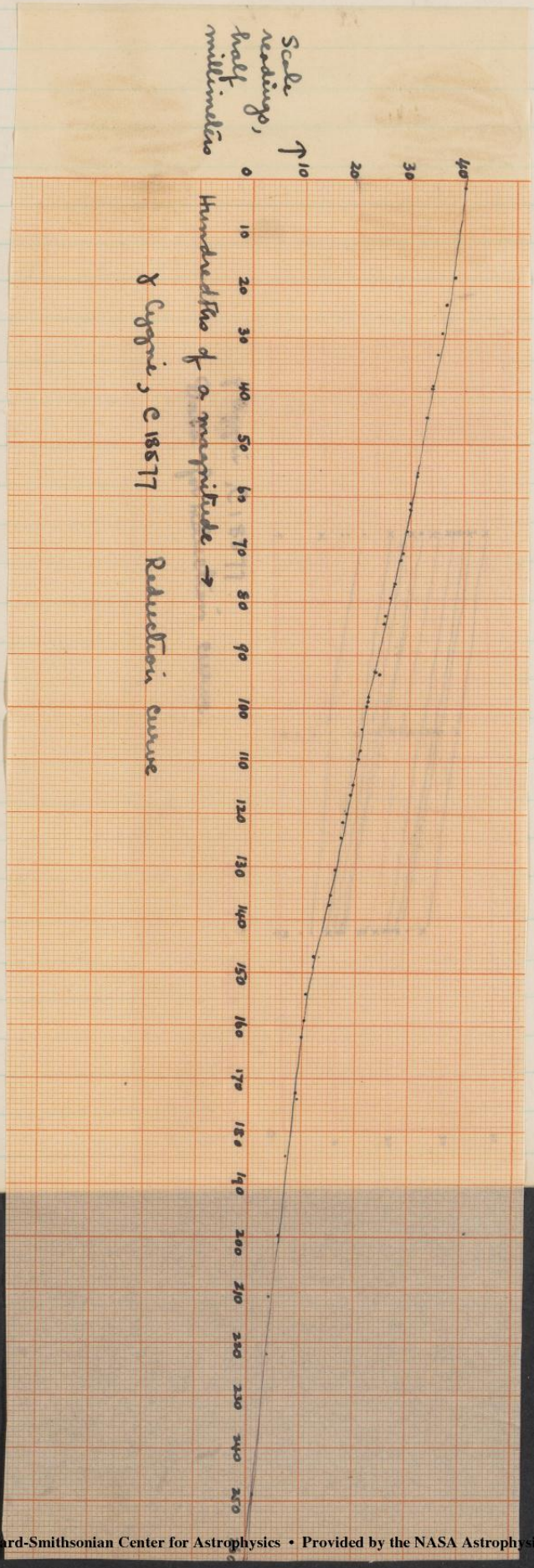
no.	γ	Ap 1. n	m+n	[n]	[m+n]	Δm	Ap 2. n	m+n	[n]	[m+n]	Δm	Ap 3. n	m+n	[n]	[
1		-1	17				1	10	250	162	88	-8	6		
2		10	19	162	116	46	5	12	209	149	60	—	—		
3		10	19.5	162	114	48	4	13	219	145	74	—	—		
4		10	20	162	111	51	5	13	209	145	64	—	—		
5		7	21	190	106	84	4	14	219	141	78	—	—		
6		—	22		99		1	15	250	136	114	—	9		
7		13	24	145	90	55	7	16	190	132	58	4	10	219	
8		21	25	106	86	20	13	17	145	126	19	—	—		
9		18	25	122	86	36	18	17.5	145	124	21	—	—		
10		20	25	111	86	25	13	17.5	145	124	21	6	10.5	200	
11		21	26	106	80	26	12	18	149	122	27	—	—		
12		—	—				—	—				—	—		
13		—	—				—	—				—	—		
14		17	26	126	80	46	8.5	19	186	116	70	5	11	209	
15		—	—				—	—				—	—		
16		22	27	99	76	23	13	19	145	116	29	8	12	181	
17		—	—				—	—				—	—		
18		17	27	126	76	50	10	20	160	111	51	7	12	190	
19a		25	28	86	71	15	16	20	132	111	21	10	12	162	
19		25	28	86	71	15	15	20	136	111	25	—	—		
20		24	28	90	71	19	15	21	136	106	30	—	—		
21		25	29	86	66	20	17	21	126	106	20	—	—		
22		25	30	86	62	24	18	22	122	99	23	—	—		
23		21	30	106	62	44	13	22	145	99	46	9	14	171	
24		28	30	71	62	9	19	22	116	99	17	14	15	141	
25		19	30	116	62	54	11	23	155	95	60	7	15	190	
26		22	30	99	62	37	14	23	141	95	46	9	15	171	
27		24	30	90	62	28	18	23	122	95	27	11	15	155	
28		29	31	66	56	10	20	23	111	95	16	13	15	145	
29		25	31	86	56	30	16	23.5	132	92	40	13	16	145	
30		29	31	66	56	10	13	24	111	92	19	16	16	162	

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1924phae.proj.1108P

γ Cygni - C 18577

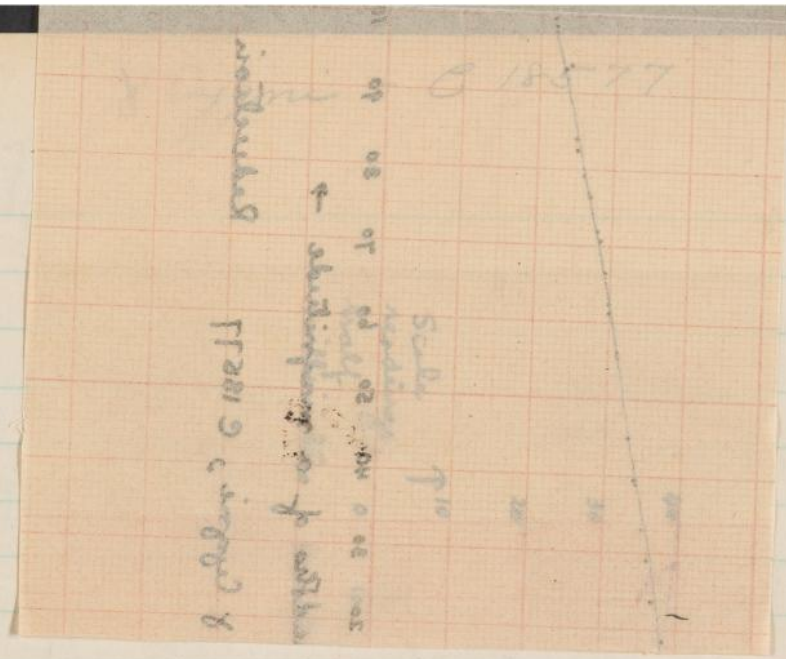
[i+n]	4m	mean
		53
		61
		58
		81
162	57	57
		20
		29
158	42	44
		27
155	54	~~51~~ 53
149	32	2~~8~~
149	41	48
149	13	16
		20
		25
		20
		24
141	30	40
136	5	10
136	54	56
136	35	40
136	19	25
136	9	10
132	13	28
132	30	45

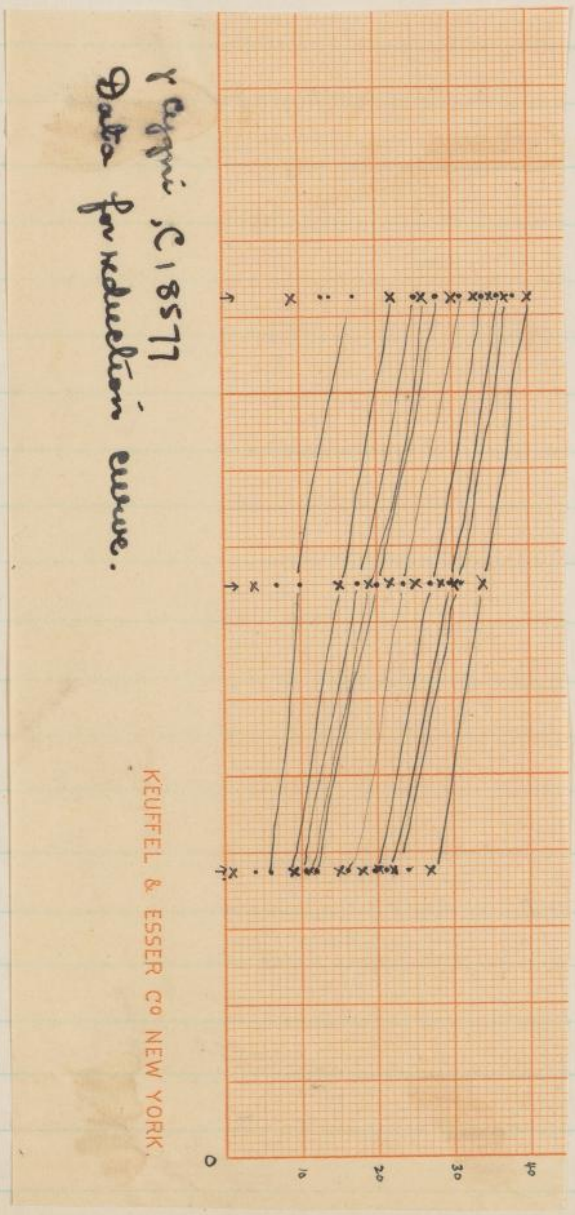


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1924phae.proj.110mm

m+m.	Δm	mean
		53
		61
		58
		81
162	57	57
		20
		29
158	42	44
		27
155	54	53
149	32	28
149	41	48
149	13	16
		20
		25
		20
		24
141	30	40
136	5	10
136	54	56
136	35	40
136	19	25
136	9	10
132	13	28
132	31	45





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γ Cyg C18577

No.	γ	Ap 1. n	Ap 1. m+n	Ap 1. [n]	Ap 1. [m+n]	Ap 1. Δm	Ap 2 n	Ap 2 m+n	Ap 2 [n]	Ap 2 [m+n]	Ap 2 Δm	Ap. 3 n	Ap. 3 m+n	Ap. 3 [n]	[m+n]
31		28	31	71	56	15	19	25	116	86	30	—	—		
32		27	31	76	56	15	19	25	116	86	30	13	17	145	12
33		—	—				—	—				—	—		
34		28	32	95	51	44	15	25	136	86	50	11	17	155	12
35		—	—				—	—				—	—		
36		30	32	62	51	11	21	25	106	86	20	15	18	136	12
37		22	32	99	51	48	—	—				11	18	155	12
38		25	32	86	45	41	15	25	136	86	50	13	18	145	12
39		—	—				17	25.5	126	84	42	—	—		
40		25	38	86	45	41	18	26	122	80	42	13	18	145	12
41		16	33	132	45	87	15	26	136	80	56	7	18.5	190	12
42		27	33	76	45	31	20	26	111	80	31	12	18.5	149	12
43		28	32	71	45	26	21	26	106	80	26	14	18.5	141	12
44		25	33	86	45	41	17	26	126	80	46	11	18.5	155	12
45		26	33	80	45	35	18	26	122	80	42	—	—		
46		31	34	56	40	16	24	27	90	76	14	17	19	126	11
47		—	—				—	—				18	19	122	11
48		31	34	56	40	16	24	27	90	76	14	17	19	126	11
49		30	34	62	40	22	22	27	99	76	23	16	19	132	11
50		29	34	66	40	26	20	27	111	76	35	15	19	136	11
51		16	34	132	40	92	10	27	162	76	86	9	19	171	11
52		30	34	62	40	22	21	27	106	76	30	18	19.5	122	11
53		25	34.5	86	42	44	17	27.5	126	74	52	—	—		
54		31	35	56	35	21	23	27.5	95	74	21	—	—		
55		31	35	56	35	21	25	27.5	86	74	12	13	19.5	145	11
56		26	35	80	35	45	18	28	122	71	51	17	19.5	126	11
57		—	—				—	—				15	20	136	11
58		26	35	80	35	45	17	28	126	71	55	13	20	145	11
59		23	35	95	35	60	15	28	136	71	65	12	20	149	11
60		25	35	86	35	51	17	28.5	126	68	58	13	20	145	11

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[m+n]	Δm.	mean
		23
126	19	22
		—
126	29	41
		—
122	14	15
122	33	36
122	23	38
		42
122	23	36
120	70	71
120	29	30
120	21	24
120	35	40
		39
116	10	14
116	6	6
116	10	14
116	16	20
116	20	27
116	55	78
114	8	20
		48
		21
114	31	22
114	12	36
111	25	25
111	34	43
111	38	54
111	34	48

γ Cygni, C 18577. Reduction Table.

Scale Reading.	Mag.
0	260
1	250
2	240
3	230
4	219
5	209
6	200
7	190
8	181
9	171
10	162
11	155
12	149
13	145
14	141
15	136
16	132
17	126
18	122
19	116
20	111
21	106
22	99
23	95
24	90
25	86
26	80
27	76
28	71
29	66
30	62

Scale Reading	Mag.
31	56
32	51
33	45
34	40
35	35
36	31
37	25
38	17
39	10
40	02

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χ Cyg C18577

No.	n	m+n	[n]	[m+n]	Δm	n	m+n	[n]	[m+n]	Δm	n	m+n	[n]	[m+n]
61	29	35.5	76	34	42	20	28.5	111	68	43	16	20	132	1
62	30	35.5	62	34	28	22	29	99	66	33	17	20	126	1
63	24	35.5	90	34	56	16	29	132	66	66	13	20	145	1
64	33	35.5	45	34	11	24	29	90	66	24	18	20	122	1
65	28	35.5	71	34	37	20	29	111	66	45	16	20.5	132	1
66	30	35.5	62	34	28	23	29	95	66	29	16	20.5	132	1
67	27	35.5	76	34	42	19	29	116	66	50	15	20.5	136	1
68	28	36	71	31	40	20	29	111	66	45	15	20.5	136	1
69	32	36	51	31	20	24	29	90	66	24	17	20.5	126	1
70	26	36	80	31	49	18	29	122	66	56	15	20.5	136	1
71	29.5	36	64	31	33	23	29	95	66	29	17	20.5	126	1
72	31	36	56	31	25	23	29	95	66	29	18	21	122	1
73	21	36	106	31	75	14	29	141	66	75	14	21	141	1
74	22	36	99	31	68	14	29	141	66	75	11	21	155	1
75	29	36	66	31	35	20	29.5	111	64	47	15	21	136	1
76	26	36	80	31	49	19	29.5	116	64	52	14	21	✓141	1
77	25	36.5	86	28	58	16	29.5	132	64	68	13	21	145	1
78	22	36.5	99	28	71	19.5	29.5	114	64	50	15	21	136	1
79	29	37	66	25	41	21	29.5	106	64	42	16	21.5	132	1
80	24	37	90	25	65	16	29.5	132	64	68	13	21.5	145	1
81	26	37	80	25	55	19	29.5	116	64	52	14	21.5	141	1
82	24	37	90	25	65	16	29.5	132	64	68	12	21.5	149	1
83	29	37	66	25	41	21	30	106	62	44	17	21.5	126	1
84	—	—				—	—				—	—		
85	24	37	90	25	65	17	30	126	62	64	14	22	141	1
86	—	—				27	30	76	62	14	20	22	111	1
87	32	37	51	25	26	28	30	95	62	33	17.5	22	124	1
88	—	—				—	—				—	—		
89	22	37	99	25	74	15	30	136	62	74	11	22	155	1
89a	35	37	35	25	10	28	30	71	62	9	—	—		

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[illegible]	Δm	mean
111	21	35
114	15	25
111	34	52
111	11	15
110	22	35
110	22	26
110	26	39
110	26	37
110	16	20
110	26	44
110	16	26
106	16	23
106	35	62
106	49	64
106	30	37
106	35	45
106	39	55
106	30	50
102	30	38
102	43	59
102	39	49
102	47	60
102	24	~~16~~ 36
		—
99	42	57
99	12	13
99	25	28
		—
99	56	68
		10

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γ Cyg C18577

No.	γ	Ap.1 n	Ap.1 m+n	Ap.1 [n]	Ap.1 [m+n]	Ap.1 Δm	Ap.2 n	Ap.2 m+n	Ap.2 [n]	Ap.2 [m+n]	Ap.2 Δm	Ap.3 n	Ap.3 m+n	Ap.3 [n]
90		25	37	86	25	61	19	30	116	62	54	15	22	136
91		28	37	71	25	46	20	30	111	62	54	17	22	126
92		29	37	66	25	41	22	30.5	99	60	39	16.5	22	130
93		35	37	35	25	10	25	30.5	86	60	26	19	22.5	116
94		26	37	80	25	55	18.5	30.5	120	60	60	19	22.5	116
95		30	37	62	25	37	22	30.5	99	60	39	17	22.5	126
96		38	37.5	45	22	23	24	30.5	90	60	39	20	23	111
97		32	37.5	51	22	29	24	30.5	90	60	39	18	23	122
98		31	37.5	56	22	34	23	30.5	95	60	35	18	23	122
98a		34	37.5	40	22	18	27	31	76	56	20	—	—	
99		29	37.5	66	22	44	19.5	31	114	56	58	16	23	132
100		32	37.5	51	22	29	24	31	90	56	34	19	23	116
101		35	38	35	17	18	27	31	76	56	20	20	23	111
102		35	38	35	17	18	26	31	80	56	24	21	23.5	106
103		32	38	51	17	34	24	31	90	56	34	19	23.5	116
104		35	38	35	17	18	27	31	76	56	20	20	23.5	111
105		32	38	51	17	34	23	31	95	56	39	18	24	122
106		25	38	86	17	69	17	31	126	56	70	13	24	145
107		31	38	56	17	39	22	31	99	56	43	18	24	122
108		32	38	51	17	34	24	31	90	56	34	19	24	116
109		25	38	86	17	69	17	31	126	56	70	13	24	145
110		25	38	86	17	69	18	31	122	56	66	12	24	149
111		31	38	56	17	39	23	31	95	56	39	18	24	122
112		30	38	62	17	45	22	31	99	56	43	18	24	x22
113		26	38	80	17	63	18	31	122	56	66	14	24	141
114		36	38	31	17	14	28	32	71	51	20	21	24.5	106
115		33	38	45	17	28	25	32	86	51	35	20.5	24.5	110
116		29	38	66	17	49	21	32	106	51	55	17	25	126
117		33	38	45	17	28	25	32	86	51	35	21	25	106
118		35	38	35	17	18	27	32	76	51	25	22	25	99

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1924phot..proj..110P

[m+n]	Δm	Mean
99	37	57
99	27	42
99	31	37
98	18	18
98	18	44
98	28	35
95	16	26
95	27	32
95	27	32
0		19
95	37	46
95	21	28
95	16	18
94	12	18
94	22	30
94	17	18
90	32	35
90	55	65
90	32	38
90	26	33
90	55	65
90	59	65
90	32	37
90	32	40
90	51	60
88	18	17
88	22	28
86	40	51
86	20	28
86	13	19

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1924phae.proj.110P

χ Cyg C1857 7

No.	χ	Ap. 1 n	Ap. 1 m+n	Ap. 1 [n]	Ap. 1 [m+n]	Ap. 1 Δm	Ap. 2 n	Ap. 2 m+n	Ap. 2 [n]	Ap. 2 [m+n]	Ap. 2 Δm	Ap. 3 n	Ap. 3 m+n	Ap. 3 [n]
119		25	38.5	86	14	72	16	32	132	51	81	12	25	149
120		20	38.5	111	14	97	13	32	145	51	94	9	25	171
121		31	38.5	56	14	42	23	32	95	51	44	17	25	126
122		—	—				—	—				—	—	
123		29	38.5	66	14	52	21	32	106	51	55	15	25	136
124		35	38.5	35	14	21	27	32	76	51	25	22	25.5	99
125		33	39	45	10	35	25	32	86	51	35	20	25.5	111
125a		37	39	25	10	15	31	32.5	56	48	8	24	25.5	90
126		34	39	40	10	30	26	32.5	80	48	32	20	25.5	111
127		29	39	66	10	56	20	32.5	111	48	63	16	26	132
127a		37	39	25	10	15	30	33	62	45	17	24	26	90
128		25	39	86	10	76	19	33	116	45	71	—	—	
129		—	—				—	—				14	26	141
130		34	39	40	10	30	27	33	76	45	31	21	26	106
131		31	39	56	10	46	22	33	99	45	54	17	26	126
132		28	39	71	10	61	20	33	111	45	66	16	26	132
133		35	39	35	10	25	29	33	66	45	21	23	26	95
134		32	39	51	10	41	25	33.5	86	44	42	19	26	116
134a		37	39.5	25	6	19	27	33.5	76	44	32	22	26	99
135		29	39.5	66	6	60	24	33.5	90	44	46	17	26.5	126
136		35	39.5	35	6	29	22	33.5	99	44	55	20	26.5	111
137		36	39.5	31	6	25	26	33.5	80	44	36	21	26.5	106
138		35	39.5	35	6	29	28	33.5	71	44	27	23	27	95
139		—	—				27	34	76	40	36	22	27	99
140		33	39.5	45	6	39	26	34	80	40	40	21	27	106
141		27	40	76	2	74	20	34	111	40	71	16	27	132
142		35	40	35	2	33	30	34	62	40	12	22	27	99
143		—	—				—	—				—	—	
144		—	—				26	34	78	40	38	—	—	
145		34	40	40	2	38	25	34	86	40	46	21	27	106
145a		—	—				—	—				22	27	95

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[m+n]	Δm	Mean
86	63	72
86	85	92
86	40	40
		—
86	50	52
84	15	~~47~~ 20
84	35	35
84	6	10
84	27	30
80	52	57
80	10	14
		74
80	61	61
80	26	29
80	46	49
80	52	60
80	15	20
80	36	40
80	19	23
78	48	51
78	33	39
78	28	30
76	19	25
76	23	30
76	30	36
76	56	67
76	23	28
		—
		38
76	30	38
76	19	19

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γ Cyg C18577

No.	γ	Ap. 1 n	m+n	[n]	[m+n]	Δm	Ap. 2 n	m+n	[n]	[m+n]	Δm	Ap. 3 n	m+n	[n]	[m+n]
							25	34	86	40	46	21	27.5	106	
146		33	40	45	02	43	②28	34	71	40	31	22	27.5	99	
147		32	40	51	02	49	23	34	95	40	55	20	27.5	111	
148		39	40	10	02	8	31	34.5	56	38	18	25	27.5	86	
149		34	40	40	02	38	26	34.5	80	38	42	22	28	99	
150		34.5	40	38	02	36	25	34.5	86	38	48	21	28	106	
151		36	40	31	02	29	28	34.5	71	38	33	24	28	90	
151a		39	40	10	02	8	29	35	66	35	31	—	—		
152		36	40	31	02	29	27	35	76	35	41	28	28	95	
153		37	40	25	02	23	29	35	66	35	31	28	28.5	95	
154		37	40	25	02	23	29	35	66	35	31	25	28.5	86	
155		38	40	17	02	15	30	35	62	35	27	25	28.5	86	
156		36	40	31	02	29	27	35	76	35	41	24	28.5	90	
157		37	40	25	02	23	27	35	76	35	41	21	28	106	
158		34	40	40	02	38	26	35	80	35	45	22	28	99	
159		37	40	25	02	23	26	35	80	35	45	24	28	90	
160		37	40	25	02	23	29	35	66	35	31	28.5	28	94	
161		35	40	35	02	33	25	35	86	35	51	22	28	99	
162		39	40	45	02	43	25	34.5	86	38	48	20	28	111	
163		39	40	10	02	8	31	34.5	56	38	18	24	27.5	90	
164		35	40	35	02	33	27	34.5	76	38	38	23	27.5	95	
165		37	40	25	02	23	29	34.5	66	38	28	24	27.5	90	
166		38	40	17	02	15	31	34	56	40	16	25	27.5	86	
167		35	40	35	02	33	29	34	66	40	26	24	27.5	90	
168		33	40	45	02	43	24	34	90	40	50	20	27.5	111	
168a		38	40	17	02	15	29	34	66	40	26	24	27.5	90	
168b		36	40	31	02	29	31.5	34	54	40	14	23	27.5	95	
168c		38	40	17	02	15	30	34	62	40	22	25	27.5	86	
168d		37	40	25	02	23	32	34	51	40	11	24	27	90	
168e		39	40	10	02	8	—	34				25	27	86	
168f		38	40	17	02	15	32	34	51	40	11	25	27	86	

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[m+n]	Δm	Mean
74	32	39
74	25	33
74	37	47
74	12	13
71	28	36
71	35	30
71	19	27
		20
71	24	31
71	24	26
70	16	23
70	16	19
70	20	30
71	35	33
71	28	37
71	19	29
71	23	28
71	28	37
71	40	44
74	16	14
74	21	31
74	16	22
74	12	14
74	16	25
74	37	43
74	16	22
74	21	21
74	12	16
76	14	16
76	10	9
76	10	12

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1924phae.proj.11@P

γ Cyg C1855 77

no.	y	Ap. 1 n	m+n	[n]	[m+n]	Δm	Ap. 2 n	m+n	[n]	[m+n]	Δm	Ap. 3 n	m+n	[n]	[m+n]
168 g		38	40	17	02	15	32	34	51	40	11	—	27		
168 h		39	40	10	02	8	31	34	56	40	16	26	27	80	7
168 i		38	40	17	02	15	31	34.5	56	38	22	24	27	90	7
168 j		37	40	25	02	23	29	34.5	66	38	28	23	27	95	7
168 k		—	40				31	34	56	40	16	26	27	80	7
168 l		39	40	10	02	8	29	34	66	40	26	24	27	90	7
168 m		36	40	31	02	29	28	33.5	71	44	27	24	27	90	7
168 n		37	40	25	02	23	28	33	71	45	26	24	27	90	7
168 o		37	40	25	02	23	31	33	56	45	11	25	27	86	7
168 p		38	40	17	02	15	27	33	76	45	31	23	27	95	7
168 q		36	39.5	31	06	25	29	33.5	66	48	18	25	27	86	7
168 r		37	39.5	25	06	19	26	32	80	51	29	—	—		
169		34	39.5	40	06	34	26	32	80	51	29	24	26.5	90	7
170		36	38.5	31	14	17	29	32	66	51	15	22	26	95	8
171		35	38.5	35	14	21	27	31.5	76	54	22	21	25.5	106	8
172		—	—				—	—				—	—		
173		—	—				—	—				—	—		
174		—	—				—	—				—	—		
175		—	—				—	—				—	—		
176		—	—				—	—				—	—		
177		31	37	56	25	31	23	29	95	66	29	20	23.5	111	9
178		33	35.5	45	34	11	26	28	80	71	9	20	22.5	111	9
179		32	35	51	35	16	24	27.5	90	74	16	20	22	111	9
179a		31	35	56	35	21	25	27	86	76	10	19	22	116	9
180		29	33.5	66	44	22	20	26	111	80	31	17	20	126	11
181		27	31	76	56	20	18	23.5	122	92	30	15	18	136	12
182		25	30	86	62	24	15	22.5	136	98	38	11	17	155	12
183		18	30	122	62	60	14	22	141	99	42	7	17	190	12
184		24	29	90	66	24	15	21	136	106	20	12	16	149	13
185		26	28.5	80	68	12	16	20.5	132	110	22	12	16	149	13

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[m+n]	Δm.	mean
		13
76	4	9
76	14	17
76	19	17
76	4	10
76	14	16
76	14	23
76	14	21
76	10	15
76	19	22
76	10	18
		24
98	12	25
80	15	16
88	18	20
		—
		—
		—
		—
		—
92	19	26
97	14	11
99	19	17
99	17	16
111	15	23
122	14	21
126	29	30
126	64	55
132	19	20
132	19	17

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γ Cyg C18577

no.	γ	Ap. 1 n	m+n	[n]	[m+n]	Δm	Ap. 2 n	m+n	[n]	[m+n]	Δm	Ap. 3 n	m+n	[n]	[m+n]
186		24	28	90	71	19	16	20	132	111	21	12	15	149	13
187		24	27.5	90	74	16	15	19.5	136	114	22	11	14	155	14
188		24	26	90	80	10	16	18	132	122	10	11	13.5	155	14
189		—	—				—	—				—	—		
190		23	26	95	80	15	12	17	149	126	23	11	13	155	14
191		19	25	116	86	30	15	17	136	126	10	7	12	190	14
192		17	25	126	86	40	11	16	155	132	23	7	12	190	14
193		20	24	111	90	21	11	15	155	136	19	6.5	11	195	15
194		21	28	106	95	11	10	14.5	162	138	24	8	10.5	181	15
195		19	22	116	99	5	11	14	155	141	14	8	10	181	16
196		—	—				—	—				—	—		
197		—	—				—	—				—	—		
198		—	—				—	—				—	—		
199		—	—				—	—				—	—		
200		11	17	155	126	29	6	10	200	162	38	4	6	219	2
201		—	—				—	—				—	—		
202		—	—				—	—				—	—		
203		—	—				—	—				—	—		
204		—	—				—	—				—	—		
205		—	—				—	—				—	—		
206		—	—				—	—				—	—		
207		9	12	191	149	22	4	6	219	200	19	1	5	250	20

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	m+n	Δm.	Mean
	136	13	18
	141	14	17
	143	12	11
			—
	145	10	16
	149	41	27
	149	41	35
	155	40	27
	158	23	19
	162	19	13
			—
			—
			—
			—
	200	19	29
			—
			—
			—
			—
			—
			—
	209	41	27

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γ Cyg C18581

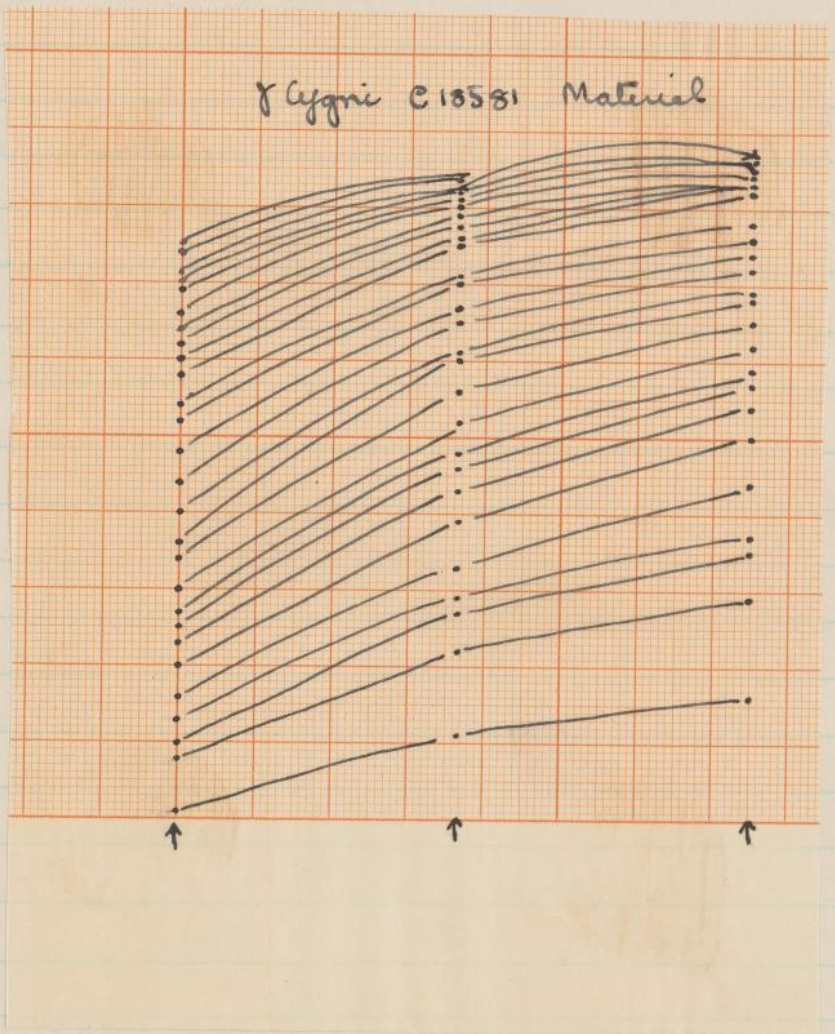
No.	γ	Ap. 1 n	Ap. 1 m+n	Ap. 1 [n]	Ap. 1 [m+n]	Ap. 1 Δm	Ap. 2 n	Ap. 2 m+n	Ap. 2 [n]	Ap. 2 [m+n]	Ap. 2 Δm	Ap. 3 n	Ap. 3 m+n	Ap. 3 [n]	Ap. 3 [m+n]
δ		7	16	21	64	43	3.5	14	2	56	54				
β		10.5	17	40	68	28	6	15	16	61	45				
γ		14	17	56	68	12	10	15	38	61	23				
γa		13	18	52	71	19	10	16	38	64	26				
γb		8	19	27	74	47	5	17	11	68	57				
γc		7	19.5	21	76	55	7	17	21	68	47				
γd		9	20	32	77	45	6	18	16	71	55				
ο		16	21.5	64	81	17	11	18	43	71	28				
οa		12	22	48	83	35	7	19	21	74	53				
οb		15	26.5	61	94	33	11	21	43	79	36				
λ		20	29	77	101	24	12	22	48	83	35	4	8 ✓	.5	2
λa		26	31	93	106	13	18	23	71	85	14	7	8	21	2
λb		21	32.5	79	110	21	15	25	61	91	30	3	8	0	2
λc		22	38	83	111	28	17	25.5	68	92	24	6	9	16	3
λd		15	34	61	114	53	11	26	43	93	50	5	9	11	3
π		16	35	64	116	52	11	27	43	96	53	1	10 ✓	−10	3
πa		31	37	106	121	15	22	29	83	101	28	7	13 ✓	21	5
πb		32	39	109	127	18	21	29	79	101	22	6	13	16	5
ζ		23	41	85	132	47	15.5	31	62	106	44	4	14	5	5
ζa		34.5	43	115	137	22	22	32	83	109	26	9	16	32	6
ζb		34	44	114	139	25	24	33	88	111	23	9	16	32	6
κ		26	45	93	141	48	18.5	34	72	114	42	−1	18		7
ψ		20	48	77	149	72	12	37	48	121	73	2	19	−5	7
ω		32	50	109	154	45	26	39	93	127	34	7	20 ✓	21	7
a		43	52	137	159	22	31	41	106	132	26	13	21	52	7
b		38	54	124	164	40	28	43	99	137	38	10	23 ✓	38	8
c		46	56	143	169	26	35.5	44	118	139	21	16	24	64	8
d		47	57	146	172	26	34	46	114	143	29	14	25 ✓	56	9
e		53	58	162	175	13	43	48	137	149	12	21	26	79	9
f		54	59	164	177	13	43	48	137	149	12	20	27 ✓	77	9

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γ Cygni C-18581

[m+n]	Δ m.	mean
		49
		37
		18
		23
		52
		51
		50
		23
		44
		35
27	22	30
27	6	11
27	27	26
32	16	23
32	21	41
38	48	51
52	31	25
52	36	25
56	51	47
64	32	27
64	32	27
71	7	45
74	79	75
77	56	45
79	27	25
85	47	42
88	24	24
91	35	30
93	14	13
96	19	15



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γ Cyg C18581

No.	γ	Ap. 1 n	Ap. 1 m+n	Ap. 1 [n]	Ap. 1 [m+n]	Ap. 1 Δm	Ap. 2 n	Ap. 2 m+n	Ap. 2 [n]	Ap. 2 [m+n]	Ap. 2 Δm	Ap. 3 n	Ap. 3 m+n	Ap. 3 [n]	
h		45	61	141	183	42	33	50	111	154	43	15	28	61	
k		52	61.5	159	184	25	41	51	132	157	25	20	29	77	
i		52	62	159	185	26	40	52	130	159	29	21	30 ✓	79	
f		42	62	135	185	50	31	53	106	162	56	12	30	48	
b		38	63	124	188	64	28	53	99	162	63	12	31	48	
l		51	64	157	190	33	41	55	132	167	35	22	32.5	88	
m		50	64	154	190	36	41	55.5	132	168	36	19	33	74	
n		57	65	172	193	21	42	56	135	169	34	25	34 ✓	91	
o		50	65	154	193	39	37	56.5	121	170	49	19	35	74	
p		54	66.5	164	197	33	43	58	139	175	38	23	35	85	
q		52	67	159	198	39	41	59	132	177	45	21	35.5	79	
r		58	67	162	198	36	44	59.5	139	178	39	22	36	83	
s		52	68	159	202	43	45	60	141	180	39	22.5	36 ✓	84	
1		1	69	−10	205	215	2.5	61	−2	183	185	−3.5	40 ✓	—	
2		56.5	71	170	211	41	45	64	141	190	49	25	43	91	
3		60	72	180	214	34	48	65	149	193	44	26	44 ✓	93	
4		59	72	177	214	37	48	65.5	149	194	45	28	45	99	
5		58	73	175	217	42	36	66	119	196	77	18	46	71	
6		3	74	0	220	220	3	67	0	198	198	−3.5	48 ✓	—	
7		63	75	188	225	37	52	69	159	205	46	32	51	109	
r		73	76	217	229	12	63	70	188	208	20	45	52 ✓	141	
9		—	—	—	—	—	—	—	—	—	—	—	—	—	
10		72.5	77	216	232	16	61	70	183	208	25	43	52	137	
11		—	—	—	—	—	—	—	—	—	—	—	—	—	
12		—	—	—	—	—	—	—	—	—	—	—	—	—	
13		—	—	—	—	—	—	—	—	—	—	—	—	—	
14		68	78	202	235	33	57	71	172	211	39	37	54 ✓	121	
15		—	—	—	—	—	—	—	—	—	—	—	—	—	
16		75	79	225	239	14	65	72	193	214	21	46	55	143	
17		—	—	—	—	—	—	—	—	—	—	—	—	—	

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[mtn]	Δm.	mean
99	38	41
101	24	25
104	25	27
104	56	54
106	58	62
110	27	32
111	37	96
114	23	26
116	42	43
116	31	34
118	39	41
119	36	37
119	35	39
130	—	200
137	46	45
139	46	41
141	42	41
143	72	64
149	—	209
157	48	44
159	18	17
—	—	—
157	20	20
—	—	—
—	—	—
—	—	—
164	43	38
—	—	—
167	24	30
—	—	—

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γ Cyg C18581

NO.	γ	Ap. 1 n	Ap. 1 m+n	Ap. 1 [n]	Ap. 1 [m+n]	Ap. 1 Δm	Ap. 2 n	Ap. 2 m+n	Ap. 2 [n]	Ap. 2 [m+n]	Ap. 2 Δm	Ap. 3 n	Ap. 3 m+n	Ap. 3 [n]	[m+n]
18		70	79	208	239	31	59	72	197	214	37	39	55	127	
19		76	80	229	243	14	68	73	202	217	15	50	56.5	154	
20		78	81	235	247	12	69	73.5	205	218	13	50	57	154	
21		79	81	239	247	8	70	74	208	220	12	52	57.5	159	
22		—	—	—	—	—	—	—	—	—	—	—	—	—	
23		75	82	225	254	29	64	74.5	190	223	33	47	58	146	
24		—	—	—	—	—	—	—	—	—	—	—	—	—	
25		70	82	208	254	46	60	75	180	225	45	42	58 ✓	135	
26		—	—	—	—	—	—	—	—	—	—	—	—	—	
27		—	—	—	—	—	—	—	—	—	—	—	—	—	
28		—	—	—	—	—	—	—	—	—	—	—	—	—	
29		78	82.5	235	257	22	70	75	208	225	17	52	59	159	
30		74	82.5	220	257	37	64	75.5	190	227	37	44	59	139	
31		78	82.5	235	257	22	71	76	211	229	18	53	59.5	162	
32		78	83	235	259	24	70	76	208	229	21	52	60 ✓	159	
33		—	—	—	—	—	—	—	—	—	—	—	—	—	
34		76	83	229	259	30	67	76	198	229	31	47.5	60	148	
35		—	—	—	—	—	—	—	—	—	—	—	—	—	
36		80	83	243	259	16	73	76	217	229	12	56	60	169	
37		—	—	—	—	—	—	—	—	—	—	—	—	—	
38		75	88	225	259	34	65	76.5	193	230	37	45	60.5	141	
39		78	83	235	259	24	70	77	208	232	24	52	61	159	
40		77	83	232	259	27	69	77	205	232	27	50	61	154	
41		68	83	202	259	57	54	77	164	232	68	36	61	119	
42		—	—	—	—	—	—	—	—	—	—	—	—	—	
43		—	—	—	—	—	—	—	—	—	—	—	—	—	
44		77.5	83	234	259	25	68	77.5	202	234	32	51	62 ✓	157	
45		77.5	83	234	259	25	68	77.5	202	234	32	51	62	157	
46		—	—	—	—	—	—	—	—	—	—	—	—	—	
47-8		82	83	254	259	5	76	78	229	235	6	59	62.5	179	

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Int+m.	Dm.	Mean
167	40	36
170	16	15
172	18	14
174	15	12
—	—	—
175	29	30
—	—	—
175	40	44
—	—	—
—	—	—
—	—	—
177	18	19
177	38	37
178	16	19
180	21	22
—	—	—
180	32	31
—	—	—
180	11	13
—	—	—
182	41	37
183	24	24
183	29	28
183	64	63
—	—	—
—	—	—
185	18	25
185	18	
—		—
186	9	7

γ Cygni C 18581

Scale	Mag.	Scale	Mag.	Scale	Mag.
0		40	130	80	243
1	−10	41	132	81	247
2	−5	42	135	82	254
3	0	43	137	83	259
4	5	44	139	84	268
5	11	45	141	85	278
6	16	46	143	86	287
7	21	47	146	87	300
8	27	48	149	88	—
9	32	49	151	89	—
10	38	50	154	90	—
11	43	51	157		
12	48	52	159		
13	52	53	162		
14	56	54	164		
15	61	55	167		
16	64	56	169		
17	68	57	172		
18	71	58	175		
19	74	59	177		
20	77	60	180		
21	79	61	183		
22	83	62	185		
23	85	63	188		
24	88	64	190		
25	91	65	193		
26	93	66	196		
27	96	67	198		
28	99	68	202		
29	101	69	205		
30	104	70	208		
31	106	71	211		
32	109	72	214		
33	111	73	217		
34	114	74	220		
35	116	75	225		
36	119	76	229		
37	121	77	232		
38	124	78	235		
39	127	79	239		

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γ Cyg C18581

No.	γ	n	m+n	[n]	[m+n]	Δm	n	m+n	[n]	[m+n]	Δm	n	m+n	[n]	[m+n]
48		82	83	254	259	5	76	78	229	235	6	59	62.5	177	18
49		74	83	220	259	39	70	78	208	235	37	54	63	164	18
50		72	83	214	259	45	69	78	205	235	30	53	63	162	18
51		67	83	198	259	61	55	78	167	235	68	37	63	121	18
52		—	—	—	—	—	—	—	—	—	—	—	—	—	—
53		77	83	232	259	27	69	79	205	239	34	50	64	154	19
54		—	—	—	—	—	—	—	—	—	—	—	—	—	—
55		—	—	—	—	—	—	—	—	—	—	—	—	—	—
56		—	—	—	—	—	—	—	—	—	—	—	—	—	—
57		79	83	239	259	20	70	79	208	239	31	51	65	157	19
58		78	83	235	259	24	70	79	208	239	31	51.5	65	158	19
59		74	83	220	259	39	64	79.5	190	241	51	45	65.5	141	19
60		77	83.5	232	264	32	67	79.5	198	241	43	50	66	154	19
61		—	—	—	—	—	—	—	—	—	—	—	—	—	—
62		81	84	247	268	21	76	79.5	229	241	12	59	66	177	19
63		77	84	232	268	26	67	80	198	243	45	48	66	149	19
64		—	—	—	—	—	—	—	—	—	—	—	—	—	—
65		80	84	243	268	25	78	80	217	243	26	55	66	167	19
66		—	—	—	—	—	—	—	—	—	—	—	—	—	—
67		79	84	239	268	29	71	80	211	243	32	54	66	164	19
68		79	84	239	268	29	71	80	211	243	32	54	66	164	19
69		—	—	—	—	—	—	—	—	—	—	—	—	—	—
70		80	84	243	268	25	72	80	214	243	29	55.5	66.5	168	19
71		82	84	254	268	14	77	80	232	243	11	61	66.5	183	19
72		82	84	254	268	14	77	80	232	243	11	61	66.5	183	19
73		72	84	214	268	54	64	80	190	243	53	43	67	137	19
74		75	84	225	268	43	65	80	193	243	50	46	67	143	19
75-6		79	84	239	268	29	72	80.5	214	245	31	53	67	162	19
77		79	84	239	268	29	71	80.5	211	245	34	53	67	162	19
78		81	84	247	268	21	74	80.5	220	245	25	56	67.5	169	20

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[m+n]	Δm	mean
186	9	7
188	24	33
188	26	34
188	67	65
—	—	—
190	36	32
—	—	—
—	—	—
—	—	—
193	36	29
193	35	30
194	53	48
196	42	39
—	—	—
196	19	17
196	47	39
—	—	—
196	29	27
—	—	—
196	32	31
196	32	
—	—	—
197	29	27
197	14	13
197	14	
198	61	56
198	55	49
198	36	32
198	36	33
200	31	26

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γ Cyg C18581

No.	γ	Ap. 1 n	Ap. 1 m+n	Ap. 1 [n]	Ap. 1 [m+n]	Ap. 1 Δm	Ap. 2 n	Ap. 2 m+n	Ap. 2 [n]	Ap. 2 [m+n]	Ap. 2 Δm	Ap. 3 n	Ap. 3 m+n	Ap. 3 [n]	[m+n]
79		78	82	235	268	33	72	80.5	214	245	31	56	67.5	169	20
80		78.5	84	237	268	31	71	81	211	247	36	51	68	157	20
81		80	84	243	268	25	70	81	208	247	39	53	68	162	20
82		76	84	229	268	39	69	81	205	247	42	49	68	151	20
83		80	84	243	268	25	74	81	226	247	21	57	68	172	20
84		—	—	—	—	—	—	—	—	—	—	—	—	—	—
85		79	84	239	268	29	72	81	214	247	33	53	68.5	162	20
86		81	84.5	247	274	27	76	81	229	247	18	61	68.5	183	20
87		78	84.5	235	274	39	72	81	214	247	33	57	68.5	172	20
88		—	—	—	—	—	—	—	—	—	—	—	—	—	—
89		76	84.5	229	274	45	67	81	198	247	49	47	68.5	146	20
90		79	84.5	239	274	35	71	81	211	247	36	54	69	164	20
91		81	84.5	247	274	27	74	81	220	247	27	57	69	172	20
92		81	85	247	278	31	74	81	220	247	27	57	69	172	20
93		81	85	247	278	31	78	81	235	247	12	64	69 ✓	190	20
94		80	85	243	278	35	73	81.5	217	251	34	55	69	167	20
95		81	85	247	278	31	76	81.5	229	251	22	58	69	175	20
96		—	—	—	—	—	—	—	—	—	—	—	—	—	—
97-8		82	85	254	278	24	76	81.5	229	251	22	60	69	180	20
99		80	85	243	278	35	74	82	220	254	34	55	69.5	167	20
100		81	85	247	278	31	78	82	235	254	19	60	69.5	180	20
101-3		82	85	254	278	24	78	82	235	254	19	61.5	69.5	84	20
104		—	—	—	—	—	—	—	—	—	—	—	—	—	—
105		—	—	—	—	—	—	—	—	—	—	—	—	—	—
106		79	85	239	278	39	71	82	211	254	43	53	70	162	20
107-8		81	85	247	278	31	75	82	005	254	29	59	70	177	20
109		76	85	229	278	49	69	82	205	254	49	50	70	154	20
110		81	85	247	278	31	71	82	211	254	43	52	70 ✓	159	20
111-12		80	85.5	243	282	39	76	82	229	254	25	59	70.5	177	21
113		—	—	—	—	—	73	82	217	254	37	53	70.5	162	21

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m+n	Δ m.	mean
200	31	32
202	45	37
202	40	35
202	51	44
202	30	27
—	—	—
204	42	~~35~~ 39
204	21	22
204	32	15
—	—	—
204	58	51
205	41	37
205	33	29
205	33	30
205	15	19
205	38	16
205	30	28
—	—	—
205	25	24
206	39	36
206	26	25
206	22	22
—	—	—
—	—	—
208	46	43
208	31	30
208	54	51
208	49	41
210	33	31
210	48	43

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γ Cyg C18581

No.	γ	Ap. 1 n	Ap. 1 m+n	Ap. 1 [n]	Ap. 1 [m+n]	Ap. 1 Δm	Ap. 2 n	Ap. 2 m+n	Ap. 2 [n]	Ap. 2 [m+n]	Ap. 2 Δm	Ap. 3 n	Ap. 3 m+n	Ap. 3 [n]	[m+n]
114		—	—				80	82	243	254	11	64	70.5	190	
115		—	—				—	—	—	—	—	—	—	—	
116		—	—				76	82	229	254	25	59	71	177	
117		—	—				79	82.5	239	256	17	64	71	190	
118		—	—				—	—	—	—	—	—	—	—	
119		—	—				—	—	—	—	—	—	—	—	
120		72	86	214	287	73	62	82.5	185	256	71	42	71	135	
121							72.5	83	216	259	43	60	71	180	
122							75	83	225	259	34	65	71	193	
123							75	83	225	259	34	59	71	177	
124							—	—	—	—	—	—	—	—	
125							79	83	239	259	20	64	71	190	
126							80	83	243	259	16	68	72	202	
127							78	83	235	259	24	63	72	188	
128							77	83	232	259	27	58.5	72	176	
129							72	83	214	259	45	53	72.5	162	
130							80	83	243	259	16	67.5	72.5	200	
131							76	83	229	259	30	59	72.5	177	
132							75	83	225	259	34	57.5	73	174	
133							81	83	247	259	12	68	73	202	
134							78	83	235	259	24	63	73	188	
135							74	83	220	259	39	57	73	172	
136							79	83	239	259	20	66	73	196	
137							80	83	243	259	16	69.5	73.5	206	
138							79	83.5	239	264	25	65	73.5	193	
139							78	83.5	235	264	29	65	73.5	193	
140							74	83.5	220	264	44	57	74	172	
141							—	—	—	—	—	65.5	74	194	
142							—	—	—	—	—	—	—	—	
143							—	—	—	—	—	—	—	—	
144															

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[m+]	Δm	mean
210	20	15
—	—	—
211	34	30
211	21	19
—	—	—
—	—	—
211	76	73
211	31	37
211	18	26
211	34 ✓	34
—	—	—
211	21	20
214	12	14
214	26	25
214	38	33
216	54	50
216	16 ✓	16
216	39	35
217	43	39
217	15	14
217	29	27
217	35	37
217	21	20
218	12	14
218	25 ✓	25
218	25	27
220	48	46
220	26	26
—	—	—
—	—	—

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γ Cyg C18581

No.	γ	Ap. 1 n	Ap. 1 m+n	Ap. 1 [n]	Ap. 1 [m+n]	Ap. 1 Δm	Ap. 2 n	Ap. 2 m+n	Ap. 2 [n]	Ap. 2 [m+n]	Ap. 2 Δm	Ap. 3 n	Ap. 3 m+n	Ap. 3 [n]	[m
145							77	88	232	259	27	64	74	190	2
146							77	83	232	259	27	64	74	190	2
147							76	83.5	229	264	35	62	74.5	185	2
148							—	—	—	—	—	—	—	—	
149							79	88.5	239	264	25	66	74.5	196	2
150							78	83.5	235	264	29	60	75	180	2
150a							79	88.5	239	264	25	69	75	205	2
151							81.5	83.5	251	264	13	69.5	75	206	2
152							73.5	0	218			71	75	211	2
153							81.5	84	251	268	17	70	75	208	2
154							80	84	248	268	25	—	—	—	
155							79	84	239	268	29	67	75	198	2
156							79	84	239	268	29	66	76	196	2
157							80	84	243	268	25	65.5	75	194	2
158							76.5	84	237	268	31	70	75	208	2
159							—	—	—	—	—	69	75	205	2
160							77	84	232	268	36	67	75	198	2
161							—	—	—	—	—	64	75	190	2
162							—	—	—	—	—	—	—	—	
163							—	—	—	—	—	—	—	—	
164							79	84	239	268	29	67	75	198	2
165							81	84	247	268	21	68.5	75	204	2
166							—	—	—	—	—	—	—	—	
167							—	—	—	—	—	—	—	—	
168							77	84	232	268	36	64	75	190	2
168b							80	84	243	268	25	68	74.5	202	2
168d							81	84	247	268	21	70	74	208	2
168i							83	84	259	268	9	72	74	214	2
168j							80.5	84	245	268	23	68.5	74	204	2
168k															

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1924phae.proj.11of

Mth	Am.	mean
220	30	29
220	30	29
222	37	36
—	—	—
222	26	26
225	45	37
225	20	23
225	19	16
225	14	14
225	17	17
—	—	25
225	27	28
225	29	29
225	31	28
225	17	24
225	10	10
225	27	32
225	35	35
—	—	—
—	—	—
225	27	28
225	21	21
—	—	—
—	—	—
225	35	36
222	20	23
220	12	17
220	6	8
220	16	20

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1924phae.proj.110P

γ Cyg C1858

		Ap. 1					Ap 2					Ap. 3			
1900	γ	n	m+n	[n]	[m+n]	Δm	n	m+n	[n]	[m+n]	Δm	n	m+n	[n]	[m+n]
168 l							80	83.5	243	264	21	69	73.5	205	218
168 m							80	83.5	243	264	21	69	73.5	205	218
1680							80	83.5	243	264	21	69	73	205	217
1689							79	83	239	259	20	68	73	202	217
169							77	80.5	232	256	24	65	72	193	214
177							74	78	220	235	15	59.5	72	178	214
180							52	70	159	208	49	55	61.5	167	184
181							57	63	172	188	16	53	58	162	175
182							55	61.5	167	184	17	47	57	146	175
183		69.5	77.5	189	234	45	51	60	157	180	23	38	56	124	76
184		72	77	214	232	18	52	58	159	175	16	47	55	146	167
189		68	72.5	202	216	14	48	50	149	154	5	44	49	139	151
190		60	70	180	208	28	39	47	127	146	19	36	46	119	141
200		51	59	157	177	20	14	32	56	109	53	24	34	88	114
207		43	51	137	157	20	7	15	21	61	40	17.5	23	70	85

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1924phae.proj.11.bp

Intn	Com.	Mean
218	13	22
218	13	22
217	12	22
217	15	18
214	21	23
214	36	26
184	17	33
175	13	15
172	26	22
169	35	34
167	21	18
151	12	10
143	24	24
114	26	33
85	15	25

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1924phae.proj.11...

γ Cyg C 18585

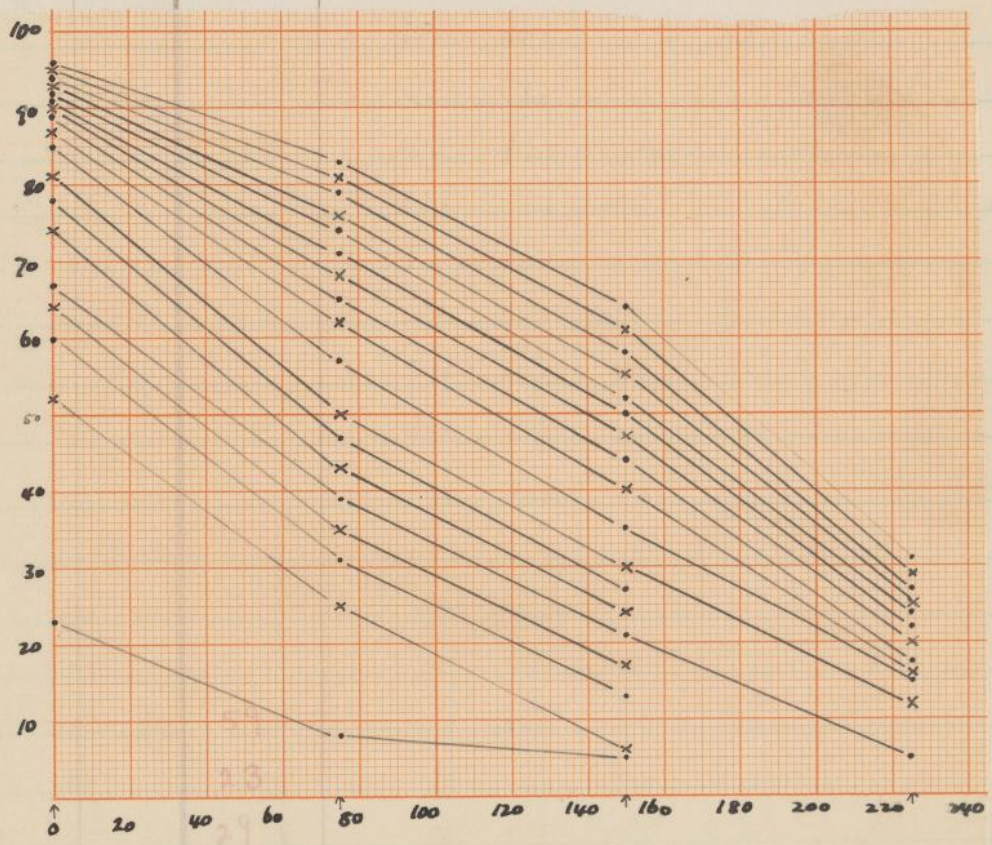
No.	γ	Ap. 1 n	m+n	[−n]	[m+n]	Δm	Ap. 3 n	m+n	[−n]	[m+n]	Δm	Ap. 5 n	m+n	[−n]	[
a		9	16	329	296	33									
β		11	17	320	291	29									
γ		15	18	301	286	15									
γa		14	18	306	286	20									
γb		9	19	329	282	47									
γc		9	20	329	278	51									
γd		9	20	329	278	51									
o		20	21.5	278	273	5									
oa		11	24	320	263	57									
ob		16	27	296	253	43									
ν		20	29	278	246	32									
νa		30	32	243	237	6									
νb		22	33	270	234	36									
νc		22.5	34	268	231	37									
νd		19	36.5	282	223	59									
π		16	37.5	296	220	76	6	15	342	301	41				
πa		32	40	237	213	24	11	15.5	320	298	22				
πb		30	41	248	211	32	11	16.5	320	294	26				
ζ		24	44	263	202	61	9	18	329	286	43				
ζa		31	44	240	202	38	14	19	306	282	24				
ζb		36	46	224	196	28	12	19	315	282	33				
χ		30	48	243	191	52	9	21	329	275	54				
4		23	51	266	182	84	8	23	334	266	68	5	11	347	
w	✓	33	52	234	180	54	13	25	311	260	51	6	11	342	
a		45	53	198	177	21	20	26	278	256	22	7	11	338	
b		41	55	211	172	39	18	27	286	253	33	7	12	338	
c		49	58	188	163	25	21	30	275	243	32	10	12	324	
d	/	46	60	196	157	39	19	31	282	240	42	10	13	324	
e		58	60.5	163	156	7	26	32	256	237	19	13	15	311	
f		57.5	61	164	151	13	26	33	256	234	22	14	16	306	

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1924phae.proj.110mp

Ap. 7

[m+n] Δm r m+n [n] [m+n] Δm Mean



hundredths of a magnitude

Material for reduction, Book 17, p. 46

Lewis ✓ marked.

γ Cygni 1 prism C1888

320	27	60
320	22	42
320	18	20
315	23	82
315	9	22
311	13	31
301	10	12
296	10	15

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1924phae.proj.1.tmp

Ap. 7

[m+n]	Δm	n	m+n	[n]	[m+n]	Δm	mean
							59
							23
							29
							52
							31
							31
							53
320	27						60
320	22						42
320	18						20
315	23						32
315	9						22
311	13						31
301	10						12
296	10						15



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1924phae.proj.11pap

γ Cyg C18585

No.		Ap. 1. m	m+n	[n]	[m+n]	Δm	Ap. 3 m	m+n	[n]	[m+n]	Δm	Ap. 5 m	m+n	[n]
g	✓	47	64	194	146	48	18	35	286	228	58	9	17	329
h		55	65	172	144	28	26	36	256	224	32	13	18	311
i		57	67	166	138	28	24	38	263	219	44	11	19	320
j		46	68	196	134	62	21	39	275	216	59	9	20	329
k		41	69	211	132	79	16	40	296	213	83	7	21	338
l	✓	55	71	172	126	46	26	41	256	211	45	12	22	315
m		53	73	177	120	57	23	42	266	208	58	12	23	315
n	✓	63	74	149	117	32	32	43	237	205	32	18	24	286
o		53	74.5	177	116	61	23	44	266	202	64	12	24.5	315
p		59	76	160	110	50	29	45	246	198	48	13	25	311
q		56	77	169	106	63	20	46	278	196	82	11	26	320
r	✓	57	78	166	103	63	27	47	253	194	59	12	27	315
s		59	78.5	160	102	58	28	48	249	191	58	12	28	315
1	✓	6	81	342	92	250	1	50	375	185	(190)	1	30	~~375~~ ~~243~~
2		62	82.5	151	86	65	30	53	243	177	66	16	32	296
3		64	83	146	84	62	31	53.5	240	175	65	66	33	140
4		65	84	144	80	64	32	54	237	174	63	17	34	291
5		55	84	172	86	92	25	55	260	172	88	11	34	320
6	✓	10	85	324	76	248	5	57	347	166	(181)	–	35	–
7		67	86	138	71	67	39	59	216	160	56	21	37	275
8-10		76	86.5	110	69	41	49	60	188	157	31	27	38	253
14		73	87	120	66	54	44	61	202	154	48	28	39.5	266
16	✓	80	87	96	66	30	53	62	177	157	26	31	40	240
18		75	88	114	60	54	47	63	194	149	45	27	41	253
19		80	88	96	60	36	59	64	160	146	14	35	41	228
20		79	88	100	60	40	58	64	163	146	17	35	41	228
21		80	88	96	60	36	60	64.5	157	145	12	37	42	222
23	✓	81	89	92	56	36	53	65	177	144	33	32	44	237
25		81	89.5	92	54	38	50	66	185	140	45	29	45	246
29		86	89.5	71	54	17	59	66.5	160	139	21	37	45	222

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1924phae.proj.11087

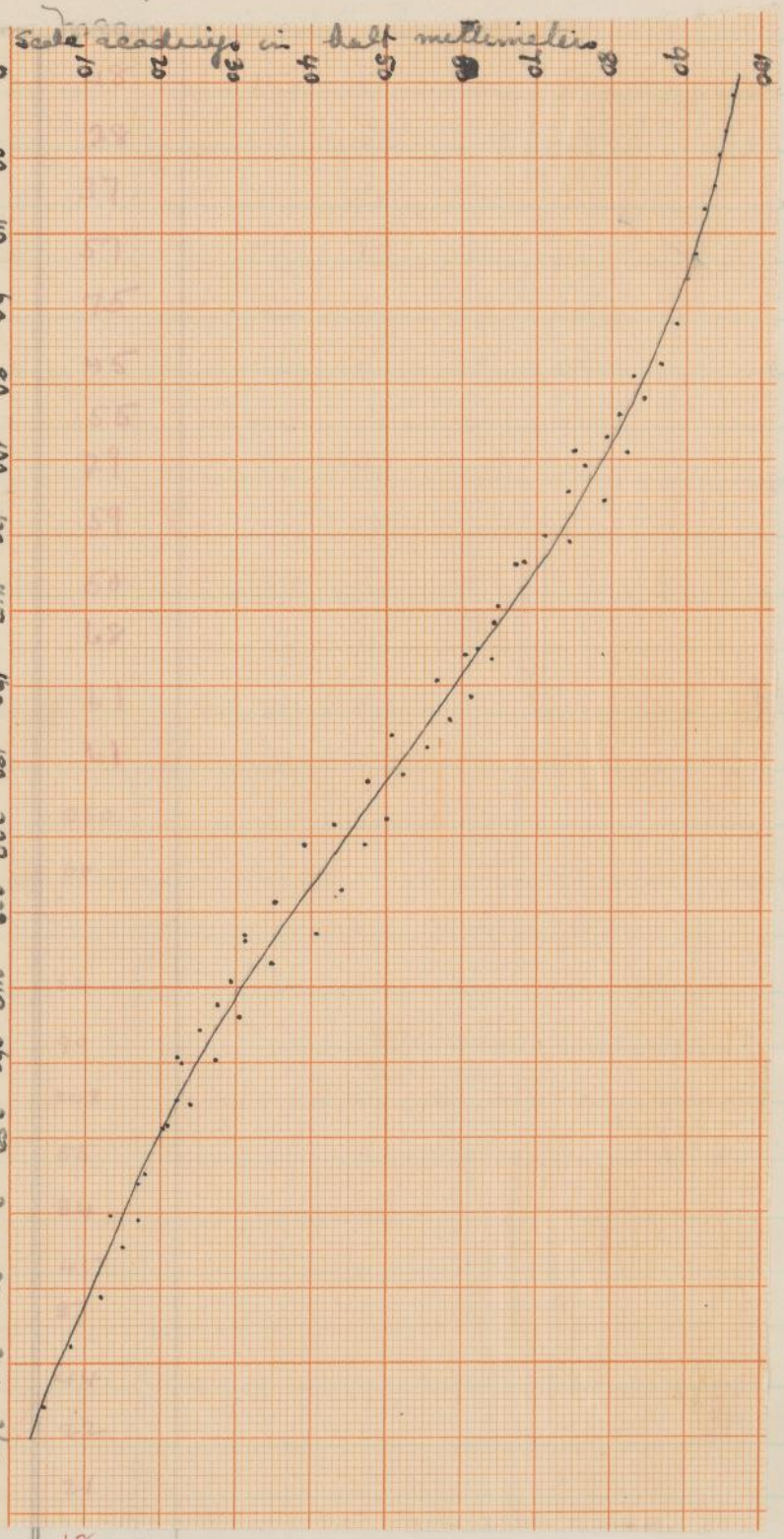
Ap. 7

Int'nt.	Δm	n	m				
291	38						
286	25						
282	38						
278	51						
275	63						
270	45						
266	49						
263	23						
262	53						
260	51						
256	64						
253	62						
249	66						
243	(132)	2	17	–	–	–	–
237	59	–	–	–	–	–	–
234	6	–	–	–	–	–	–
231	60	–	–	–	–	–	–
231	89	–	–	–	–	–	–
228	( )	1	1	–	–	–	–
222	53	5	15	347	301		
219	34	10	16	324	296		
214	52	10	16	324	296		
213	27	11	16	320	296		
211	42	10	17	324	291		
211	17	13	17	311	291		
211	17	15	17	301	291	10	18
208	14	15	17	301	291	10	18
202	35	12	17.5	315	288	27	33
198	48	9	18	329	286	43	43
198	24	12	18.5	315	284	31	23

Intensity differences in hundredths of magnitude

Reduction curve Book 17, p. 46

δ Cygni, 1 January 1885

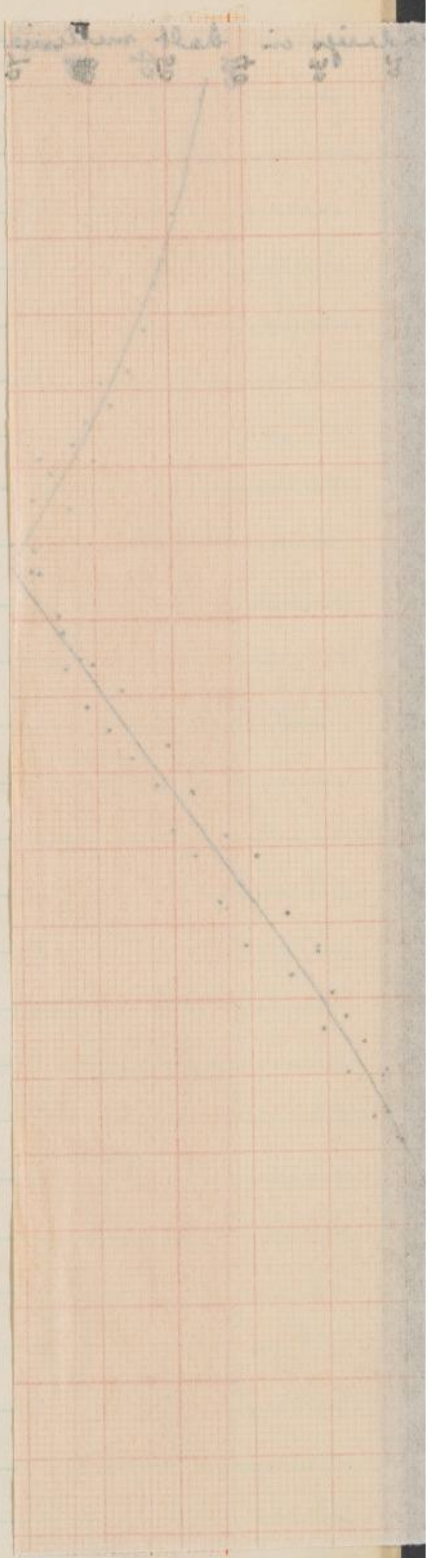


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1924phae.proj.11osp

Ap. 7

Int.	Δm	n	m.t.n.	I.n.t.	Int.	Δm	Mean
291	38						48
286	25						28
282	38						37
278	51						57
275	63						75
270	45						45
266	49						55
263	23						29
262	53						59
260	51						50
256	64						68
253	62						61
249	66						61
243	(132)	2	12	-	-		250
237	59	—	—	-	-		60
234	6	—	—	-	-		
231	60	—	—	-	-		62
231	89	—	—	-	-		90
228	( )	1	15	-	-		248
222	53	5	15	347	301	46	55
219	34	10	16	324	296	28	34
214	52	10	16	324	296	28	45
213	27	11	16	320	296	24	27
211	42	10	17	324	291	33	44
211	17	13	17	311	291	20	22
211	17	15	17	301	291	10	21
208	14	15	17	301	291	10	18
202	35	12	17.5	315	288	27	33
198	48	9	18	329	286	43	43
198	24	12	18.5	315	284	31	23



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1924phae.proj.1109P

γ Cyg C18585

No	γ	Ap. 1 n	Ap. 1 mtn	Ap. 1 [n]	Ap. 1 [mtn]	Ap. 1 Δm	Ap. 3 n	Ap. 3 mtn	Ap. 3 [n]	Ap. 3 [mtn]	Ap. 3 Δm	Ap. 5 n	Ap. 5 mtn	Ap. 5 [n]	Ap. 5 [
30		81	89.5	92	54	38	54	66.5	174	139	35	33	46	234	
31		87	89.5	66	54	12	60	67	157	138	19	40	46	213	
32		86	89.5	71	54	17	61	67.5	154	136	18	38	46	219	
34		83	89.5	84	54	30	56	67.5	169	136	33	34	46	231	
36	✓	87	90	66	52	14	60	68	157	134	23	38	47	219	
38		83	90	84	52	32	56	68	169	134	35	33	47	234	
39		86	90	71	52	19	61	68.5	154	133	21	37	48	222	
40		85	90.5	76	48	28	59	69	160	132	28	36	48	224	
41		74	90.5	117	48	69	45	69	198	132	66	25	48	260	
44-5		85	91	76	46	30	60	70	157	129	28	37	49	222	
47-8		90	91	52	46	6	69	70	132	129	3	46	49.5	196	
49		89	91	56	46	10	65	70.5	144	128	16	41	50	211	
50		84	91	80	46	34	62	71	151	126	25	41	50	211	
51	✓	75	91	114	46	68	45	71	198	126	72	23	50	266	
53		86	91	71	46	25	59	71.5	160	125	35	36	50	224	
57		86	91.5	71	43	28	61	72	154	124	30	39	51	216	
58		86	91.5	71	43	28	62	73	151	120	31	38	51	219	
59		82	92	88	39	49	55	73	172	120	52	31	51	240	
60		85	92	76	39	37	59	73	160	120	40	36	51	224	
62		90	92	52	39	13	67	73	138	120	18	46	51	196	
63		86	92	71	39	32	60	74	157	117	40	36	52	224	
65		89	92	56	39	17	65	74	144	117	27	43	52	206	
67-8	✓	88	92	60	39	21	64	74	146	117	29	41	52	211	
70		89	92	56	39	17	65	74.5	144	116	28	43	53	205	
71-2		—	92	—	39	—	70	74.5	129	116	13	47	53	194	
73		81	92	92	39	53	53	75	177	114	63	31	53	240	
74		84	92	80	39	41	55	75	172	114	58	33	54	234	
75-6		88	92	60	39	21	65	75	144	114	30	40	54	218	
77		87	92	66	39	27	63	76	149	114	35	39	54	216	
78		89	92	56	39	17	65	75	144	114	30	43	54	205	

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1924phae.proj.11.tif

Ap. 7

[m+n]	Δm	n	m+n	[-n]	[m+n]	Δm	Mean
196	38	10	19	324			
196	17	17	19	29			
196	23	15	19.5				
196	35	12	20				
194	25	16	20				
194	40	13	20				
191	31	14	20				
191	33	13	20				
191	69	9	21				
188	34	13	21.5				
186	10	18	21.5				
185	26	15	22				
185	26	12	22				
186	81	9	22				
185	39	13	22.5				
182	34	15	23				
182	37	15	23				
182	58	13	23				
182	42	14	23				
182	14	19	23				
180	44	14	23				
180	25	19	23.5				
180	31	16	24				
177	28	17	24				
177	17	20	24				
177	63	11	24.5				
174	60	12	24.5				
174	39	16	24.5				
174	42	15	24.5	301	262	39	36
174	31	17	24.5	291	262	29	27

χ Cygni. C 18585. Reduction Table

Reading	Mag.	Reading	Mag.	Reading	Mag.
0		35	228	70	129
1		36	224	71	126
2		37	222	72	124
3	360	38	219	73	120
4	353	39	216	74	117
5	347	40	213	75	114
6	342	41	211	76	110
7	338	42	208	77	106
8	334	43	205	78	103
9	329	44	202	79	100
10	324	45	198	80	96
11	320	46	196	81	92
12	315	47	194	82	88
13	311	48	191	83	84
14	306	49	188	84	80
15	301	50	185	85	76
16	296	51	182	86	71
17	291	52	180	87	66
18	286	53	177	88	60
19	282	54	174	89	56
20	278	55	172	90	52
21	275	56	169	91	46
22	270	57	166	92	39
23	266	58	163	93	32
24	263	59	160	94	26
25	260	60	157	95	16
26	256	61	154	96	08
27	253	62	151	97	-02
28	249	63	149		
29	246	64	146		
30	243	65	144		
31	240	66	140		
32	237	67	138		
33	234	68	134		
34	231	69	132		

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1924phae.proj.11...

Ap. 7

[m+n]	Δm	n	m+n	[-n]	[m+n]	Δm	Mean
196	38	10	19	324	282	42	38
196	17	17	19	291	282	9	14
196	23	15	19.5	301	280	21	20
196	35	12	20	315	278	37	34
194	25	16	20	296	278	18	20
194	40	13	20	311	278	33	35
191	31	14	20	306	278	28	25
191	33	13	20	311	278	33	30
191	69	9	21	329	275	54	64
188	34	18	21.5	311	273	38	32
186	10	18	21.5	286	273	13	8
185	26	15	22	301	270	31	21
185	26	12	22	315	270	45	32
186	81	9	22	329	270	59	70
185	39	13	22.5	311	268	43	35
182	34	15	23	301	266	35	32
182	37	15	23	301	266	35	33
182	58	13	23	311	266	45	51
182	42	14	23	306	266	40	40
182	14	19	23	282	266	16	15
180	44	14	23	306	266	40	39
180	25	19	23.5	282	264	18	22
180	31	16	24	296	263	33	28
177	28	17	24	291	263	28	25
177	17	20	24	278	263	15	15
177	63	11	24.5	320	262	58	59
174	60	12	24.5	315	262	53	53
174	39	16	24.5	296	262	34	31
174	42	15	24.5	301	262	39	36
174	31	17	24.5	291	262	29	27

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1924phae.proj.11052

γ Cyg C18585

		Ap.1					Ap.3					Ap.5			
No		n	m+n	[n]	[m+n]	Δm	n	m+n	[n]	[m+n]	Δm	n	m+n	[n]	[m+n]
79		91	92.5	46	36	10	65	75.5	144	112	32	43	54	205	174
80		86	92.5	71	36	35	61	75.5	154	112	42	39	54	216	174
81		86	92.5	71	36	35	63	75.5	149	112	37	37	54	222	174
82		86	92.5	71	36	35	60	75.5	157	112	45	36	55	224	172
83		90	92.5	52	36	16	66	76	140	110	30	43	55	205	176
85		89	93	56	32	24	65	76	144	110	34	40	55	213	172
86	✓	90	93	52	32	20	71	76	126	110	16	49	55	188	172
87		88	93	60	32	28	61	76.5	154	108	46	40	55	213	172
89		85	93	76	32	44	58	76.5	163	108	55	33	55	234	172
90		88	93	60	32	28	64	76.5	146	108	38	41	55.5	211	170
91		88	93.5	60	29	31	61	76.5	154	108	46	41	56.5	211	170
92		89	93.5	56	29	27	66	76.5	140	108	32	43	56	205	169
98		90	93.5	52	29	23	72	77	124	106	18	49	56	188	169
94		88	93.5	60	29	31	65	77	144	106	38	41	56	211	169
95		90	94	52	26	26	68	77	134	106	28	44	56	211	169
97-8		91	94	46	26	20	70	78	129	103	26	45	56	198	169
99		89	94	56	26	30	66	78	140	103	37	42	56.5	208	169
100		90	94	52	26	26	68	78	134	103	31	45	57	198	169
101-3		92	94	39	26	13	71	79	126	100	26	50	57	185	166
106		88	94	60	26	34	62	79	151	100	51	39	58	216	166
107-8	✓	90	94	52	26	26	69	79	132	100	32	47	58	194	163
109		85	94.5	76	21	55	60	79.5	157	98	59	36	58	224	163
110		87	94.5	66	21	45	63	80	149	96	53	37	58	222	163
111-12		91	94.5	46	21	25	68	80	134	96	38	46	58	196	163
113		90	94.5	52	21	31	66	80	140	96	44	43	58	205	163
114		93	94.5	32	21	11	74	80	117	96	21	52	59	180	160
116		92	94.5	39	21	18	70	80	129	96	33	46	59	196	160
117		93	94.5	32	21	11	72	80.5	124	94	30	52	59.5	180	159
120		82	94.5	88	21	67	53	80.5	177	94	83	30	60	243	159
121		89	94.5	56	21	35	62	80.5	151	94	57	46	60	196	159

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1924phae.proj.1109P

p.3

Ap. 7

[m+n]	Δm	n	m+n	[n]	[m+n]	Δm	mean
174	31	15	24.5	301	262	39	28
174	42	14	24.5	306	262	44	41
174	48	15	25	301	260	41	40
172	52	14	25	306	260	46	44
172	33	17	25	291	260	31	27
172	41	15	25	301	260	41	32
172	16	16	25	296	260	36	22
172	41	19	25	282	260	22	34
172	62	12	25	315	260	55	54
170	41	14	25	306	260	46	38
170	41	15	25	301	260	41	40
169	36	17	25	291	260	31	32
169	19	20	25	278	260	18	20
169	42	15	25	301	260	41	38
169	42	18	26	286	256	30	32
169	29	19	26	282	256	26	25
168	40	16	26.5	296	254	42	37
166	32	17	26.5	291	254	34	31
166	19	21	27	275	253	22	20
163	53	14	27	306	253	53	52
163	31	16	27	296	253	43	35
163	61	17	27.5	291	251	40	53
163	59	13	27.5	311	251	60	57
163	33	19	28	282	249	33	35
163	42	15	28	301	249	52	46
160	20	23	28	266	249	17	19
160	36	19	28	282	249	33	34
158	22	21	28	275	249	26	26
157	86	9	28	329	249	80	83
157	39	13	28	311	249	62	53

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1924phae.proj.110P

γ Cyg C18585

V/0		n	m+n	[n]	[m+n]	Δm	n	m+n	[n]	[m+n]	Δm	n	m+n	[n]	[m+n]
122	γ	91	94.5	46	21	25	79	80.5	100	94	6	48	60	191	157
123		91	94.5	46	21	25	69	81	132	92	40	46	60	196	157
125		93	95	32	16	16	75	81	114	92	22	52	60	180	157
126		93	95	32	16	16	76	81	110	92	18	57	60	166	157
127		93	95	32	16	16	73	81	120	92	28	53	61	179	154
128	✓	93	95	32	16	16	71	81	126	92	34	48	61	191	154
129		90	95	52	16	36	61	81.5	154	90	64	41	61	211	154
130		92	95.5	39	12	27	74	81.5	117	90	27	54	62	174	151
131		92	95.5	39	12	27	71	82	126	88	38	48	62	191	151
132		92	95.5	39	12	27	69	82	132	88	44	46	62	196	151
133		94	95.5	26	12	14	76	82	110	88	22	55	62.5	172	150
134		93	95.5	32	12	20	73	82	120	88	32	41	63	211	149
135-6		91	95.5	46	12	34	68	82	134	88	46	43	63	205	149
137		92	95.5	39	12	27	76	82	110	88	22	54	63	174	149
138		93.5	96	29	08	21	76	82.5	110	86	24	54	63.5	174	148
139		92	96	39	08	31	75	83	114	84	30	53	64	177	146
140		93	96	32	08	24	73	83	120	84	36	50	64	185	146
141	✓	92	96	39	08	31	69	83	132	84	48	45	64	198	146
142							77	83	106	84	22	55	64	172	146
145							74	83	117	84	33	51	64	182	146
146							74	83	117	84	33	49	64	188	146
147							72	83	124	84	40	50	64.5	185	145
149							75	83	114	84	30	54	65	174	145
150							75	83	114	84	30	53	65	177	145
150a							77	83	106	84	22	55	65	172	145
151							79	84	100	80	20	58	65	163	145
152							79	84	100	80	20	60	65	157	145
153							79	84	100	80	20	59	65	160	145
154							77	84	106	80	26	55	65	172	144
155							77	84	106	80	26	54	65.5	174	145

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[m+n]	Δm	n	m+n	[n]	[m+n]	Δm	Mean
157	34	18	28.5	286	248	38	26
157	39	18	28.5	286	248	38	39
157	23	23	29	266	246	20	22
157	9	24	29	263	246	27	18
154	23	21	29	275	246	29	27
154	37	19	29	282	246	36	35
154	57	16	30	296	243	53	58
151	23	20	30	278	243	35	28
151	40	22	30	270	243	27	35
151	45	19	30	282	243	39	43
150	22	18	30	286	243	43	29
149	62	21	30	275	243	32	42
149	56	18	30	286	243	43	48
149	25	21	30	275	243	32	26
148	26	23	30	266	243	23	24
146	31	24	30.5	263	242	21	27
146	39	23	30.5	266	242	24	33
146	52	19	31	252	240	42	47
146	26	23	31	266	240	26	25
146	36	23	31.5	266	238	28	32
146	42	22	31.5	270	238	32	36
145	40	21	32	275	237	38	39
144	30	23	32	266	237	29	30
144	33	23	32	266	237	29	31
144	28	26	33	256	234	22	24
144	19	29	33	246	234	12	17
144	13	30	33	248	234	9	11
144	16	28	33	249	234	15	17
144	28	26	33	256	234	22	25
142	32	25	33	260	234	26	28

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γ Cyg C1855.5

No.	γ	Ap 1 n	Ap 1 m+n	Ap 1 Σn	Ap 1 Σm+n	Ap 1 Δm	Ap 3 n	Ap 3 m+n	Ap 3 Σn	Ap 3 Σm+n	Ap 3 Δm	Ap 5 n	Ap 5 m+n	Ap 5 Σn	Ap 5 Σm+n
156							77	84	106	80	26	55	65.5	172	14
157							79	84	100	80	20	58	65.5	163	14
158							76	84	110	80	30	55	65	172	14
160							74	83.5	117	82	35	55	65	172	14
164							78	83.5	103	82	21	55	65	172	14
165							80	83	96	84	12	60	65	157	14
168							74	83	117	84	33	53	65	177	14
b							78	83	103	84	19	56	64	169	14
d							79	83	100	84	16	60	64	157	14
i							81	83	92	84	8	61	64	154	14
j							80	83	96	84	12	58	64	163	14
l							79	83	100	84	16	60	64	157	14
m							79	82.5	100	86	14	59	64	160	14
o							78	82.5	103	86	19	59	63.5	160	14
n							77	82	106	88	18	—	—	—	—
g							79	82	100	88	12	57	63	166	14
169							75	82	114	88	26	52	63	180	14
177							70	77	129	106	23	48	56	191	16
180		66	89	140	56	84	48	62	191	151	40	24	42	263	20
(81)		83	85	84	76	8	53	58	177	163	14	30	35	243	22
182		80	88	96	84	12	54	57	174	166	8	29	33	246	23
183		74	82	117	88	29	45	55	198	172	26	21	30	275	24
184		75	80	114	96	18	46	52	196	180	16				
189		72	75	124	114	10	40	47	213	194	19				
190		63	71	149	126	23	33	43	234	205	29				
200		35	44	228	202	16	23	34	266	231	35				
207		15	20	301	278	23	10	14	324	306	18				

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1924phae.proj.1109P

Ap. 7

[m+n]	Δ m	n	m+n	[n]	[m+n]	Δ m	Mean
142	30	24	33	263	234	29	28
142	21	28	33	249	234	15	19
144	28	26	33	256	234	22	26
144	28	24	33	263	234	29	31
144	28	23	33.5	266	232	34	28
144	13	24	33.5	263	232	31	19
144	33	22	33	270	234	36	34
146	23	25	33	260	234	36	26
146	11	31	33	240	234	6	11
146	8	32	33	237	234	3	06
146	17	28	33	249	234	15	15
146	11	27	33	253	234	19	15
146	14	28	33	249	234	15	14
148	12	28	32	249	237	12	14
—	—	—	—	—	—	—	18
149	17	26	32	256	237	19	16
149	31	23	31	266	240	26	28
169	22	18	25	286	260	26	24
208	55	8	16	334	296	38	44
228	15	7	11	338	320	18	14
234	12	9	11	329	320	9	10
243	32	5	10	347	324	23	27
							17
							14
							26
							26
							20

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1924phae.proj.110P

o Ceti C 18601

New reduction

		n	m+n	[-n]	[m+n]	Δm				
-9		5	7							
1		17	6							
a		4	6							
b		4	6							
c		3	7							
d		3	7							
e		3	7.5							
f		2	7.5							
g		4	8							
h		3	8							
i		3	8							
2		4	8							
3		5	8							
4		2	8.5							
5	*	45	9				232	[420]	[-188]	
6		5	9							
7		4	9							
8-9		4	9							
9X	*	9	13							
a		5	9							
b		4	9							
c		6	10							
d		3	11		378					
e		1	11		378					
10	*	3	12		370		-	-	-	
a		5	12		370					
b		7	12		370					
c		6	13		362					
d		11	14	378	354	24				
e		9	14		354					

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1924phae.proj.110P

o Ceti - ~~1858~~ 1860 1

No.		n	m+n, 2n]	2m+n]	Δm				
9		24	14	354					
11	x	3	15	345		-	-	-	
12		15	17	345	332	13			
14		12	19	370	321	49			
16		18	20	326	317	09			
17		20	21	317	313	04			
19		19	21	321	313	08			
20		16	21	338	313	25			
21		19	22	321	309	12			
26		18	24	326	300	26			
27		20	24	317	300	17			
27a		24	28	286	300	-14			
28		21	24.5	313	298	15			
29		19	25	321	296	25			
30		19	25	321	296	25			
32		19	26	321	293	28			
33		24	26	300	293	07			
34-5		17	27	332	290	42			
36		28	28	286	286	00			
39		18	29	326	282	44			
41		24	30	300	278	22			
42		24	30	300	278	22			
43		26	30	293	278	15			
44		25	31	296	275	21			
46		31	31	275	275	00			
47		28	31	286	275	11			
48		19	32	321	272	49			
49		29	33	282	269	13			
51		30	34	278	266	12			
53	x	121	34	106	266	-160	70	259	-189	536

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O Ceti C 1860

No		n	m+n	[n]	[m+n]	Δm				
54		29	35	282	263	19				
55		25	35	296	263	33				
57		26	36	293	260	33				
63		28	36	286	260	26				
66		26	37	293	256	37				
67		27	37	290	256	34				
68		27	37	290	256	34				
69a		50	38	225	254	-29				
71		28	38	286	254	32				
73		31	38	275	254	21				
75		31	39	275	251	24				
79		36	40	260	248	12				
80		36	40	260	248	12				
82-3		27	40	290	248	42				
85		31	40	275	248	27				
87		28	41	286	245	41				
88		29	41	282	245	37				
89		30	41	278	245	33				
90		31	42	275	243	32				
93		30	42	278	243	25				
97		33	42	269	243	26				
100		31	42	275	243	32				
101		25	43	296	240	56				
102		21	43	313	240	73				
104	*	10	43		240		400	236	164	78
105		30	44	278	238	40				
106		35	44	263	238	25				
107		40	44	248	238	10				
108		32	44	272	238	34				
110		29	45	282	236	46				

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1924phae.proj.1.bap

o Ceti, C 18601

no		n	m+n	[n]	[m+n]	Δm				
118-9		27	46	290	233	57				
120		30	46	278	233	45				
121		31	46	275	233	42				
122		30	46	278	233	45				
123		28	47	286	231	55				
124		30	47	278	231	47				
125		29	47	282	231	51				
128		33	47	269	231	38				
130		28	48	286	229	57				
134		31	48	275	229	46				
135		32	48	272	229	43				
136		38	48	254	229	25				
138	x	87	49	162	227	-55	147	224	-77	194
139		35	49	263	227	36				
140		27	50	290	225	65				
142		33	50	269	225	44				
144		37	50	256	225	31				
147		43	51	240	222	18				
148		48	51	229	222	07				
150		42	51	243	222	21				
153		42	51	243	222	21				
154		35	51	263	222	41				
155-6		41	52	245	220	25				
157		40	52	248	220	28				
157a		50	52	225	220	05				
159-60	x	43	53	240	218	12	236	216	20	17
161		23	53	304	218	86				
165		30	53	278	218	60				
170	x	34	53	266	218	48	259	216	43	
171	x	43	54	240	217	23	236	214	22	

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1924phae.proj.11[illegible]P

O Ceti; C 18601

No.		n	m+n	[n]	[m+n]	Δm			
172-6		19	54	321	217	104			
177		24	55	301	215	86			
178		33	55	269	215	54			
179		35	55	262	215	47			
180		40	55	248	215	33			
181		35	56	262	213	49			
182	?	35	56	262	213	49	256	210	46
186	×	27	56	290	213	77	284	210	74
188		33	56	269	213	56			
189		39	57	250	211	39			
191		40	57	248	211	37			
192		43	57	240	211	29			
193		43	57	240	211	29			
195	×	46	57	233	211	22	230	208	22
199-200	?	36	58	260	209	51	254	206	48
202	×	46	58	233	209	24	230	206	24
202a		60	59	206	207	−01			
206-8	×	11	59	378	207	181	388	204	184
209		16	60	338	206	132			
210		20	60	317	206	111			
211		33	60	269	206	63			
213		46	60	233	206	27			
213a	×	48	60	229	206	23	226	202	24
216x	×	14	60	354	206	148	350	202	148
220-1		18	60	326	206	120			
223		22	60	308	206	102			
224		25	60	297	206	91			
227	×	35	60	254	206	48	249	202	47
229	×	21	60	314	206	108	310	202	108
231		26	60	293	206	87			

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1924phae.proj.110mp

○ Cati – C, 1860 I

no.

232
233
237
238 *
239
240 *
241 *?
246 *
250-1 *
252-5 *
256
257
258
259
260
262 *
265-6 *
269
275 *
279
282 *
285
287-9
292
296-8
299 *
300

17

d Persei, C 1860 I Reduction Table

Scale	mag.	Scale	mag.	Scale	mag.	Scale	mag.
0	660	37	256	74	184	111	128
1	652	38	254	75	182	112	126
2	624	39	250	76	180	113	124
3	582	40	248	77	178	114	122
4	552	41	244	78	176	115	120
5	500	42	242	79	175	116	119
6	476	43	240	80	174	117	116
7	446	44	238	81	172	118	114
8	424	45	236	82	170	119	112
9	408	46	234	83	169	120	108
10	396	47	232	84	168	121	106
11	382	48	228	85	166	122	104
12	370	49	226	86	164	123	100
13	364	50	224	87	162	124	98
14	356	51	222	88	161	125	92
15	346	52	220	89	160	126	88
16	338	53	218	90	158	127	84
17	332	54	216	91	156	128	78
18	328	55	215	92	155	129	66
19	322	56	214	93	154	130	60
20	318	57	211	94	152	131	54
21	314	58	210	95	151	132	46
22	310	59	208	96	150	133	40
23	304	60	206	97	148	134	34
24	300	61	204	98	147	135	26
25	296	62	202	99	146		
26	292	63	201	100	144		
27	290	64	200	101	143		
28	286	65	198	102	142		
29	282	66	196	103	140		
30	278	67	194	104	138		
31	276	68	192	105	137		
32	272	69	191	106	136		
33	270	70	190	107	134		
34	266	71	188	108	133		
35	262	72	186	109	132		
36	260	73	185	110	130		

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1924phae.proj.11.tif

Oct. - C, 1860

no.		n	m+n	[n]	[m+n]	Δm			
232		32	60	272	206	66			
233		40	60	248	206	42			
237		44	60	238	206	32			
238	*	49	60	227	206	21	234	202	22
239		47	60	231	206	25			
240	×	44	60	238	206	32	234	202	32
241	×?	37	59	256	207	49	252	204	48
246	×	45	59	235	207	28	232	204	28
250-1	×	59	59	207	207	00	204	204	00
252-5	×	3	59		207		-	-	
256		7	58		209				
257		11	58	378	209	169			
258		9	58		209				
259		18	58	326	209	117			
260		23	57	304	211	83			
262	×	25	57	297	211	86	291	208	83
265-6	×	7	57		211		-	-	
269		17	56	332	213	119			
275	×	24	56	301	213	88	295	210	85
279		10	54		217				
282	×	18	54	326	2157	109	324	214	110
285		26	54	293	2157	76			
287-9		30	53	278	219	59			
292		36	52	260	221	59	?		
296-8		46	51	233	223	10			
299	×	49	49	227	227	00	-	- 00	00
300		—	49	—	227				

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64 Pleiades c 18644 1 Prism $\bar{n} = n \times \frac{105}{l+m+n}$

From clear film

Line #4						#2 H.R. 1142 m 3.81					#3 H.R. 1156 m 4.25					
No	n	m+n	l+m+n	$\bar{n}$	m+n	n	m+n	l+m+n	$\bar{n}$	m+n	n	m+n	l+m+n	$\bar{n}$	m+n	No
-3	—	—	—			—	—	—			—	—	—			-3
-2	—	—	—			—	—	—			—	—	—			-2
-1	—	—	—			30	37	105	30	37	—	—	—			-1
0	—	—	—			33	40	105	33	40	—	—	—			0
1	27	35	104	27	35	35	44	105	35	44	15	22	105	15	22	1
2	27	40	104	27	40	37	49	105	37	49	18	26	105	18	26	2
3	39	46	104	39	46	40	56	105	40	56	20	30	105	20	30	3
4	29	48	104	29	48	40	62	105	40	62	21	38	105	21	38	4
5	33	61	104	33	62	43	70	105	43	70	26	47	105	26	47	5
6	41	72	104	41	73	53	80	105	53	80	35	59	105	35	59	6
6a	75	77	104	76	78	87	88	105	87	88	61	63	105	61	63	6a
7	52	85	104	52	86	68	94	106	67	93	49	74	104	49	75	7
7a	89	90	104	90	91	97	98	106	96	97	80	82	104	81	83	7a
8	65	94	105	65	94	79	100	106	78	99	61	86	104	62	87	8
9	95	97	105	95	97	100	103	106	99	102	85	90	104	86	91	9
10	77	99	105	77	99	89	103	106	88	102	71	90	103	72	92	10
10a	98	100	105	98	100	103	104	107	101	102	88	91	103	90	93	10a
11	87	102	106	86	101	95	105	108	92	102	79	92	103	80	93	11
12	100	102	106	99	101	104	105	108	101	102	89	92	103	91	94	12
13	101	102	106	100	101	104	105	108	101	102	90	92	103	92	94	13
13a	102	103	106	101	102	105	105	109	101	101	91	93	103	93	94	13a
13b	101	102	106	100	101	105	105	109	101	101	89	90	103	91	92	13b
13c	97	99	106	96	98	101	102	109	97	98	82	83	103	84	85	13c
14	60	82	107	59	80	74	90	109	71	87	58	67	103	59	68	14

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618644 Reduction Table

10	340	33	238	56	182	79	122
11	323	34	234	57	179	80	118
12	316	35	234	58	177	81	117
13	303	36	231	59	175	82	114
14	298	37	229	60	172	83	111
15	293	38	226	61	170	84	109
16	288	39	223	62	167	85	106
17	283	40	220	63	165	86	103
18	279	41	218	64	162	87	100
19	274	42	215	65	160	88	97
20	271	43	212	66	158	89	94
21	268	44	210	67	155	90	91
22	265	45	208	68	152	91	87
23	262	46	205	69	149	92	83
24	260	47	203	70	146	93	79
25	257	48	201	71	143	94	74
26	254	49	198	72	141	95	70
27	252	50	195	73	138	96	65
28	249	51	193	74	136	97	61
29	247	52	191	75	133	98	57
30	245	53	189	76	130	99	52
31	243	54	186	77	128	100	47
32	241	55	184	78	125	101	40

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1924phae.proj.11nip

Pleiades C. 18644 1 Prism $\bar{n} = n + \frac{17.6}{l+m+n}$

No	T	Line #5 H.R 1165 m 4.37 2.616 n	m+n	l+m+n	$\bar{n}$	$\overline{m+n}$	#6 m 3.84 5.43 H.R. 1142 n	m+n	l+m+n	$\bar{n}$	$\overline{m+n}$	#3 H.R 1156 m 4.35 n	m+n	l+m+n	$\bar{n}$	$\overline{m+n}$
-3																
-2																
-1																
0																
1							7	11	104	7	11					
2							9	12	104	9	12					
3		37	41	102	33	42	10	15	105	10	15					
4		30	46	102	31	47	10	19	105	10	19					
5		30	52	102	31	54	12	25	105	12	25					
6		35	62	102	36	64	19	35	105	19	35					
6a		68	69	105	68	69	37	40	106	37	40					
7		83 (43)	85 (77)	105	83	85 (77)	22	45	106	22	45					
7a		48	78 (62)	105	48	78 (62)	50	53	106	49	52					
8		82 (58)	85 (69)	106	81	84 (68)	30	57	106	30	56					
9		87	92	107	85	90	56	62	107	55	61					
10		69	94	107	68	92	39	62	107	38	61					
10a		91	95	108	88	92	60	63	107	59	62					
11		75	96	109	72	93	40	64	109	39	62					
12		95	96	109	92	93	61	64	109	59	62					
13		95	98	109	92	94	60	64	110	57	61					
13a		97	98	110	93	92	61	65	110	58	62					
13b		95	96	110	91	92	60	62	110	57	59					
13c		87	89	110	83	85	52	54	111	49	51					
14		47	69	110	45	66	24	38	111	23	36					

Second tracing not measured

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Pleiades C18644. Reductions

No.	λ.	# 2					# 3									
		$\bar{n}$	$\overline{m+m}$	[n]	[m+m]	Δm	$\bar{n}$	$\overline{m+m}$	[n]	[m+m]	Δm	$\bar{n}$	$\overline{m+m}$	[n]	[m+m]	Δm
-1		30	37	245	229	16	-	-				-	-			
0		33	40	238	220	18	-	-				-	-			
1		35	44	234	210	24	15	22	293	265	28	27	35			
2		37	49	229	198	31	18	26	279	254	25	27	40			
3		40	56	220	182	38	20	30	271	245	26	39	46			
4		40	62	220	167	53	21	38	268	226	42	29	~~48~~ 45			
5		43	70	212	146	66	26	47	254	203	51	33	62			
6		53	80	~~137~~ 189	~~85~~ 119	70	35	59	234	175	59	41	73			
6a		87	88	100	97	3	61	63	170	165	5	76	78			
7		67	93	~~110~~ 155	~~55~~ 79	76	49	75	198	133	65	52	86			
7a		96	97	65	61	4	81	83	117	111	6	90	91			
8		78	99	125	52	73	62	87	167	100	67	65	94			
9		99	102	52	30	22	86	91	103	87	16	95	97			
10		88	102	97	30	67	72	92	141	83	58	77	99			
10a		101	102	40	30	10	90	93	91	79	12	98	10			
11		92	102	83	30	53	80	93	119	79	40	86	10			
12		101	102	40	30	10	91	94	87	74	13	99	10			
13		101	102	40	30	10	92	94	83	74	9	100	1			
13a		101	101	40	40	00	93	94	79	74	5	101	1			
13b		101	101	40	40	00	91	92	87	83	4	100	1			
13c		97	98	61	57	4	84	85	109	106	3	96	9			
14		71	87	61	100	39	59	68	175	152	23	59	8			

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#4				#5					#6				
m̄	m+n	[n]	[m+n]	Δm	n̄	m+n	[n]	[m+n]	Δm	n̄	m+n	[n]	[m+n]	Δm
35	252	234	18							7	11		323	
40	252	220	32							9	12		310	
46	228	205	18	33	42	238	215	23		10	15	340	293	47
~~48~~ 53	247	189	58	31	47	243	203	40		10	19	340	274	66
62	288	167	71	31	54	243	186	57		12	25	310	257	53
73	218	138	80	36	64	231	162	69		19	35	274	234	40
78	130	125	5	68	69	152	~~152~~ 147	3		37	40	229	220	9
86	191	103	88	83	77	111	~~111~~ 128	17		22	45	265	208	57
91	91	87	4	48	82	201	114	87		49	52	198	191	7
94	160	74	86	81	88	117	97	20		30	56	245	182	63
97	70	61	9	85	90	106	91	15		55	61	184	170	14
99	128	52	76	68	92	152	83	69		38	61	226	170	56
100	57	47	10	88	92	97	83	14		59	62	175	167	8
101	103	40	63	72	93	141	79	62		39	62	223	167	56
101	52	40	12	92	93	83	79	4		59	62	175	167	8
101	47	40	7	92	94	83	74	9		57	61	179	170	9
102	40	30	10	93	92	79	83	4		58	62	177	167	10
101	47	40	7	91	92	87	83	4		57	59	179	175	4
98	65	57	8	83	85	111	106	5		49	51	198	193	5
80	175	119	56	45	66	208	158	50		23	36	262	231	31

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C-18583 Capella . l+m+n reduced to 126.

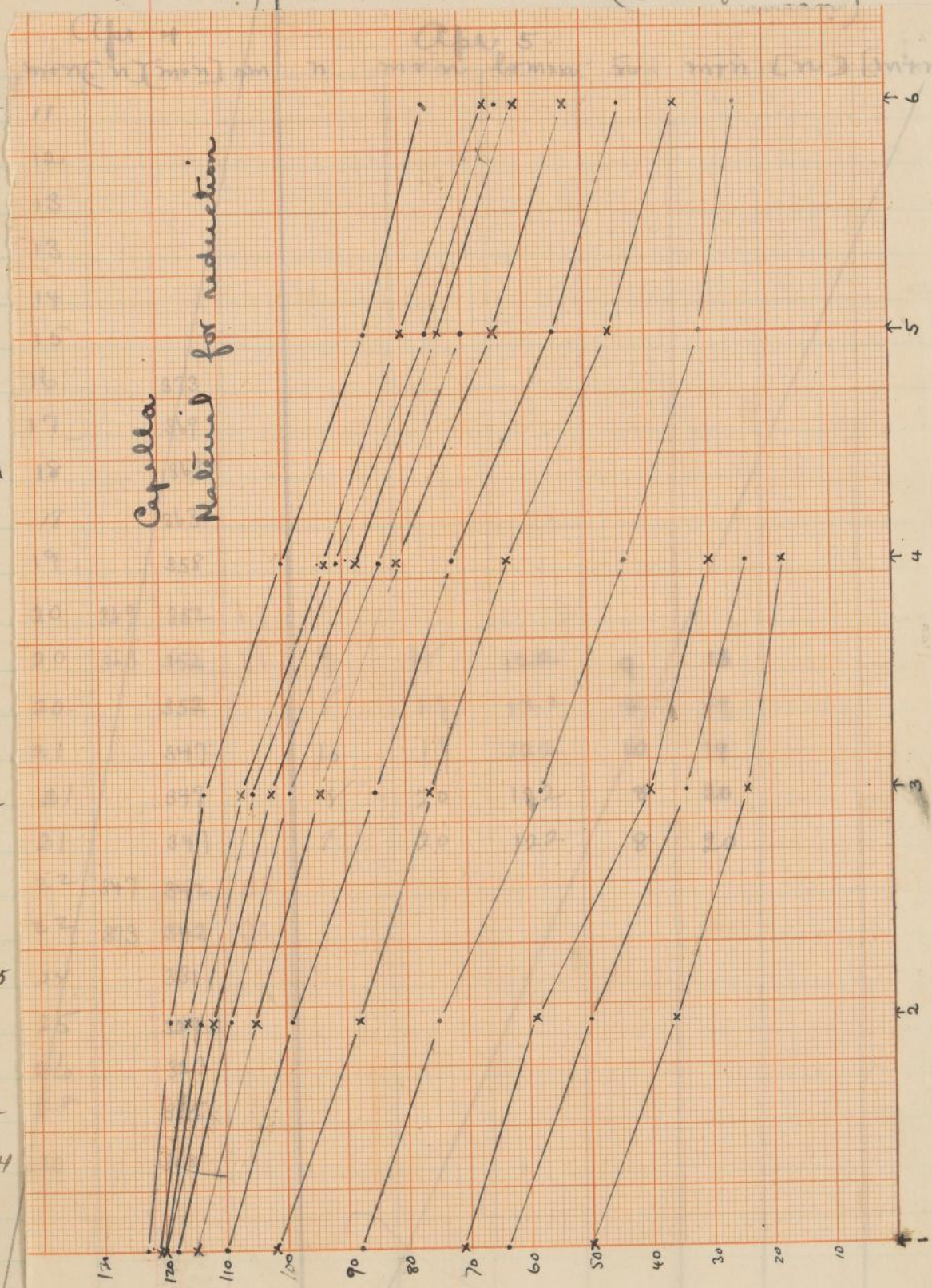
No.	Apr. 1. n	m+n	[n]	[m+n]	Δm	Apr. 2. n	m+n	[n]	[m+n]	Δm	Apr. 3. n	m+n	[n]	[m+n]	Δm
1	20	32	352	301	51	13	24		331		6	14			
2	23	37	336	286	50	15	26		323		8	17			
3	30	39	308	281	27	20	28	352	315	37	13	18		363	
4	25	40	327	278	49	17	28	369	315	54	8	18		363	
5	20	40	352	278	74	14	29		312		7	19		358	
6	30	43	308	270	38	20	31	352	304	48	11	20		352	
7	25	45	327	265	62	15	31		304		8	21		347	
8	30	48	308	256	52	22	34	342	296	46	13	23		336	
9	38	49	283	254	29	28	36	315	289	26	16	24	373	331	42
10	37	50	286	251	35	24	36	331	289	42	15	24		331	
11	42	51	272	249	23	—	—	—	—	—	17	25	369	327	42
12	48	53	256	244	12	30	38	308	283	25	20	25	352	327	25
13	51	54	249	242	07	34	39	296	281	15	23	26	336	323	13
14	44	57	267	234	33	30	41	308	275	33	18	29	363	312	51
15	43	58	270	231	39	30	42	308	272	36	19	29	358	312	46
16	40	59	278	229	49	28	44	315	267	48	16	30	373	308	65
17	41	60	275	226	49	28	45	315	265	50	17	30	369	308	61
18	56	61	237	224	13	41	46	275	262	13	27	31	319	304	15
19	53	62	244	222	22	39	47	281	259	22	24	32	331	301	30
20	48	64	256	217	39	34	50	296	251	45	21	34	347	296	51
21	46	65	262	214	48	34	52	296	246	50	19	35	358	292	66
22	43	67	270	208	62	31	54	304	242	62	20	37	352	286	66
23	42	70	272	200	72	31	57	304	234	70	17	39	369	281	88
24	47	71	259	198	61	35	59	292	229	63	21	40	347	278	69
25	62	75	222	186	36	-	-	—	—	—	34	42	296	272	24
26	—	—	—	—	—	—	—	—	—	—	36	42	289	272	17
27	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
28	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
29	59	78	229	177	52	44	66	267	211	56	30	46	308	262	46
30	73	79	193	174	19	58	69	231	208	23	44	48	267	256	11

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omit from mean

(omit from mean)



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0. MILLIMETER
DRAWING OR TRACING PAPER
IN U.S.A.

30 36 308 289 19 20 25 122 21 26

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(omit from mean)

Apr. 4.

n	m+n	[n]	[m+n]	Δm
5	11			
5	12			
9	13			
6	13			
5	14			
8	15			
6	16		373	
10	17		369	
14	18		363	
11	18		363	
15	19		358	
17	20	369	352	17
18	20	368	352	11
12	20		352	
14	21		347	
12	21		347	
11	21		347	
21	22	347	342	05
16	22	373	342	31
15	24		331	
14	25		327	
13	26		323	
12	28		315	
14	30		308	
19	35	358	292	66
30	36	308	289	19

Apr 5.

n	m+n	[n]	[m+n]	Δm
9	18	122	9	18
8	19	122	8	19
10	19	122	10	19
8	20	122	8	20
8	20	122	8	20
13	25	122	14	26
20	25	122	21	26

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70

Ap. 6

No. 7

Capella 6 18583 Reduction Table

Scale mag.	Scale mag.	Scale mag.	Scale mag.	Scale mag.
16- 373	38- 283	60- 226	82- 166	104- 104
17- 369	39- 281	61- 224	83- 164	105- 101
18- 363	40- 278	62- 222	84- 162	106- 97
19- 358	41- 275	63- 219	85- 159	107- 95
20- 352	42- 272	64- 217	86- 156	108- 91
21- 347	43- 270	65- 214	87- 152	109- 89
22- 342	44- 267	66- 211	88- 149	110- 85
23- 336	45- 265	67- 208	89- 146	111- 82
24- 331	46- 262	68- 206	90 148	112- 78
25- 327	47- 259	69- 203	91- 140	113- 74
26- 323	48- 256	70- 200	92- 138	114- 69
27- 319	49- 254	71- 198	93- 135	115- 64
28- 315	50- 251	72- 195	94- 132	116- 58
29- 312	51- 249	73- 193	95- 130	117- 51
30- 308	52- 246	74- 189	96- 127	118- 46
31- 304	53- 244	75- 186	97- 124	119- 40
32- 301	54- 242	76- 183	98- 122	120- 31
33- 298	55- 239	77- 180	99- 119	121- 22
34- 296	56- 237	78- 177	100- 115	122 14
35- 292	57- 234	79- 174	101- 113	123 05
36- 289	58- 231	80- 172	102- 110	
37- 286	59- 229	81- 169	103- 107	

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Ap. 6

No.	λ	n	m+n	l+m+n	$\bar{n}$	$\overline{m+n}$	[n][m+n]	Δw	mean
1									
2									
3									
4									49
5									74
6									38
7									62
8									52
9									29
10									25
11									23
12									12
13									07
14									33
15									38
16									48
17									50
18									13
19									22
20									42
21									49
22									62
23									71
24									64
25									30
26									17
27									–
28									–
29		10	20	126	11	21			51
30									18

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	n	[mm]	AM
31	70	251	24
32	62	249	49
33	70	242	39
34	68	237	44
35	71	231	44
36	73	229	43
37	85	224	13
38	86	219	15
39	87	219	12
40	88	214	15
41	88	211	08
42	93	208	14
43	81	200	24
44	84	198	44
45	75	183	144
46	85	177	60
47	84	174	63
48	94	172	45
49	95	169	39
50	96	166	40
51	85	162	77
52	97	159	164
53	99	149	49
54	105	146	34
55	108	143	19
56	108	143	21
57	107	138	34
58	109	135	11
59	105	135	39
60	113	132	11

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(cont)

1/0		n	m+n	[n]	[m+n]	Δm	n	m+n	[n]	[m+n]	Δm	n	m+n	[n]	[m+n]	Δm
31		70	80	200	172	28	55	67	239	208	31	41	50	275	251	24
32		62	82	222	166	56	47	69	259	203	56	33	51	298	249	49
33		70	84	200	162	38	53	72	244	195	49	39	54	281	242	39
34		68	85	206	159	47	53	73	244	193	51	39	56	281	237	44
35		71	88	198	149	49	55	75	239	186	53	41	58	275	231	44
36		73	89	193	146	47	55	76	239	183	56	42	59	272	229	43
37		85	90	159	143	16	69	76	203	183	20	56	61	237	224	13
38		86	91	156	140	16	69	77	203	180	23	57	63	234	219	15
39		87	92	152	138	14	71	79	198	174	24	58	63	231	219	12
40		88	93	149	135	14	71	80	198	172	26	59	65	229	214	15
41		83	94	164	132	32	67	81	208	169	39	63	66	219	211	08
42		93	96	135	127	08	80	83	172	164	08	64	69	217	203	14
43		81	97	169	124	45	76	84	183	162	21	61	70	224	200	24
44		84	98	162	122	40	70	85	200	159	41	54	71	242	198	44
45		45	102	265	110	155	34	88	296	152	144	25	76	327	183	144
46		85	104	159	104	55	70	90	200	143	57	56	78	237	177	60
47		84	105	162	101	61	71	91	198	140	58	56	79	237	174	63
48		94	106	132	97	35	78	92	177	138	39	64	80	217	172	45
49		95	107	130	95	35	80	94	172	132	40	67	81	208	169	39
50		95	107	127	95	32	82	95	166	130	36	68	82	206	166	40
51		85	108	159	91	68	70	96	200	127	73	55	84	239	162	77
52	x	97	110	124	85	39	85	98	278	124	154	26	85	303	159	144
53		99	111	119	82	37	85	99	159	119	40	71	88	198	149	49
54		105	112	101	78	23	91	100	140	115	25	77	89	180	146	34
55		108	112	91	78	13	96	101	127	113	14	84	90	162	143	19
56		108	113	91	74	17	96	101	127	113	14	83	90	164	143	21
57		107	113	95	74	21	94	103	132	107	25	80	92	172	138	34
58		109	114	89	69	20	101	103	113	107	06	89	93	146	135	11
59		105	114	101	69	32	92	104	138	104	34	79	93	174	135	39
60		113	115	74	64	10	101	105	113	101	12	90	94	143	132	11

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Omit from mean

Cip. 4. (cont.)

λ	n	m+n	[n]	[m+n]	Δm
31	28	36	315	289	26
32	23	38	336	283	53
33	28	40	315	278	37
34	30	42	308	272	36
35	29	44	312	267	45
36	30	45	308	265	43
37	44	47	267	259	08
38	41	47	275	259	16
39	43	49	270	254	16
40	44	51	267	249	18
41	39	52	281	246	35
42	49	55	254	239	15
43	47	56	259	237	22
44	39	58	281	231	50
45	14	63		219	..
46	40	65	278	214	64
47	44	66	267	211	56
48	50	67	251	208	43
49	54	69	242	203	39
50	53	70	244	200	44
51	41	71	275	198	77
52	18	73	363	193	170
53	57	75	284	186	48
54	62	76	222	183	39
55	67	77	208	180	28
56	69	77	203	180	23
57	66	78	211	177	34
58	75	79	186	174	12
59	63	80	219	172	37
60	74	81	189	169	20

Cip. 5 (cont.)

n	m+n	[m+n]	n	m+n	[n]	[n+m]	Δm	
19	26	122	19	27	358	319	39	
15	28	122	15	29	..	312	..	
17	29	122	17	30	369	308	61	
18	30	122	18	31	363	304	59	
19	31	122	19	32	358	301	57	
19	32	122	19	33	358	298	60	
30	33	122	31	34	304	296	08	
29	34	122	30	35	308	292	16	
30	35	122	31	36	304	289	15	
31	36	122	32	37	301	286	15	
27	37	122	28	38	315	283	32	
35	39	122	36	40	289	278	11	Include in mean
34	40	122	35	41	292	275	17	
29	41.5	122	30	42	308	272	36	
9	48	122	9	46	..	262	..	
29	48	122	30	49	308	254	54	
30	49	122	31	50	304	251	53	
37	50	122	38	51	283	249	34	
38	52	122	39	52	281	246	35	
40	53	123	41	54	275	242	33	
28	54.6	123	29	55	312	239	73	
14	55	123	14	57	..	234	..	
43	58	123	44	59	267	229	38	
49	59	123	50	60	251	226	25	
54	60	123	55	61	239	224	15	
54	61	123	55	62	239	222	17	
52	63	123	53	64	244	217	27	
60	64	123	61	65	224	214	10	
51	64	123	52	65	246	214	32	
61	65	123	62	66	222	211	11	

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Omit from means

Ap. 6. (cont.)

n	m+n	l+m+n	$\bar{n}$	m+n	[n]	[m+n]	Δm	
14	21	126	..	~~347~~	..	347	..	28
12	22	126		~~34~~	..	342	..	54
14	23	126			..	336	..	42
13	24	126			..	331	..	44
15	24	126			..	331	..	48
15	25	126			..	327	..	47
22	26	126			342	323	19	14
20	27	126			352	319	33	18
23	28	126			336	315	21	16
21	29	126			347	312	35	18
18	30	126			363	308	55	28
25	31	126			327	304	23	11
24	32	126	Sums of	Sums of	331	301	30	26
20	34	126	8	8	352	296	56	42
9	36	126	Sums	Sums	..	289	..	148
19	37	126			358	286	72	58
21	38	126			347	283	64	58
27	40	126			319	278	41	39
28	41	126			315	275	40	38
28	41	126			315	275	40	37
22	43	126			342	270	72	73
10	44	126			..	267	..	
31	46	126			304	262	42	42
27	47	126			286	259	27	29
40	48	126			278	256	22	18
41	49	126			275	254	21	19
39	50	126			281	251	30	28
47	51	126			259	249	10	12
38	52	126			~~246~~ 283	246	37	35
48	53	126			~~244~~ 256	244	12	13

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	Ap. 1. cont.					Ap. 2. (cont)					Ap. 3. (cont)					
Pp	n	m+n	[n]	[m+n]	Δm	n	m+n	[n]	[m+n]	Δm	n	m+n	[n]	[m+n]	Δm	n
61	113	115	74	64	10	102	106	110	97	13	91	95	140	130	10	76
62	113	115	74	64	10	102	106	110	97	13	90	95	143	130	13	75
63	114	116	69	58	11	103	106	107	97	10	91	96	140	127	13	75
64	113	116	74	58	16	101	107	113	95	18	90	96	143	127	16	75
65	110	117	85	51	34	97	107	124	95	29	84	97	162	124	38	68
	111	117	82	51	31	99	107	119	95	24						70
66	115	117	64	51	13	104	108	104	91	13	93	98	135	122	13	79
67	106	118	97	46	51	92	108	138	91	47	77	98	180	122	58	61
68	–	–	–	–	–	107	109	95	89	06	95	98	130	122	08	79
69	–	–	–	–	–	113	109	74	89	15	91	98	140	122	18	75
70	113	118	74	46	28	10X2	109	110	89	21	90	99	143	119	24	74
71	113	119	74	40	34	101	109	113	89	24	88	99	149	119	30	73
72	110	119	85	40	45	97	110	124	85	39	84	99	162	119	43	64
73	115	119	64	40	24	103	110	107	85	22	91	99	140	119	21	75
74	114	119	69	40	29	102	110	110	85	25	89	100	146	115	31	73
75	108	119	91	40	51	96	111	127	82	45	80	100	172	115	57	65
76	117	120	51	31	20	105	111	101	82	19	95	100	130	115	15	78
77	118	120	46	31	15	109	112	89	78	11	98	100	122	115	07	82
78	116	120	58	31	27	105	112	101	78	23	93	101	135	113	22	78
79	108	120	91	31	60	94	112	162	78	84	79	101	174	113	61	63
80	117	120	51	31	20	107	112	95	78	17	95	102	130	110	20	79
81	117	120	51	31	20	106	113	97	74	23	95	103	130	107	23	80
82	117	120	51	31	20	108	113	91	74	17	96	103	127	107	20	80
83	117	120	51	31	20	107	113	95	74	21	94	103	132	107	25	79
84	116	120	58	31	27	105	113	101	74	27	92	103	138	107	31	75
85	119	120	40	31	09	110	113	85	74	11	100	104	115	104	11	85
86	115	120	64	31	33	103	113	107	74	33	90	104	143	104	39	74
87	117	120	51	31	20	108	114	91	69	22	95	104	130	104	26	79
88	118	120	46	31	15	107	114	95	69	26	96	104	127	104	23	79
89	117	120	51	31	20	107	114	95	69	26	94	105	132	101	31	79
90	118	120	46	31	15	111	114	82	69	13	98	105	122	101	21	82

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Ap. 4. (cont)

Δm	n	m+n	[n]	[m+n]	Δm
0	76	81	183	169	14
3	75	81	186	169	17
3	75	82	186	166	20
6	75	82	186	166	20
8	68	83	206	164	42
	70	83	200	164	36
3	79	84	174	162	12
8	61	84	224	162	62
28	79	84	174	162	12
8	75	84	186	162	24
7	74	84	189	162	27
30	73	84	193	162	31
43	64	85	217	159	58
21	75	85	186	159	27
31	73	85	193	159	34
57	65	85	214	159	55
15	78	86	177	156	21
07	82	87	166	152	14
22	78	87	177	152	25
21	63	87	219	152	67
20	79	88	174	149	25
23	80	88	172	149	23
20	80	88	172	149	23
25	79	89	174	146	28
31	75	89	186	146	40
11	85	89	159	146	13
39	74	90	189	143	46
26	79	90	174	143	31
23	79	90	174	143	31
31	79	90	174	143	31
21	82	91	166	140	26

Ap. 5. (Cont)

Δm	n	m+n	l+m+n	n	m+n	[n]	[n+m]	Δm
	61	66	123	62	67	222	208	14
	60	67	123	61	68	224	206	18
	62	67	128	63	68	219	206	13
	60	68	123	61	69	224	203	21
	55	69	123	56	70	237	200	37
	56	69	123	57	70	234	200	34
	64	70	123	65	72	214	195	19
	49	70	123	50	72	251	195	56
	67	70	123	68	72	206	195	11
	64	71	123	65	73	214	193	21
	60	72	123	61	73	224	193	31
	59	71	123	60	73	226	193	33
	54	71	123	55	73	239	193	46
	61	72	128	62	74	222	189	33
	60	72	123	61	74	224	189	35
	51	72	123	52	74	246	189	57
	65	73	123	66	75	211	186	25
	69	73	123	70	75	200	186	14
	64	73	123	65	75	214	186	28
	50	74	123	51	76	249	183	66
	65	74	123	66	76	211	183	28
	65	75	123	66	77	211	180	31
	67	75	123	68	77	206	180	26
	65	75	123	66	77	211	180	31
	61	75	123	62	77	222	180	42
	70	75	123	72	77	195	180	15
	60	76	123	61	78	224	177	47
	65	76	123	66	78	211	177	34
	64	76	123	65	78	214	177	37
	63	76	123	64	78	217	177	40
	69	76	123	70	78	200	177	23

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Ap. 6. (cont)

No	↑	w	mtw	btmtw	n̄	mtn̄	[w]	[mtw]	Δw	Mean		No
61		50	53	126			251	244	07	11		91
62		48	54	126			256	242	14	14		92
63		48	55	126			256	239	17	14		93
64		47	55	126			259	239	20	18		94
65		41	56	126			275	237	38	36		95
	a	43	56				270	237	33	32		
66		51	57	126			249	234	15	14		96
67		36	57	126			289	234	55	55		97
68		54	58	126			242	231	11	10		98
69		49	58	126			254	231	23	20		99
70		45	58	126			265	231	34	28		100
71		46	58	126			262	231	31	30		101
72		41	58	126			275	231	44	45		102
73		48	59	126			256	229	27	25	1,3,4,2,3,2	103
74		46	59	126			262	229	33	31		104
75		39	59	126			281	229	52	53		105
76		49	59	126			254	229	25	21		106
77		55	60	126			239	226	13	12		107
78		50	60	126			251	226	25	25		108
79		35	60	126			292	226	66	67		109
80		58	61	126			246	224	22	22		110
81		51	61	126			249	224	25	24		111
82		53	62	126			244	222	22	20		112
83		52	62	126			246	222	24	25		113
84		48	62	126			256	222	34	34		114
85		56	63	126			237	219	18	13		115
86		45	63	126			265	219	46	41		116
87		50	63	126			251	219	32	28		117
88		49	63	126			254	219	35	28		118
89		49	64	126			254	217	37	31		119
90		55	64	126			239	217	22	20		120

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	Ap. 1. (cont.)					Ap. 2. (cont.)					Ap. 3. (cont.)				
No	n	m+n	[n]	[m+n]	Δm	n	m+n	[n]	[m+n]	Δm	n	m+n	[n]	[m+n]	Δm
91	118	121	46	22	24	109	114	89	69	20	96	105	127	101	26
92	114	121	69	22	47	103	115	107	64	43	93	105	135	101	34
93	115	121	64	22	42	106	115	97	64	33	91	105	140	101	39
94	117	121	51	22	29	108	115	91	64	27	90	105	143	101	42
95	117	121	51	22	29	108	115	91	64	27	95	106	130	97	33
96	119	121	40	22	18	111	115	82	64	18	92	106	138	97	41
97	116	121	58	22	36	106	115	97	64	33	93	107	135	95	40
98	117	121	51	22	29	107	115	95	64	31	96	107	127	95	32
99	118	121	46	22	24	110	116	85	58	27	97	107	124	95	29
100	119	121	40	22	18	112	116	78	58	20	100	107	115	95	20
101	118	121	46	22	24	108	116	91	58	33	92	107	188	95	43
102	114	121	69	22	47	103	116	107	58	49	85	107	159	95	64
3,2 103	119	121	40	22	18	112	116	78	58	20	100	108	115	91	24
104	119	121	40	22	18	112	117	78	51	27	98	108	122	91	31
105	120	122	31	22	09	113	117	74	51	23	100	108	115	91	24
106	120	122	31	22	09	115	117	64	51	13	104	108	104	91	13
107	119	122	40	14	26	113	117	74	51	23	—	—	—	—	—
108	119	122	40	14	26	113	117	74	51	23	—	—	—	—	—
109	120	122	31	14	17	114	117	69	51	18	102	109	110	89	21
110	119	122	40	14	26	112	117	78	51	27	99	110	119	85	34
111	119	122	40	14	26	115	117	64	51	13	—	—	—	—	—
112	117	122	51	14	37	110	117	85	51	34	—	—	—	—	—
113	120	122	31	14	17	114	118	69	46	23	104	111	104	82	22
114	120	122	31	14	17	113	118	74	46	28	102	111	110	82	28
115	118	123	46	05	41	111	118	82	46	36	96	111	127	82	45
116	118	123	46	05	41	112	118	78	46	32	100	111	115	82	33
117	114	123	69	05	64	105	118	101	46	55	89	112	146	78	56
118	116	123	58	05	53	108	118	91	46	45	92	112	138	78	60
119	~~119~~ 115	~~123~~ 123	64	05	59	104	118	104	46	58	89	112	146	78	68
120	119	123	40	05	35	111	119	82	40	42	98	113	122	74	48

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No.	λ	Ap. 4. (cont.) n	n+m	[n]	[n+m]	Δm	Ap. 5. (cont.) n	n+m	lim n	n̄	n̄+m	[n]	[n+m]	Δm
91		75	91	186	140	46	66	77	123	67	79	208	174	34
92		72	91	195	140	55	58	77	123	59	79	229	174	55
93		75	91	186	140	46	60	78	123	61	80	224	172	52
94		78	91	177	140	37	64	78	123	65	80	214	172	42
95		77	92	180	138	42	64	78	123	65	80	214	172	42
96		81	92	169	138	31	67	79	123	68	81	206	169	37
97		75	93	186	135	51	61	79	123	62	81	222	169	53
98		77	93	180	135	45	63	79	123	64	81	217	169	48
99		80	93	172	135	37	66	79	123	67	81	208	169	39
100		83	93	164	135	29	69	80	123	70	82	200	166	34
101		77	94	180	132	48	60	80	123	61	82	224	166	58
102		68	94	206	132	74	53	80	123	54	82	242	166	76
103		85	95	159	130	29	70	81	123	72	83	195	164	31
104		82	95	166	130	36	68	81	123	69	83	203	164	39
105		85	95	159	130	29	70	81	123	72	83	195	164	31
106		89	95	146	130	16	74	81	123	76	83	183	164	19
107		85	95	159	130	29	71	82	123	73	84	193	162	31
108		86	95	156	130	26	69	82	123	70	84	200	162	38
109		87	95	152	130	22	71	82	123	73	84	193	162	31
110		83	96	164	127	37	67	82	123	68	84	206	162	44
111		88	96	149	127	22	75	83	123	77	85	180	159	21
112		80	97	172	124	48	65	83	123	66	85	211	159	52
113		88	97	149	124	25	74	83	123	76	85	183	159	24
114		87	97	152	124	28	72	84	123	73	86	193	156	37
115		80	98	172	122	50	65	84	123	66	86	211	156	55
116		86	98	156	122	34	73	84	123	75	86	186	156	30
117		72	98	195	122	73	57	84	123	58	86	231	156	75
118		77	98	180	122	58	63	85	123	64	87	217	152	65
119		73	99	193	119	74	58	85	123	59	87	229	152	77
120		82	100	166	115	51	65	86	123	66	88	211	149	62

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Op. 6. cont.

n	mtn	bmtn	$\bar{n}$	$\overline{mtn}$	[n]	mtn	Δm	Mean
52	64	126			246	217	29	30
42	64	126			272	217	55	48
46	65	126			262	214	48	43
51	65	126			249	214	35	37
50	65	126			251	214	37	35
52	65	126			246	214	32	30
47	66	126			259	211	48	44
50	66	126			251	211	40	38
53	66	126			244	211	33	32
55	67	126			237	208	29	25
47	67	126			259	208	51	43
39	68	126	Same as above	Same as above	281	206	75	64
55	68	126			239	206	33	26
53	68	126			244	206	38	32
58	68	126			231	206	25	24
60	68	126			226	206	20	15
55	68	126			239	206	33	28
56	69	126			237	203	34	29
56	69	126			237	203	34	24
52	69	126			246	203	43	36
61	69	126			224	203	21	20
51	70	126			249	200	49	44
59	70	126			229	200	29	23
57	70	126			234	200	34	29
50	70	126			251	200	51	46
56	71	126			237	198	39	35
42	71	126			272	198	74	68
46	71	126			262	198	64	58
44	72	126			267	195	72	68
50	76	126			251	195	56	49

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No.	λ	Ap. 1 (cont.) n	m+n	[n]	[m+n]	Δm	Ap. 2. (cont.) n	m+n	[n]	[m+n]	Δm	Ap. 3. (cont.) n	m+n	[n]	[m+n]	Δm	n
121		123	123	05	05	00	118	119	46	40	06	110	112	85	78	07	95
122		117	123	51	05	46	108	119	91	40	51	94	113	132	74	58	76
123		120	123	31	05	26	115	119	64	40	24	105	113	101	74	27	89
124		122	128	14	05	9	117	119	51	40	11	108	114	91	69	22	94
125		122	123	14	05	9	118	119	46	40	06	109	114	89	69	20	94
126		121	123	22	05	17	116	120	58	31	27	105	114	101	69	32	90
127		119	128	40	05	35	112	120	78	91	47	97	115	124	64	60	80
128							116	120	58	91	27	108	115	91	64	27	93
129							117	120	51	31	20	108	115	91	64	27	94
130							116	120	58	31	27	108	115	91	64	27	94
131							116	120	58	31	27	107	115	95	64	31	91
132							118	120	46	31	15	108	115	91	64	27	94
133							117	120	51	31	20	109	116	89	58	31	94
134							118	120	46	31	15	111	116	82	58	24	97
135							118	120	46	31	15	112	116	78	58	20	97
136												110	116	85	58	27	95
137												110	116	85	58	27	96
138												113	116	74	58	16	100
139												112	116	78	58	20	99
140												109	117	89	51	38	96
141												110	117	85	51	34	95
142												112	117	78	51	27	98
143												113	118	74	46	28	98
144												114	118	69	46	23	100
145												114	118	69	46	23	101
146												115	118	64	46	18	103
147												116	119	58	40	18	104
148												115	119	64	40	24	101
149												115	118	64	46	18	103
150							118	120 (2)	46	14	32	113	118	74	46	28	98

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Ap. H. (cont.)

m	n	m+n	[n]	[m+n]	Δw
7	95	100	130	115	15
8	76	100	183	115	68
7	89	100	146	115	31
2	94	101	132	113	19
0	94	101	132	113	19
2	90	101	143	113	30
0	80	102	172	110	62
7	93	102	135	110	25
7	94	102	132	110	22
7	94	103	132	107	25
1	91	103	140	107	33
7	94	103	132	107	25
1	94	103	132	107	25
4	97	103	124	107	17
0	97	104	124	104	20
7	95	104	130	104	26
7	96	104	127	104	23
6	100	104	115	104	11
9	99	105	119	101	18
8	96	105	127	101	26
4	95	105	130	101	29
7	98	105	122	101	21
7	98	105	122	101	21
3	100	105	115	97	18
3	101	106	113	97	15
8	103	106	107	97	10
8	104	106	104	97	07
4	101	106	113	97	16
8	103	106	107	97	10
7	98	106	122	97	25

Ap. 5. (cont.)

n	m+n	l+m+n	n̄	m+n̄	[n]	[m+n]	Δw
81	86	123	83	88	164	149	15
60	86	123	61	88	224	149	75
73	87	123	75	89	186	146	40
80	87	128	82	89	166	146	20
80	88	129	82	90	166	143	23
74	88	123	76	90	183	143	40
64	88	123	66	90	211	143	68
78	89	128	80	91	172	140	32
78 79	89 90	123	80	91	172	140	32
~~76~~	~~89~~	128	81	92	169	138	31
76	90	123	78	92	177	138	39
79	90	123	81	92	169	138	31
78	90	123	79	92	174	138	36
88	91	123	85	93	159	135	24
82	91	123	84	93	162	135	27
80	91	123	82	93	166	135	31
80	91	123	82	93	166	135	31
87	92	123	89	94	146	132	14
86	92	123	88	94	149	132	17
81	92	123	83	94	164	132	32
80	92	123	82	94	166	132	34
84	92	123	86	94	156	132	24
81	93	123	83	95	164	130	34
85	93	123	87	95	152	130	22
85	94	123	87	96	152	127	35
88	94	123	90	96	143	127	16
91	94	123	93	96	135	127	08
88	94	123	90	96	143	127	16
88	94	123	90	96	143	127	16
83	94	123	85	96	159	127	32

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Ap. 6. (cont.)

No.	λ	n	m+n	l+m+n	n̄	m+n	[n]	[m+n]	Δm	Mean	No
121		65	73	126			214	193	21	11	151
122		45	73	126			265	193	72	62	152
123		58	73	126			231	193	38	31	153
124		65	74	126			214	189	25	18	154
125		65	74	126			214	189	25	17	155
126		60	74	126			226	189	37	30	156
127		49	75	126			254	186	68	57	157
128		63	75	126			219	186	33	29	158
129		64	75	126			217	186	31	26	159
130		63	76	126			219	186	33	28	160
131		61	76	126			224	183	41	34	161
132		64	76	126			217	183	34	26	162
133		62	76	126			222	183	39	30	163
134		67	77	126			208	180	28	22	164
135		68	77	126			206	180	26	22	165
136		65	77	126			214	180	34	30	166
137		65	77	126			214	180	34	29	167
138		73	78	126			193	177	16	14	168
139		71	78	126			198	177	21	19	169
140		64	78	126			217	177	40	34	170
141		65	78	127			214	177	37	33	171
142		68	79	127			206	174	32	26	172
143		68	79	127			206	174	32	29	173
144		70	79	127			200	174	26	22	174
145		71	80	127			198	172	26	25	175
146		74	80	127			189	172	17	15	176
147		77	80	127			180	172	08	10	177
148		75	80	127			186	172	14	17	178
149		76	80	127			183	172	11	14	179
150		70	80	127			200	172	28	29	180

Before 8 | After 8

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No	Ap. 1. (cont.) n	m+n	[n]	[m+n]	Δm	Ap. 2. (cont.) n	m+n	[n]	[m+n]	Δ	Ap. 3. (cont.) n	m+n	[n]	[m+n]	Δm
151											114	118	69	46	23
152											115	118	64	46	18
153											115	118	64	46	18
154											114	118	69	46	23
155											114	118	69	46	23
156											115	118	64	46	18
157											115	118	64	46	18
158											114	116	69	46	23
159											115	118	64	46	18
160											115	118	64	46	18
161											116	118	58	46	12
162											116	118	58	46	12
163											116	118	58	46	12
164											116	118	58	46	12
165											116	118	58	46	12
166											115	118	64	46	18
167											112	118	78	46	32
168											114	118	69	46	23
169	117	126	51	-		117	126			-	110	116	85	58	27
170											114	118	69	46	23
171											114	116	69	58	11
172											112	116	78	58	20
173											111	115	82	64	18
174											111	115	82	64	18
175											114	115	69	64	05
176											110	114	85	69	16
177											111	114	82	69	13
178											109	114	89	69	20
179											107	113	95	74	21
180											110	112	85	78	17

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Ap. 4. (cont.)

No.	T	n	n+m	[n]	[m+n]	Δm
151		99	106	119	97	22
152		104	106	104	97	07
153		102	106	110	97	13
154		100	106	115	97	18
155		98	106	122	97	25
156		99	106	119	97	22
157		103	106	107	97	10
158		100	106	115	97	18
159		101	106	113	97	16
160		102	106	110	97	13
161		101	106	113	97	16
162		103	106	107	97	10
163		104	106	104	97	07
164		104	106	104	97	07
165		104	106	104	97	07
166		102	106	110	97	13
167		99	105	119	101	18
168		99	105	119	101	18
169		85	104	130	104	26
170		100	103	115	107	08
171		100	103	115	107	08
172		96	102	127	110	17
173		97	102	124	110	14
174		98	101	122	113	09
175		101	101	113	113	00
176		95	101	130	113	17
177		97	100	124	115	09
178		95	100	130	115	15
179		92	98	138	122	16
180		95	98	130	122	08

Ap. 5. (Cont.)

n	m+n	l+m+n	n̄	n̄+m̄+n̄	[n]	[m+n]	Δm
86	94	123	88	96	149	127	22
89	94	123	91	96	140	127	13
88	94	123	90	96	143	127	16
86	94	123	88	96	149	127	22
88	94	123	90	96	143	127	16
87	94	123	89	96	146	127	19
89	94	123	91	96	140	127	13
88	94	123	90	96	143	127	16
89	94	123	91	96	140	127	13
88	94	123	90	96	143	127	16
90	94	123	92	96	138	127	11
91	94	123	93	96	135	127	08
90	93	123	92	95	138	130	08
91	93	123	93	95	135	130	05
89	93	123	91	95	140	130	10
88	92	123	90	94	143	132	11
84	91	123	86	93	156	135	21
85	91	123	87	93	152	135	17
86	91	123	88	93	149	135	14
84	90	123	86	92	156	138	18
85	90	123	87	92	152	138	14
82	89	123	84	91	162	140	22
82	88	123	84	90	162	143	19
84	88	123	86	90	156	143	13
86	87	123	88	89	149	146	03
79	86	123	81	88	169	149	20
82	86	123	84	88	162	149	13
80	84	123	82	86	166	156	10
75	83	123	77	85	180	159	21
78	82	123	80	84	172	162	10

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Cp. 6. (cont.)

n	m+n	l+m+n	$\bar{n}$	$\overline{m+n}$	$[n]$	$[m+n]$	Δm	Mean
70	80	127	69	79	203	174	29	24
74	80	127	73	79	193	174	19	14
74	80	127	73	79	193	174	19	16
71	80	127	70	79	200	174	26	22
72	80	127	71	79	198	174	24	22
72	80	127	71	79	198	174	24	21
75	80	127	74	79	189	174	15	14
72	80	127	71	79	198	174	24	20
73	80	127	72	79	195	174	21	17
74	81	127	73	80	193	172	21	17
75	80	127	74	79	189	174	15	14
77	80	127	76	79	183	174	09	10
76	80	127	75	79	186	174	12	10
77	80	127	76	79	183	174	09	8
76	80	127	75	79	186	174	12	10
73	79	127	72	78	195	177	18	15
69	79	127	68	78	206	177	29	25
72	78	127	71	77	198	180	18	19
65	78	127	65	77	214	180	34	25
70	77	127	69	76	203	183	20	17
72	76	127	71	75	198	186	12	11
78	75	127	73	74	193	189	04	16
69	75	127	68	74	206	189	17	17
69	75	127	68	74	206	189	17	14
73	74	127	72	73	195	193	02	02
66	74	127	66	73	211	193	18	18
69	73	127	68	72	206	195	11	12
66	71	127	66	70	211	200	11	14
63	70	127	63	69	219	203	16	18
67	69							
~~72~~	~~74~~	127	67	68	208	206	02	07

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λ	Ap. 1. (cont.) n	m+n	[n]	[m+n]	Δm	Ap. 2. (cont.) n	m+n	[n]	[m+n]	Δm	Ap. 3. (cont.) n	m+n	[n]	[m+n]	Δm	n
181											110	111	85	82	03	95
182											107	111	95	82	13	93
183											106	110	97	85	12	91
184											105	109	101	89	12	91
185											105	107	101	95	06	90
186											104	106	104	97	07	91
187											102	105	110	101	09	88
188											101	102	113	110	03	86
189											100	102	115	110	05	85
190											93	102	135	110	25	83
191	111	118	82	46	36	99	111	119	82	37	82	100	166	115	51	65
192	114	117	69	51	18	105	110	101	85	16	91	97	140	124	16	74
193	113	116	74	58	16	103	108	107	91	16	89	95	146	130	16	62
194	113	116	74	58	16	102	107	110	95	15	89	95	146	130	16	62
195	111	114	82	69	13	100	105	115	101	14	85	90	159	143	16	68
196	107	113	95	74	21	94	103	132	107	25	78	88	177	149	28	62
197	108	111	91	82	09	96	102	127	110	17	80	86	172	156	16	68
198	106	110	97	85	12	94	99	132	119	13	75	83	186	164	22	61
199	106	107	97	95	02	95	97	130	124	06	80	82	172	166	06	61
200	104	106	104	97	07	88	94	149	132	17	62	79	222	174	48	58
201	101	104	113	104	09						69	75	208	186	17	57
202	101	103	113	107	06						70	74	200	189	11	56
203	94	101	132	113	19						61	71	224	198	26	48
204	97	98	124	122	02						62	70	222	200	22	48
205	94	96	132	127	05						63	65	219	214	05	41
206											55	61	239	224	15	
207											53	58	244	231	13	
208											51	56	249	237	12	
209											50	54	251	242	09	
210											49	52	254	246	08	

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Ap. 4. (cont.)					Ap. 5. (cont.)							
n	m+n	[n]	[m+n]	Am.	n	m+n	l+m+n	$\bar{n}$	$\overline{m+n}$	[n]	[m+n]	Am
95	97	130	124	06								
93	97	135	124	11								
91	96	140	127	13								
91	95	140	130	10								
90	94	143	132	11	74	79	123	76	81	183	169	14
91	93	140	135	05								
88	92	149	138	11								
86	91	156	140	16	67	73	123	68	75	206	186	20
85	89	159	146	13								
83	88	164	149	13	61	70	123	62	72	222	195	27
65	86	214	156	58	51	69	123	52	70	246	208	46
74	84	189	162	27	59	68	123	60	69	226	203	23
62	81	222	169	53	59	65	123	60	66	226	211	15
62	80	222	172	50	57	64	123	58	65	231	214	17
68	76	206	183	23	54	59	123	55	60	239	226	13
62	74	222	189	33	47	56	123	48	57	256	234	22
68	71	206	198	08	50	55	123	51	56	249	237	12
61	69	224	203	21	46	52	123	47	53	259	244	15
61	64	224	217	07	48	50	123	49	51	254	249	05
58	63	231	219	12	40	47	123	41	48	275	256	19
57	60	234	226	08								
56	59	237	229	08								
48	55	256	239	17								
48	52	256	246	10	33	41	123	34	42	296	270	24
41	47	275	259	16								

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Clp. 6. (cont.)

No	↑	n	mtn	btmtn	$\bar{n}$	$\overline{mtn}$	[n]	[mtn]	Amp	Mean	No
181		68	69	127	67	68	208	206	02	04	211
182		63	68	127	63	67	219	208	11	12	212
183		62	67	127	62	66	222	211	11	12	213
184		62	66	127	62	66	222	211	11	11	214
185		60	65	127	60	65	226	214	12	11	215
186		57	63	127	57	63	234	219	15	09	216
187		57	60	127	57	60	234	226	08	09	217
188		55	59	127	55	59	239	229	10	12	218
189		55	58	127	55	58	239	231	08	09	219
190		46	56	127	46	56	262	237	25	22	220
191		37	55	127	37	55	286	239	47	46	221
192		43	53	127	43	53	270	244	26	21	222
193		44	50	127	44	50	267	251	16	22	223
194		42	49	127	42	49	272	254	18	22	224
195		40	45	127	40	45	278	265	13	18	225
196		34	43	127	34	43	296	270	26	26	226
197		35	41	127	35	41	292	275	17	13	227
198		32	38	127	32	38	301	283	18	16	228
199		34	35	127	34	35	296	292	04	05	229
200		29	34	127	29	34	312	296	16	20	230
201										12	231
202										08	232
203		20	28	127	20	28	352	315	37	21	233
204										14	234
205										09	235
206										15	236
207										13	237
208										12	238
209										09	239
210										08	240

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No	λ	ν	Ap. 1. (cont.) n+m, [n] [m+n] Δm	Ap. 2. (cont.) n, n+m [n] [m+n] Δm	Ap. 3. (cont.) n	m+n	[n]	[m+n]	Δν
211					45	51	265	249	16
212					45	49	265	254	11
213					45	48	265	256	09
214					40	45	278	265	13
215					36	40	289	278	11
216					35	39	292	281	11
217					31	35	304	292	12
218					29	32	312	301	11
219					29	31	312	304	08
220					26	28	323	315	08
221									
222									
223									
224									
225									
226									
227									
228									
229									
230									
231									
232									
233									
234									
235									
236									
237									
238									
239									
240									

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Ap. 4. (cont.) Ap. 5. (cont.)

No.	T	n	m+n	[n][m+n]	Δm.	n	m+n	$\bar{m}+\bar{n}$	$\bar{n}$	$\overline{m+n}$	[n][m+n]	Δm
211												
212												
213												
214												
215												
216												
217												
218												
219												
220												
221												
222												
223												
224												
225												
226												
227												
228												
229												
230												
231												
232												
233												
234												
235												
236												
237												
238												
239												
240												

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Ap. 6. (cont.)

n	$m+n$	$1+m+n$	$\bar{n}$	$m+\bar{n}$	$[n]$	$[m+n]$	Δm	Means
								16
								11
								09
								13
								11

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92

α Canis Minoris. C-18589

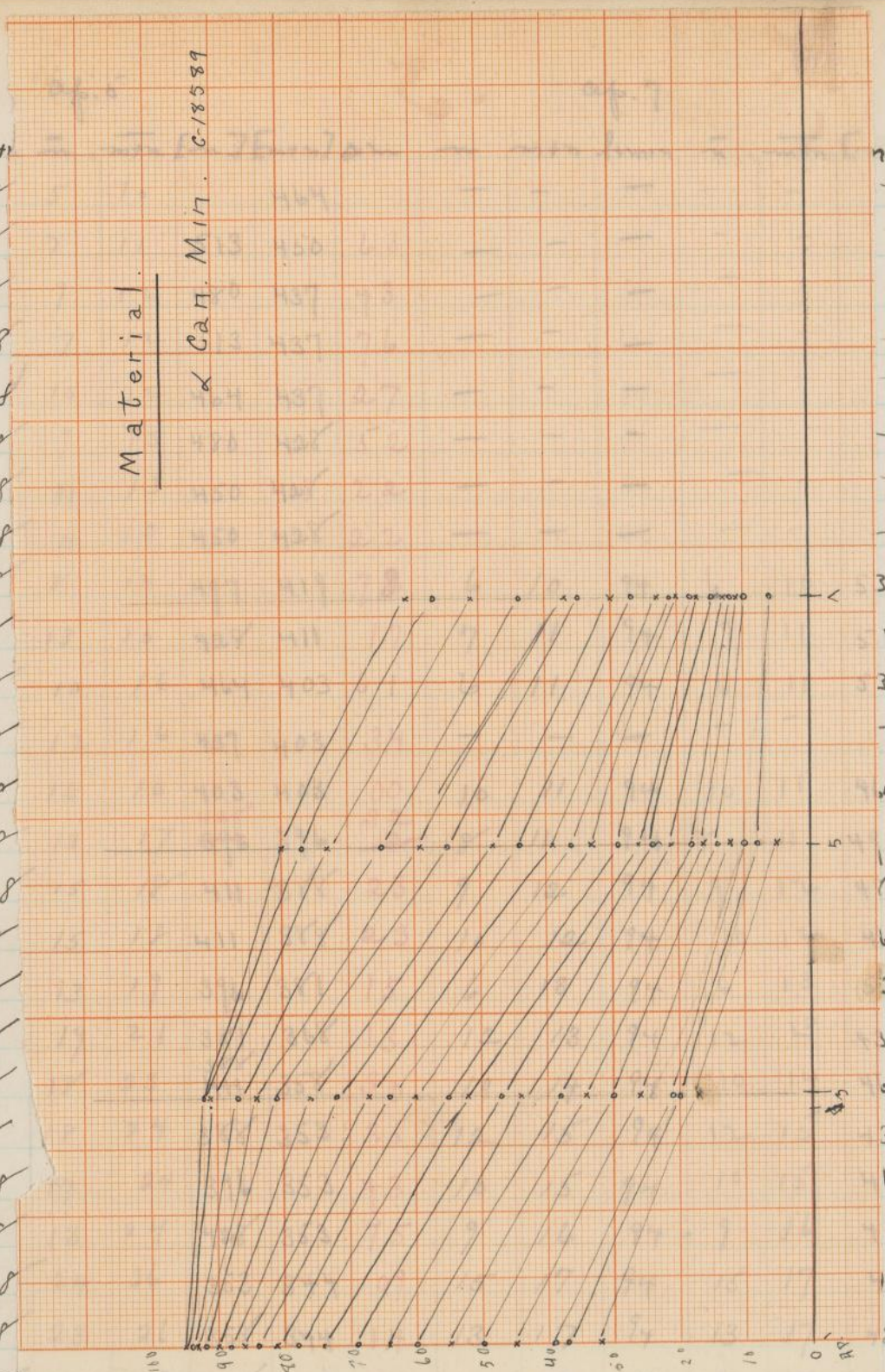
$\bar{n} = n \frac{96}{t+m+n}$

No.	Mean	n	m+n	t+m+n	$\bar{n}$	m+n	[n]	[m+n]	Δm	n	m+n	t+m+n	$\bar{n}$	m+n	[n]	[m+n]	Δ
		Ap. 1								Ap 3							
										m+n less than 90							
1	26	32	39	96			320	295	25	17	21	97	17	21	396	368	2
2	39	32	39	96			320	295	25	17	21	97	17	21	396	368	2
3	34	—	—	—			—	—	—	18	22	97	18	27	388	363	5
4	40	35	41	96			310	289	21	19	23	97	19	23	381	358	2
5	18	—	—	—			—	—	—	23	25	97	23	25	358	348	1
6	41	37	45	96			302	276	26	18	26	97	18	26	388	344	4
7	12	45	47	96			276	270	06	25	27	97	25	27	348	340	
8	14	45	48	96			276	267	09	25	28	97	25	28	348	336	1
9	58	37	60	96			302	260	42	20	30	97	20	30	372	328	2
10	33	—	—	—			—	—	—	28	33	97	28	33	336	317	
11	59	41	55	96			289	246	43	22	34	97	22	34	363	313	
12	28	—	—	—			—	—	—	24	35	97	24	35	353	310	2
13	09	56	57	96			243	240	03	30	35	97	30	35	328	310	1
14	26	53	59	96			252	233	19	30	37	97	30	37	328	302	
15	24	55	60	96			246	230	16	34	38	97	34	38	313	298	
16	21	56	61	96			243	227	16	34	40	97	34	40	313	292	
17	25	48	63	96			267	221	46	37	41	97	37	41	302	289	
18	14	57	64	96			240	218	22	40	44	97	40	44	292	279	1
19	38	63	68	96			221	206	15	40	47	97	40	47	292	270	2
20	26	62	69	96			224	203	21	40	47	97	40	47	292	270	
21	45	—	—	—			—	—	—	36	48	97	36	48	306	267	
22	68	52	71	96			254	197	57	30	50	97	30	49	328	264	
23	12	—	—	—			—	—	—	47	52	97	47	51	270	257	
24	18	70	74	96			200	187	13	48	53	97	48	52	267	254	
25	28	70	76	96			200	181	19	47	55	97	47	54	270	249	
26	26	72	78	96			194	174	20	49	54	97	48	55	267	246	2
27	33	—	—	—			—	—	—	49	58	97	48	57	267	240	
28	36	70	80	96			200	166	34	48	59	97	48	58	267	237	
29	77	60	81	96			230	162	68	36	61	97	36	60	306	230	
30	22	79	84	96			170	150	20	60	65	97	59	64	233	218	

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Material.
α Cam. Min. C-18589



Δm	m	mt	mt												Δm
28	5	10	98										—	—	—
28	7	11	98										—	—	—
25	9	12	98										—	—	—
23	7	12	98										—	—	—
10	10	12	98										—	—	—
44	9	13	98										—	—	—
08	11	13	98										—	—	—
12	11	13	98										—	—	—
44	8	14	98										32	464	68
79	13	15	98										13	450	63
50	10	16	98										32	450	82
23	12	16	98										—	—	—
18	16	16	98										4	450	14
26	13	17	98										7	450	27
15	15	18	98										0	437	43
21	15	18	98										64	437	27
13	13	19	98										32	428	104
13	19	21	98										7	428	09
22	18	23	98										04	419	45
22	18	24	98										37	411	26
39	17	24	98										64	411	53
64	13	25	98										80	403	77
13	24	27	98										11	396	15
13	23	27	98										28	396	32
21	21	29	98										37	396	41
21	24	30	98										28	388	40
27	25	31	98										28	381	47
30	23	32	98										19	372	47
76	16	34	98	16	33	403	317	86	9	20	94	9	20	480	372	108
15	32	37	98	31	36	324	306	18	16	21	94	16	21	403	368	35

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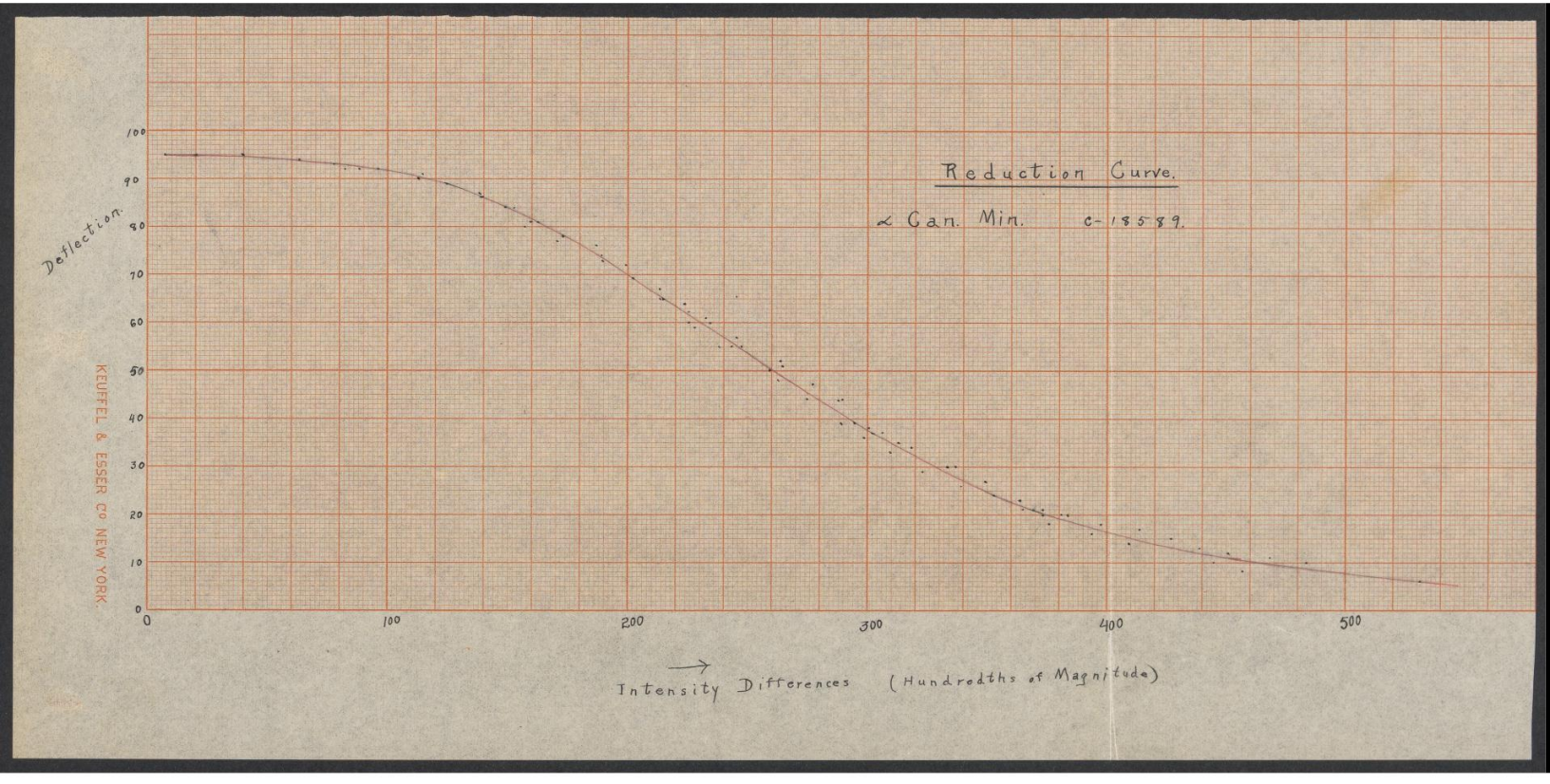
	cap. 5								cap. 7							
Δm	m	mtn	ltmtn	ĩ	mtn	[m]	[mtn]	Δm	m	mtn	ltmtn	ĩ	mtn	[m]	[mtn]	Δm
28	5	10	98	5	10		464		—	—	—	—	—	—	—	—
28	7	11	98	7	11	513	450	63	—	—	—	—	—	—	—	—
25	9	12	98	9	12	480	437	43	—	—	—	—	—	—	—	—
23	7	12	98	7	12	513	437	76	—	—	—	—	—	—	—	—
10	10	12	98	10	12	464	437	27	—	—	—	—	—	—	—	—
44	9	13	98	9	13	480	428	52	—	—	—	—	—	—	—	—
08	11	13	98	11	13	450	428	22	—	—	—	—	—	—	—	—
12	11	13	98	11	13	450	428	22	—	—	—	—	—	—	—	—
44	8	14	98	8	14	497	419	78	6	10	94	6	10	532	464	68
19	13	15	98	13	15	428	411	17	7	11	94	7	11	513	450	63
50	10	16	98	10	16	464	403	61	6	11	94	6	11	532	450	82
23	12	16	98	12	16	437	403	34	—	—	—	—	—	—	—	—
18	16	16	98	16	16	403	403	00	10	11	94	10	11	464	450	14
26	13	17	98	13	17	~~396~~ 428	396	~~43~~ 32	8	11	94	8	11	497	450	27
15	15	18	98	15	18	411	388	23	9	12	94	9	12	480	437	43
21	15	18	98	15	18	411	388	23	10	12	94	10	12	464	437	27
13	13	19	98	13	19	396	381	15	6	13	94	6	13	532	428	104
13	19	21	98	19	21	381	368	13	12	13	94	12	13	437	428	09
22	18	23	98	18	23	~~411~~ 388	358	30	10	14	94	10	14	464	419	45
22	18	24	98	18	24	388	353	35	12	15	94	12	15	437	411	26
39	17	24	98	17	24	396	353	43	10	15	94	10	15	464	411	53
64	13	25	98	13	24	428	353	75	9	16	94	9	16	480	403	77
13	24	27	98	24	26	353	344	09	15	17	94	15	17	411	396	15
13	23	27	98	23	26	358	344	14	13	17	94	13	17	428	396	32
21	21	29	98	21	28	368	336	32	12	17	94	12	17	437	396	41
21	24	30	98	24	29	353	332	21	13	18	94	13	18	428	388	40
27	25	31	98	24	30	358	328	25	13	19	94	13	19	428	381	47
30	23	32	98	23	31	358	324	34	14	20	94	14	20	419	372	47
76	16	34	98	16	33	403	317	86	9	20	94	9	20	480	372	108
15	32	37	98	31	36	324	306	18	16	21	94	16	21	403	368	35

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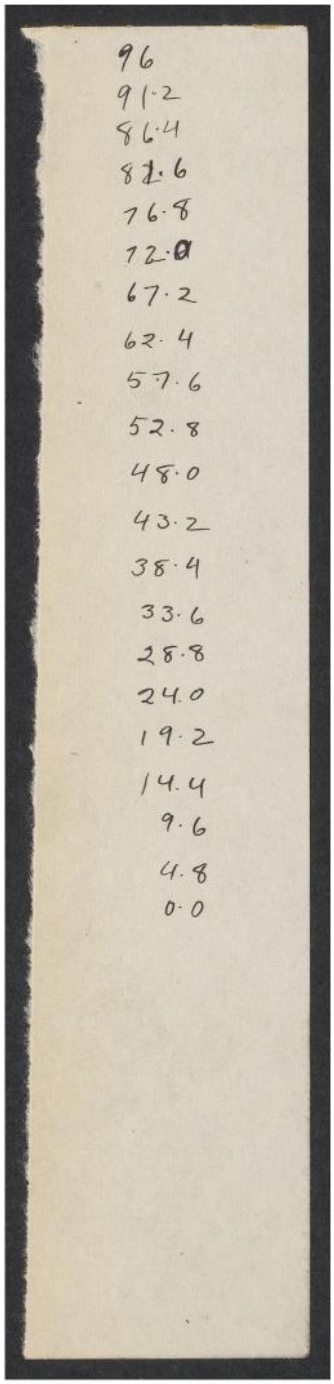
No.	mean	ap. 1. n	mtn	btmtn	$\bar{n}$	$\overline{mtn}$	Σn	Σmtn	Δm	ap. 3 n	mtn	btmtn	$\bar{n}$	$\overline{mtn}$	[n]	[mtn]
31	12	83	85	96	154	145			09	63	66	97	62	65	224	215
32	13	83	86	96	154	140			14	65	68	97	64	67	218	209
33	24	83	87	96	154	135			19	63	70	97	62	69	224	203
34	82	86	87	96	140	135			05	69	70	97	68	69	206	203
35	08	86	87	96	140	135			05	70	70	97	69	69	203	203
36	21	85	88	96	145	130			15	67	73	97	66	72	212	194
37	20	85	89	96	145	124			21	68	75	97	67	74	209	187
38	29	84	89	96	150	124			26	67	76	97	66	75	212	184
39	72	76	90	96	181	116			65	54	77	97	53	76	252	181
40	34	84	90	96	150	116			34	67	78	97	66	77	212	177
41	20	85	90	96	145	116			29	74	79	97	73	78	191	174
42	18	—	—	—	—	—			—	75	80	97	74	79	187	170
43	29	83	91	96	154	108			46	74	80	97	73	79	191	170
44	12	90	92	96	116	95			21	79	81	97	78	80	174	166
45	13	90	92	96	116	95			21	79	82	97	78	81	174	162
46	16	90	92	96	116	95			21	78	82	97	77	81	177	162
47	31	86	93	96	140	80			60	77	83	97	76	82	181	158
48	152	61	93	96	227	80			147	37	85	97	37	84	302	150
49	28	90	93	96	116	80			36	80	86	97	79	85	170	145
50	23	91	93	96	108	80			28	82	86	97	81	85	162	145
51	22	91	93	96	108	80			28	82	87	97	81	86	162	140
52	26	92	94	96	95	56			39	82	87	97	81	86	162	140
53	48	89	94	96	124	56			68	78	88	97	77	87	177	135
54	154	69	94	96	203	56			147	44	88	97	44	87	279	135
55	14	93	94	96	80	56			24	86	89	97	85	88	145	130
56	21	93	94	96	80	56			24	86	90	97	85	89	145	124
57	23	94	95	96	56	15			41	87	90	97	86	89	140	124
58	23	94	95	96	56	15			41	87	90	97	86	89	140	124
59	08	—	—	—	—	—			—	90	91	97	89	90	124	116
60	25	94	95	96	56	15			41	88	91	97	87	90	135	116

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Δm	n	m+n	b+m+n	ā	m+n	[n]	[m+n]	Δm	n	m+n	b+m+n	ā	m+n	[n]	[m+n]	Δm
	ap. 5								ap. 7							
09	34	39	98	32	38	320	298	22	20	22	94	20	22	372	363	09
09	35	40	98	34	39	313	295	18	21	23	94	21	23	368	358	10
21	35	41	98	34	40	313	292	21	19	24	94	19	25	381	348	33
03	42	42	98	41	41	289	289	00	25	25	94	26	26	344	344	00
00	41	43	98	40	42	292	286	06	22	25	94	22	26	363	344	19
18	38	45	98	37	44	302	279	23	21	26	94	21	27	368	340	28
12	38	46	98	37	45	302	276	26	22	27	94	22	28	363	336	27
28	40	48	98	39	47	295	270	25	21	28	94	21	29	368	332	36
71	29	49	98	28	48	836	267	69	15	29	94	15	30	411	328	83
35	40	50	98	39	49	295	264	31	23	30	94	23	31	358	324	34
17	46	51	98	45	50	276	260	16	26	31	94	27	32	340	320	20
17	48	52	98	47	51	270	257	13	27	32	94	28	33	336	317	19
21	46	53	98	45	52	276	254	22	25	32	94	26	33	344	317	27
08	52	55	98	51	54	257	249	08	31	34	94	32	35	320	310	10
12	52	56	98	51	55	257	246	11	31	34	94	32	35	320	310	10
15	51	56	98	50	55	260	246	14	30	34	94	31	35	324	310	14
23	50	58	98	49	57	264	240	24	30	35	94	31	36	324	306	18
152	19	60	98	19	59	381	233	148	10	36	94	10	37	464	302	162
25	54	62	98	53	61	252	227	25	31	39	94	32	40	320	292	28
17	56	62	98	55	61	246	227	19	32	40	94	33	41	317	289	28
22	58	63	98	57	62	240	224	16	34	40	94	35	41	310	289	21
22	58	64	98	55	63	246	221	25	35	41	94	36	42	306	286	20
42	50	65	98	49	64	264	218	46	32	42	94	33	43	317	283	34
144	23	66	98	23	65	358	215	143	14	43	94	14	44	419	279	140
15	62	69	98	61	68	209	206	03	—	—	—	—	—	—	—	—
21	64	70	98	63	69	221	203	18	—	—	—	—	—	—	—	—
16	66	70	98	65	69	215	203	12	—	—	—	—	—	—	—	—
16	65	71	98	64	70	218	200	18	42	47	94	43	48	283	267	16
08	69	72	98	68	71	206	197	09	46	48	94	47	49	270	264	06
19	66	72	98	65	71	215	197	18	41	48	94	42	49	286	264	22

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		ap. 1.								ap. 3.							
no.	mean	n	mtn	ltmtn	n	mtn	En	Emtn	Δm	n	mtn	ltmtn	n	mtn	En	Emtn	Δ
61	06	—	—	—	—		—	—	—	90	91	97	89	90	124	116	0
62	06	—	—	—			—	—	—	90	91	97	89	90	124	116	0
63	18	94	95	96			56	15	41	90	92	97	89	91	124	108	1
64	24	94	95	96			56	15	41	89	92	97	88	91	130	108	2
65	21	94	95	96			56	15	41	89	92	97	88	91	130	108	2
66	06	95	95	96			15	15	80	91	92	97	90	91	116	108	0
67	26	94	95	96			56	15	41	89	92	97	88	91	130	108	2
68	18	94	95	96			56	15	41	91	92	97	90	91	116	108	0
69	23	94	95	96			56	15	41	90	92	97	89	91	124	108	1
70	25	94	95	96			56	15	41	90	92	97	89	91	124	108	1
71	20	94	95	96			56	15	41	91	92	97	90	91	116	108	0
72	21	94	95	96			56	15	41	91	92	97	90	91	116	108	0
73	36	93	95	96			80	15	65	89	92	97	88	91	130	108	2
74	20	94	95	96			56	15	41	90	92	97	89	91	124	108	1
75	18	—	—	—			—	—	—	91	93	97	90	92	116	95	2
76	33	—	—	—			—	—	—	89	93	97	88	92	130	95	3
77	78	91	95	96			108	15	93	80	93	97	79	92	170	95	7
78	26	—	—	—			—	—	—	89	93	97	88	92	130	95	3
79	16	—	—	—			—	—	—	91	93	97	90	92	116	95	2
80	17	—	—	—			—	—	—	91	93	97	90	92	116	95	2
81	17	—	—	—			—	—	—	91	93	97	90	92	116	95	2
82	14	—	—	—			—	—	—	91	93	97	90	92	116	95	2
83	24	94	95	96			56	15	41	91	93	97	90	92	116	95	2
84	07	—	—	—			—	—	—	92	93	97	91	92	108	95	1
85	23	94	95	96			56	15	41	91	93	97	90	92	116	95	2
86	11	—	—	—			—	—	—	92	93	97	91	92	108	95	1
87	18	—	—	—			—	—	—	91	93	97	90	92	116	95	2
88	15	—	—	—			—	—	—	91	93	97	90	92	116	95	2
89	29	94	95	96			56	15	41	90	93	97	89	92	124	95	2
90	20	—	—	—			—	—	—	91	93	97	90	92	116	95	2

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Reduction Table. α Canis Minoris.

C-18589

Δm	Def.	Mag.	D.	M.	D.	M.	D.	M.	D.	M.	Δm
08	100		80	166	60	230	40	292	20	352	07
08	99		79	170	59	233	39	295	19	351	07
16	98		78	174	58	237	38	298	18	358	19
20	97		77	177	57	240	37	302	17	396	10
22	96		76	181	56	243	36	306	16	403	08
08	95	15	75	184	55	246	35	310	15	411	21
16	94	56	74	187	54	249	34	313	14	419	15
16	93	80	73	191	53	252	33	317	13	428	18
08	92	95	72	194	52	254	32	320	12	437	30
08	91	104	71	197	51	257	31	324	11	450	21
22	90	116	70	200	50	260	30	328	10	464	24
16	89	124	69	203	49	264	29	332	9	480	37
21	88	130	68	206	48	267	28	336	8	497	11
35	87	135	67	209	47	270	27	340	7	513	18
75	86	140	66	213	46	273	26	344	6	532	—
35	85	145	65	216	45	276	25	348	5		89
21	84	150	64	219	44	279	24	353	4		—
21	83	154	63	221	43	283	23	358	3		—
21	82	158	62	224	42	286	22	363	2		—
21	81	162	61	227	41	289	21	368	1		—
21											14
13											20
21											03
13											17
21											14
21											20
21											12
29	72	80	98	71	78	197	174	23	48	56	94	49	57	264	240	24
21	74	80	98	72	78	194	174	20	—	—	—	—	—	—	—	—

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ap. 5

Δm	n	m+n	1+m+n	n̄	m+n̄	[n]	[m+n]	Δm
08	71	74	98	70	72	200	194	04
08	71	74	98	70	72	200	194	04
16	71	75	98	70	73	200	191	09
20	69	75	98	68	73	206	191	15
22	70	75	98	69	73	203	191	12
08	74	76	98	72	74	194	187	07
22	69	76	98	68	74	206	187	19
08	73	76	98	72	74	194	187	07
16	71	77	98	70	75	200	184	16
16	72	77	98	71	75	197	184	13
08	78	77	98	72	75	194	184	10
08	78	77	98	72	75	194	184	10
22	70	78	98	69	76	203	181	22
16	74	78	98	72	76	194	181	13
21	72	78	98	71	76	197	181	16
35	67	78	98	66	76	212	181	31
75	54	78	98	53	76	252	181	71
35	72	78	98	71	76	197	181	16
21	75	78	98	73	76	191	181	10
21	74	78	98	72	76	194	181	13
21	74	78	98	72	76	194	181	13
21	74	79	98	72	77	194	177	17
21	75	79	98	73	77	191	177	14
13	78	79	98	76	77	181	177	04
21	75	79	98	73	77	191	177	14
13	77	79	98	75	77	184	177	07
21	75	79	98	73	77	191	177	14
21	76	80	98	74	78	187	174	13
29	72	80	98	71	78	197	174	23
21	74	80	98	72	78	194	174	20

ap. 7

Δm	n	m+n	1+m+n	n̄	m+n̄	[n]	[m+n]	Δm
04	47	49	94	48	50	267	260	07
04	47	49	94	48	50	267	260	07
09	48	50	94	49	51	264	257	07
15	45	51	94	46	52	273	254	19
12	48	51	94	49	52	264	254	10
07	49	52	94	50	53	260	252	08
19	45	52	94	46	53	278	252	21
07	48	53	94	49	54	264	249	15
16	47	53	94	48	54	267	249	18
13	43	53	94	44	54	279	249	30
10	46	53	94	47	54	270	249	21
10	46	54	94	47	55	270	246	24
22	42	54	94	43	55	283	246	37
13	50	54	94	51	55	257	246	11
16	48	54	94	49	55	264	246	18
31	—	—	—	—	—	—	—	—
71	28	55	94	29	56	332	243	89
16	—	—	—	—	—	—	—	—
10	—	—	—	—	—	—	—	—
13	—	—	—	—	—	—	—	—
13	—	—	—	—	—	—	—	—
17	50	55	94	51	56	257	243	14
14	49	56	94	50	57	260	240	20
04	55	56	94	56	57	243	240	03
14	50	56	94	51	57	257	240	17
07	51	56	94	52	57	254	240	14
14	49	56	94	50	57	260	240	20
13	52	56	94	53	57	252	240	12
23	48	56	94	49	57	264	240	24
20	—	—	—	—	—	—	—	—

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No.	Mean	n	m+n	b+m+n	$\bar{n}$	$\overline{m+n}$	[n]	[m+n]	Δm	n	m+n	b+m+n	$\bar{n}$	$\overline{m+n}$	[n]	[m+n]	Δm
		ap. 1.								2			ap. 3.				
91	19	—	—	—			—	—	—	91	93	97	90	92	116	95	21
92	16	—	—	—			—	—	—	92	93	97	91	92	108	95	13
93	20	—	—	—			—	—	—	91	93	97	90	92	116	95	21
94	14	—	—	—			—	—	—	92	93	97	91	92	108	95	13
95	14	95	95	96			15	15	00	92	93	97	91	92	108	95	13
96	13	—	—	—			—	—	—	92	93	97	91	92	108	95	13
97	20	95	95	96			15	15	00	90	98	97	89	92	124	95	29
98	18	—	—	—			—	—	—	92	93	97	91	92	108	95	13
99	16	—	—	—			—	—	—	92	93	97	91	92	108	95	13
100	13	—	—	—			—	—	—	92	93	97	91	92	108	95	13
101	11	95	95	96			15	15	00	92	93	97	91	92	108	95	13
102	12	95	95	96			15	15	00	92	93	97	91	92	108	95	13
103	07	—	—	—			—	—	—	93	93	97	92	92	95	95	00
104	24	94	95	96			56	15	#1	92	93	97	91	92	108	95	13
105	18	95	95	96			15	15	00	91	93	97	90	92	116	95	21
106	22	—	—	—			—	—	—	91	93	97	90	92	116	95	21
107	16	—	—	—			—	—	—	92	93	97	91	92	108	95	13
108	14	—	—	—			—	—	—	92	93	97	91	92	108	95	13
109	19	—	—	—			—	—	—	92	93	97	91	92	108	95	13
110	22	—	—	—			—	—	—	91	93	97	90	92	116	95	21
111	68	93	95	96			80	15	65	85	94	97	84	93	150	80	70
112	24	—	—	—			—	—	—	92	94	97	91	93	108	80	28
113	13	—	—	—			—	—	—	93	94	97	92	93	95	80	15
114	13	—	—	—			—	—	—	93	94	97	92	93	95	80	15
115	16	—	—	—			—	—	—	93	94	97	92	93	95	80	15
116	28	—	—	—			—	—	—	92	94	97	91	93	108	80	28
117	15	—	—	—			—	—	—	93	94	97	92	93	95	80	15
118	14	—	—	—			—	—	—	93	94	97	92	93	95	80	15
119	14	—	—	—			—	—	—	93	94	97	92	93	95	80	15
120	06	—	—	—			—	—	—	94	94	97	93	93	80	80	00

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ap. 5 | ap. 7

Δm	n	mtn	ltmtn	n̄	mtn	[n]	[mtn]	Δm	n	mtn	ltmtn	n̄	mtn	[n]	[mtn]	Δm
21	75	80	98	73	78	191	174	17	—	—	—	—	—	—	—	—
13	74	80	98	72	78	194	174	20	—	—	—	—	—	—	—	—
21	75	80	98	73	78	191	174	17	49	57	94	50	58	260	237	23
13	76	80	98	74	78	187	174	13	51	57	94	52	58	254	237	17
13	76	81	98	74	79	187	170	17	50	58	94	51	59	257	233	24
13	77	81	98	75	79	184	170	14	54	58	94	55	59	246	233	13
29	73	81	98	72	79	194	170	24	49	58	95	50	59	260	233	27
13	77	81	98	75	79	184	170	14	49	58	95	50	59	260	233	27
13	77	81	98	75	79	184	170	14	52	59	95	53	60	252	230	22
13	78	81	98	76	79	181	170	11	54	59	95	55	60	246	230	16
13	78	82	98	76	80	181	166	15	54	59	95	55	60	246	230	16
13	78	82	98	76	80	181	166	15	54	60	95	55	61	246	227	19
08	80	82	98	78	80	174	166	08	56	60	95	57	61	240	227	13
13	77	82	98	75	80	184	166	18	53	60	95	54	61	249	227	22
21	75	82	98	73	80	191	166	25	51	60	95	52	61	254	227	27
21	77	82	98	75	80	184	166	18	52	61	95	53	62	252	224	28
13	79	82	98	77	80	177	166	11	53	61	95	54	62	249	224	25
13	80	83	98	78	81	174	162	12	56	61	95	57	62	240	224	16
13	78	83	98	76	81	181	162	19	53	61	95	54	62	249	224	25
21	78	83	98	76	81	181	162	19	53	61	95	54	62	249	224	25
70	63	83	98	62	81	224	162	62	38	62	95	38	63	298	221	77
28	78	83	98	76	81	181	162	19	54	62	95	55	63	246	221	25
15	81	84	98	79	82	170	158	12	58	62	95	59	63	233	221	12
15	81	84	98	79	82	170	158	12	58	62	95	59	63	233	221	12
15	80	84	98	78	82	174	158	16	57	62	95	58	63	237	221	16
28	80	84	98	78	82	174	158	16	55	63	95	56	64	243	218	25
15	81	85	98	79	83	170	154	16	58	63	95	59	64	233	218	15
15	82	85	98	80	83	166	154	12	58	63	95	59	64	233	218	15
15	82	85	98	80	83	166	154	12	59	64	95	60	65	230	215	15
50	83	85	98	81	83	162	154	08	61	64	95	62	65	224	215	09

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No	Mean	ap. 1 n	ap. 1 mtn	ap. 1 btmtn	ap. 1 n̄	ap. 1 mtn	ap. 1 [n]	ap. 1 [mtn]	ap. 1 Δm	ap. 3 n	ap. 3 mtn	ap. 3 btmtn	ap. 3 n̄	ap. 3 mtn	ap. 3 [n]	ap. 3 [mtn]	Δ
121	07									94	94	97	93	93	80	80	
122	08									94	94	97	93	93	80	80	
123	14									93	94	97	92	93	95	80	
124	12									93	94	97	92	93	95	80	
125	12									93	94	97	92	93	95	80	
126	14									93	94	97	92	93	95	80	
127	11									93	94	97	92	93	95	80	
128	05									—	—	—	—	—	—	—	
129	05									—	—	—	—	—	—	—	
130	14									93	94	97	92	93	95	80	
131	08									—	—	—	—	—	—	—	
132	09									—	—	—	—	—	—	—	
133	08									—	—	—	—	—	—	—	
134	05									—	—	—	—	—	—	—	
135	06									—	—	—	—	—	—	—	
136	13									93	94	97	92	93	95	80	
137	10									—	—	—	—	—	—	—	
138	07									—	—	—	—	—	—	—	
139	07									—	—	—	—	—	—	—	
140	05									—	—	—	—	—	—	—	
141	05									—	—	—	—	—	—	—	
142	10									93	94	97	92	93	95	80	
143	03									93	93	97	92	92	95	95	
144	12									92	93	97	91	92	108	95	
145	08									92	93	97	91	92	108	95	
146	04									93	93	97	92	92	95	95	
147	09									—	—	—	—	—	—	—	
148	07									—	—	—	—	—	—	—	
149	05									—	—	—	—	—	—	—	
150	11									—	—	—	—	—	—	—	

continued on page 110-151

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1024phae.proj.1109P

	ap. 5									ap. 7							
Δm	n	m+n	b+m+n	n̄	m+n̄	[n]	[m+n]	Δm	n	m+n	b+m+n	n̄	m+n̄	[n]	[m+n]	Δm
00	83	85	98	81	83	162	154	08	60	64	95	61	65	227	215	12
00	82	85	98	80	83	166	154	12	60	64	95	61	65	227	215	12
15	82	85	98	80	83	166	154	12	60	65	95	61	66	227	212	15
15	83	85	98	81	83	162	154	08	61	65	95	62	66	224	212	12
15	83	85	98	81	83	162	154	08	61	65	95	62	66	224	212	12
15	82	85	98	80	83	166	154	12	60	65	95	61	66	227	212	15
15	83	85	98	81	83	162	154	08	62	65	95	63	66	221	212	09
—	84	85	98	82	83	158	154	04	63	65	95	64	66	218	212	06
—	85	86	98	83	84	154	150	04	63	65	95	64	66	218	212	06
15	83	86	98	81	84	162	150	12	61	66	95	62	67	224	209	15
—	84	86	98	82	84	158	150	08	63	66	95	64	67	218	209	09
—	83	86	98	81	84	162	150	12	64	66	95	65	67	215	209	06
—	84	86	98	82	84	158	150	08	63	66	95	64	67	218	209	09
—	85	86	98	83	84	154	150	04	64	66	95	65	67	215	209	06
—	84	86	98	82	84	158	150	08	65	66	95	66	67	212	209	03
15	83	86	98	81	84	162	150	12	62	66	95	63	67	221	209	12
—	84	86	98	82	84	158	150	08	62	66	95	63	67	221	209	12
—	84	86	98	82	84	158	150	08	63	65	95	64	66	218	212	06
—	83	85	98	81	83	162	154	08	63	65	95	64	66	218	212	06
—	84	85	98	82	83	158	154	04	63	65	95	64	66	218	212	06
—	84	85	98	82	83	158	154	04	63	65	95	64	66	218	212	06
15	82	84	98	80	82	166	158	08	62	64	95	63	65	221	215	06
00	83	84	98	81	82	162	158	04	62	64	95	63	65	221	215	06
13	81	84	98	79	82	170	158	12	59	63	95	60	64	230	218	12
13	82	83	98	80	81	166	162	04	61	63	95	62	64	224	218	06
00	81	83	98	79	81	170	162	08	61	62	95	62	63	224	221	03
—	80	83	98	78	81	174	162	12	59	61	95	60	62	230	224	06
—	80	82	98	78	80	174	166	08	59	61	95	60	62	230	224	06
—	81	82	98	79	80	170	166	04	59	61	95	60	62	230	224	06
—	79	82	98	77	80	177	166	11	57	60	95	58	61	238	227	11

Continued on page 111-111

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1924phae.proj.110P

Pleiades C 18646 1 prism. Reduced to l+m+n = 70

	No. 1								No. 2								
	n	m+n	l+m+n	$\bar{n}$	$\overline{m+n}$	[n]	[m+n]	Δm	n	m+n	l+m+n	$\bar{n}$	$\overline{m+n}$	[n]	[m+n]	Δm	
1	36	42	69	37	43	288	261	27	-	-	-	-	-			-	
2	39	47	69	40	48	274	240	34	23	27	70	23	27	356	335	21	1)
3	41	52	69	42	53	266	214	52	23	31	70	23	31	356	315	41	2)
4	43	57	69	44	58	257	190	67	26	37	70	26	37	340	288	52	3)
5	46	61	69	47	62	244	167	77	27	42	70	27	42	335	266	69	4)
6	53	64	69	54	65	212	144	68	31	48	70	31	48	315	240	75	5)
(6a	-	67	69	-	68	) -	109		37	54	70	37	54	288	212	76	6)
7	59	68	69	60	69	178	90	88	-	59	70	-	59	-	184	-	
(7a	-	68	69	-	69	) -	90	-									
8	64	68	68	66	70	136	<70	>66	46	62	70	46	62	248	167	81	7)
									54	66	70	54	66	212	136	76	
9	-	68	68	-	70	-	<70		66	67	70	66	67	136	126	10	
10	62	68	68	64	70	152	<70	>82	60	68	70	60	68	178	109	69	
10a	-	67	67	-	70	-	<70	-	-	68	70	-	68	-	109	-	
11	66	67	67	69	70	90	<70	>20	63	68	70	63	68	159	109	50	
12	-	67	67	-	70	-	<70	-	-	67	70	-	67	-	126	-	
13	-	66	66	-	70	136	<70	-	-	67	69	-	68	-	109	-	
13a	-	65	66	-	69	12	90	-	-	67	69	-	68	-	109	-	
13b	-	65	66	-	69	-	90	-	-	65	69	-	66	-	136	-	
13c	-	64	66	-	68	-	109	-	-	63	68	-	65	-	144	-	
14	61	63	66	65	67	144	126	18	48	57	68	49	59	235	184	51	

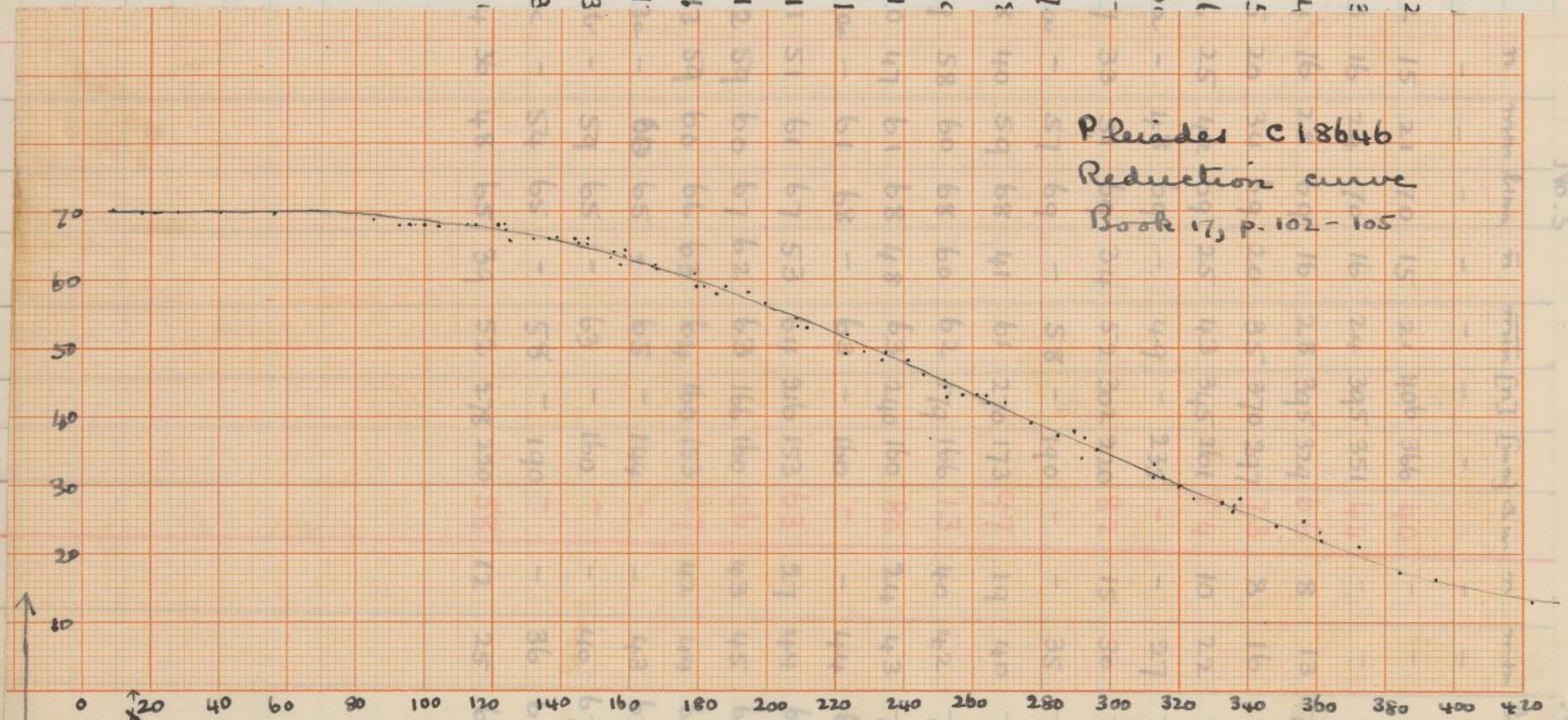
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Δm		No. 3 n	mtn				[m]	[mm]	Δm	No. 4 n	mtn				[m]	[mm]	Δm
—		-	-	-	-	-				-	-	-	-	-			
21	1)	17	22	67	18	23	381	356	25	(1) 19	25	69	19	25	376	345	31
41	2)	18	25	67	19	26	376	340	36	(2) 21	28	69	21	28	366	329	37
52	3)	20	30	67	21	31	366	315	51	(3) 22	33	69	22	33	360	306	54
69	4)	23	35	67	24	37	351	288	63	(4) 22	37	69	22	38	360	283	77
75	5)	28	43	67	29	45	324	252	72	(5) 23	42	69	23	43	356	271	75
76	6)	38	47	67	-	49	-	235	-	(6) 23	48	68	24	49	351	235	16
-	(7a	-	56	67	-	59	-	184	-	(6a) -	54	68	-	56	-	200	-
	(8	46	59	67	48	62	240	167	73	38	57	68	39	59	278	184	94
81	7) (8a									-	61	68	-	63	-	159	-
76																	
10	(9	58	60	67	61	63	172	159	13	45	63	68	46	65	248	144	104
										62	63	67	65	66		136	08
69		52	61	67	54	64	212	152	60	52	63	67	54	66	212	136	76
-		-	62	67	-	65	-	144	-	-	63	66	-	68	-	126	-
50		55	62	67	57	65	195	144	51	55	63	66	59	67	190	126	64
-		-	62	66	-	66	-	136	-	-	63	65	-	68	-	109	-
-		-	62	66	-	66	-	136	-	62	63	65	67	68	126	109	17
-		-	62	66	-	66	-	136	-	-	62	64	-	68	-	109	-
-		-	60	66	-	64	-	152	-	-	61	64	-	67	-	126	-
-		-	55	66	-	58	-	190	-	-	57	64	-	62	-	167	-
51		42	48	65	45	52	252	220	32	40	51	64	44	56	258	200	58

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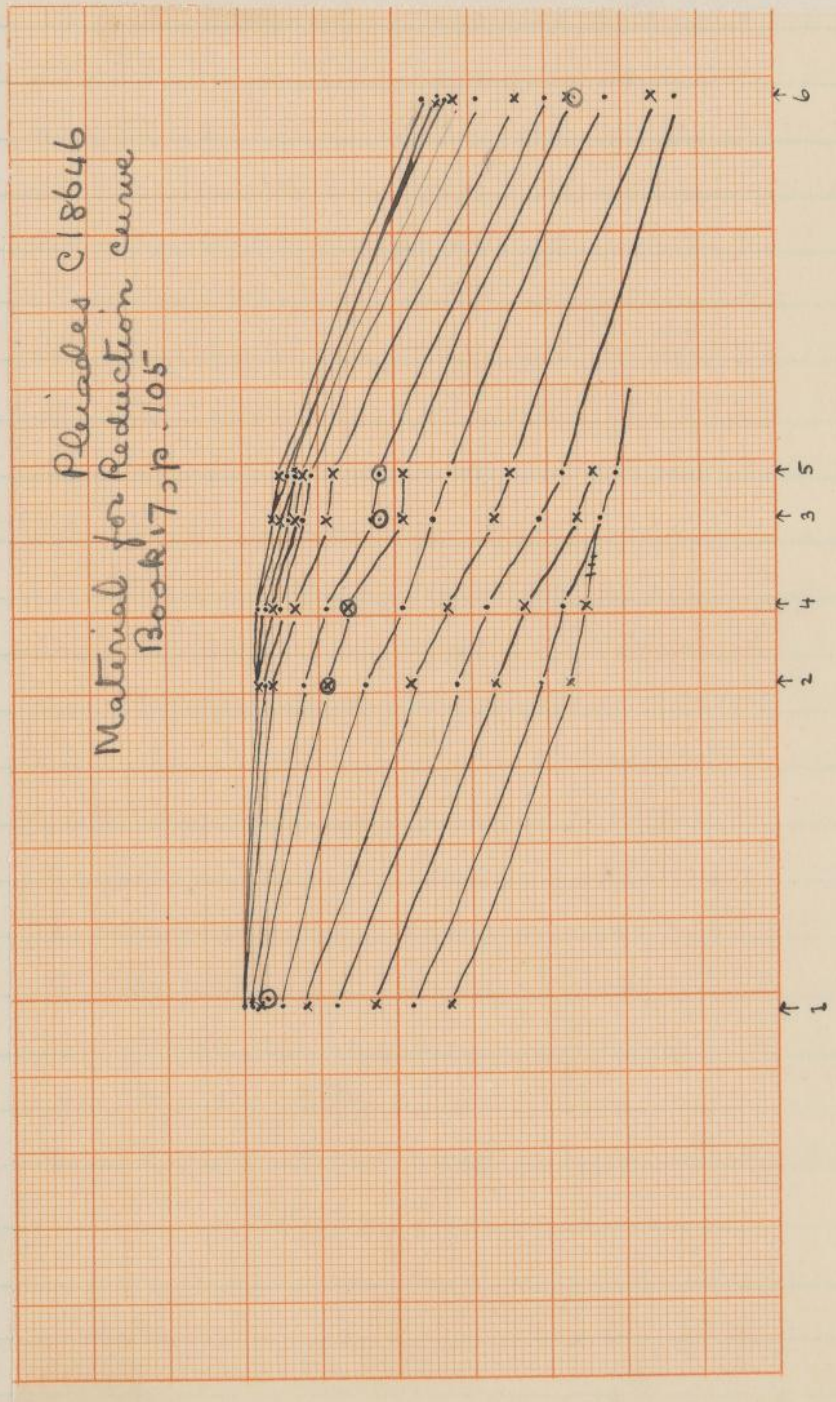
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1924phae.proj.11pap

	No. 5								No. 6							
	n	mtn	ltmn	$\bar{n}$	$\overline{mtn}$	[n]	[mtn]	Δm	n	mtn	ltmn	$\bar{n}$	$\overline{mtn}$	[n]	[mtn]	Δm
1	-	-	-	-	-	-	-		-	-	-					
2	15	21	70	15	21	406	366	40	-	-	-					
3	16	24	70	16	24	395	351	44	-	-	-					
4	16	28	69	16	28	395	329	66	8	13	72	8	13	..	422	..
5	20	34	69	20	35	370	297	73	8	16	71	8	16	..	395	..
6	25	42	69	25	43	345	261	84	10	22	71	10	22	..	361	..
6a	-	48	69	-	49	-	235	-	-	27	71	-	27	▷	335	-
7	33	51	69	34	52	302	220	82	15	30	71	15	30	406	320	74
7a	-	57	69	-	58	-	190	-	-	35	71	-	34	-	302	-
8	40	59	68	41	61	270	173	97	19	40	71	19	39	376	278	98
9	58	60	68	60	62	179	166	13	40	42	70	40	42	274	266	008
10	47	61	68	48	63	240	160	80	24	43	70	24	43	357	261	90
10a	-	61	68	-	63	-	160	-	-	44	69	-	45	-	252	-
11	51	61	67	53	64	216	153	63	27	44	68	28	45	330	252	78
12	59	60	67	62	63	166	160	06	43	45	68	44	46	257	248	09
13	59	60	66	63	64	160	153	07	42	44	68	43	45	261	252	09
13a	-	60	65	-	65	-	144	-	-	43	67	-	45	-	252	-
13b	-	59	65	-	63	-	160	-	-	40	67	-	42	-	266	-
13c	-	54	65	-	58	-	190	-	-	36	67	-	38	-	283	-
14	36	48	65	39	52	278	220	58	12	25	66	13	26	422	339	83

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Pleiades C 1850 1 prism Reduced to l+m+n = 53

	n	m+n	l+m+n	n̄ (no.1)	m+n	[n]	[m+n]	Δm	n	m+n	l+m+n	n̄ (no.2)	m+n	[n]	[m+n]	Δm
1	22	27	51	23	28	261	225	36	10	15	57	9	14	..	332	–
2	23	31	51	24	32	254	199	55	11	18	57	10	17	..	300	–
3	23	35	51	24	36	254	174	80	13	23	57	12	21	368	275	93
4	25	38	51	26	39	239	152	87	13	28	57	12	26	368	239	129
5	39	41	51	41	43	140	126	14	27	31	57	25	29	246	217	29
6	31	42	51	32	44	199	118	81	19	34	57	18	32	293	199	94
6a	–	45	51	–	47	–	92	–	–	39	57	–	36	–	174	–
7	39	47	52	~~41~~ 40	~~49~~ 48	147	82	65	27	42	57	25	39	246	152	94
7a	–	39	52	~~7~~ –	~~41~~ 50	~~7~~ –	56	–	–	45	57	–	42	–	134	–
8	44	50	52	~~46~~ 46	~~52~~ 51	102	43	59	33	48	57	31	45	206	110	96
9	–	–	–	–	–	–	–	–	48	50	57	45	47	110	92	18
10	47	51	53	47	51	92	43	49	40	50	57	37	47	168	92	76
10a	–	52	53	–	52	–	20	–	–	50	57	–	47	–	92	–
11	51	53	53	51	53	44	0	44	43	51	57	40	47	147	92	55
12	–	–	–	–	–	–	–	–	50	51	57	47	47	92	92	–
13	–	–	–	–	–	–	–	–	50	51	57	47	47	92	92	–
13a	–	53	54	–	52	–	20	–	–	50	57	–	46	–	102	–
13b	–	52	54	–	51	–	43	–	–	49	56	–	46	–	102	–
13c	–	52	54	–	51	–	43	–	–	46	56	–	43	–	126	–
14	44	48	54	43	47	126	92	34	30	40	56	28	36	225	174	51
–1	–	–	–	–	–		–	–	7	10	57	7	9	..	..	–
0	19	28	51	20	24	280	254	34	9	13	57	8	12	..	368	–

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Δm	No. 3 n	m+n	l+m+n	n̄	m+n	[n]	[m+n]	Δm	No. 4. n	m+n	l+m+n	n̄	m+n	[n]	[m+n]	Δm
–	6	10	53	6	10	..	..	–	10	16	53	10	16	..	310	–
–	7	11	53	7	11	..	420	–	11	18	53	11	18	420	292	(128)
93	7	14	53	7	14	..	332	–	12	20	53	12	20	368	280	88
29	10	17	53	10	17	..	300	–	11	24	53	11	24	(420	254	(166)
29	17	20	53	17	20	300	280	20	24	26	53	24	26	254	239	15
74	12	22	53	12	22	368	268	100	16	28	53	16	28	310	225	85
–	–	25	53	–	25	–	246	–	–	31	53	–	31	–	206	–
94	17	28	53	17	28	300	225	75	19	35	53	19	35	286	180	106
–	–	34	53	–	34	–	186	–	–	39	53	–	39	–	152	–
96	24	35	54	24	34	254	186	68	26	42	53	26	42	239	134	105
18	36	38	53	36	38	174	162	12	41	44	53	41	44	140	118	22
76	29	39	53	29	39	217	152	65	32	45	53	32	45	199	110	89
–	–	40	54	–	39	–	152	–	–	44	53	–	44	–	118	–
55	33	41	54	32	40	199	147	52	34	44	52	35	45	180	110	70
–	–	–	–	–	–	–	–	–	43	44	52	44	45	118	110	08
–	40	41	54	39	40	152	147	05	43	44	52	44	45	118	110	08
–	–	41	54	–	40	–	147	–	–	44	51	–	46	–	102	–
–	–	41	54	–	40	–	147	–	–	42	51	–	44	–	118	–
–	–	36	54	–	35	–	180	–	–	37	51	–	38	–	162	–
51	24	28	54	24	27	254	232	22	19	29	51	20	30	280	211	69
–	–	–	/	–	–	–	–	–	–	–	–	–	–	–	–	–
–	–	–	/	–	–	–	–	..	11	15	53	11	15	420	320	(100)

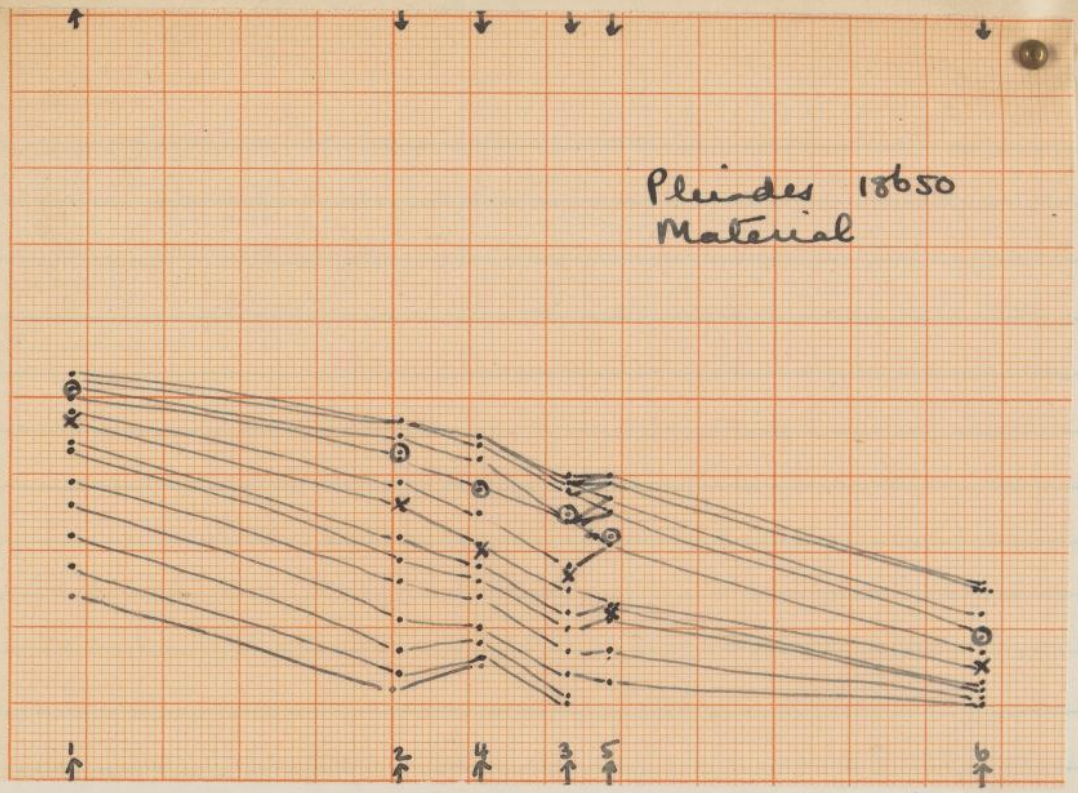
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	no.5								no.6							
	n	mtn	ltmtn	n̄	m̄tn	[n]	[mtn]	Δm	n	mtn	ltmtn	n̄	m̄tn	[n]	[mtn]	Δm
1	–	–	–	–	–	–	–									
2	–	–	–	–	–	–	–									
3	6	13	54	6	13	..	346	–	5	10	55	5	10	..	..	–
4	7	17	54	7	17	..	300	–	7	11	55	7	11	..	420	–
5	18	21	54	18	21	292	275	17	9	12	55	9	12	..	368	–
6	12	23	54	12	23	262	260	102	6	13	55	6	13	..	346	–
6a	–	23	54	–	23	–	260	–	–	16	55	–	15	–	320	–
7	16	31	54	16	31	310	206	104	9	18	55	9	17	..	300	–
7a	–	35	54	–	35	–	180	–	–	21	55	–	20	–	281	–
8	22	37	53	22	37	268	168	100	14	23	55	13	22	346	268	78
9	35	39	53	35	39	180	153	27	24	26	55	23	25	260	246	14
10	27	40	53	27	40	234	146	88	16	26	55	15	25	320	246	74
10a	–	40	53	–	40	–	146	–	–	26	56	–	25	–	246	–
11	29	40	53	29	40	218	146	72	17	27	55	16	26	310	240	70
12	39	40	53	39	40	153	146	07	–	–	–	–	–	–	–	–
13	38	40	52	39	41	153	140	13	–	–	–	–	–	–	–	–
13a	–	40	52	–	41	–	140	–	–	26	55	–	25	–	246	–
13b	–	38	52	–	39	–	153	–	–	24	55	–	23	–	260	–
13c	–	31	52	–	32	–	199	–	–	20	55	–	19	–	287	–
14	14	22	52	14	22	324	267	57	10	15	55	10	15	..	320	–
-1	–	–	–	–	–	–	–		–	–	–	–	–	–	–	
0	–	–	–	–	–	–	–		–	–	–	–	–	–	–	

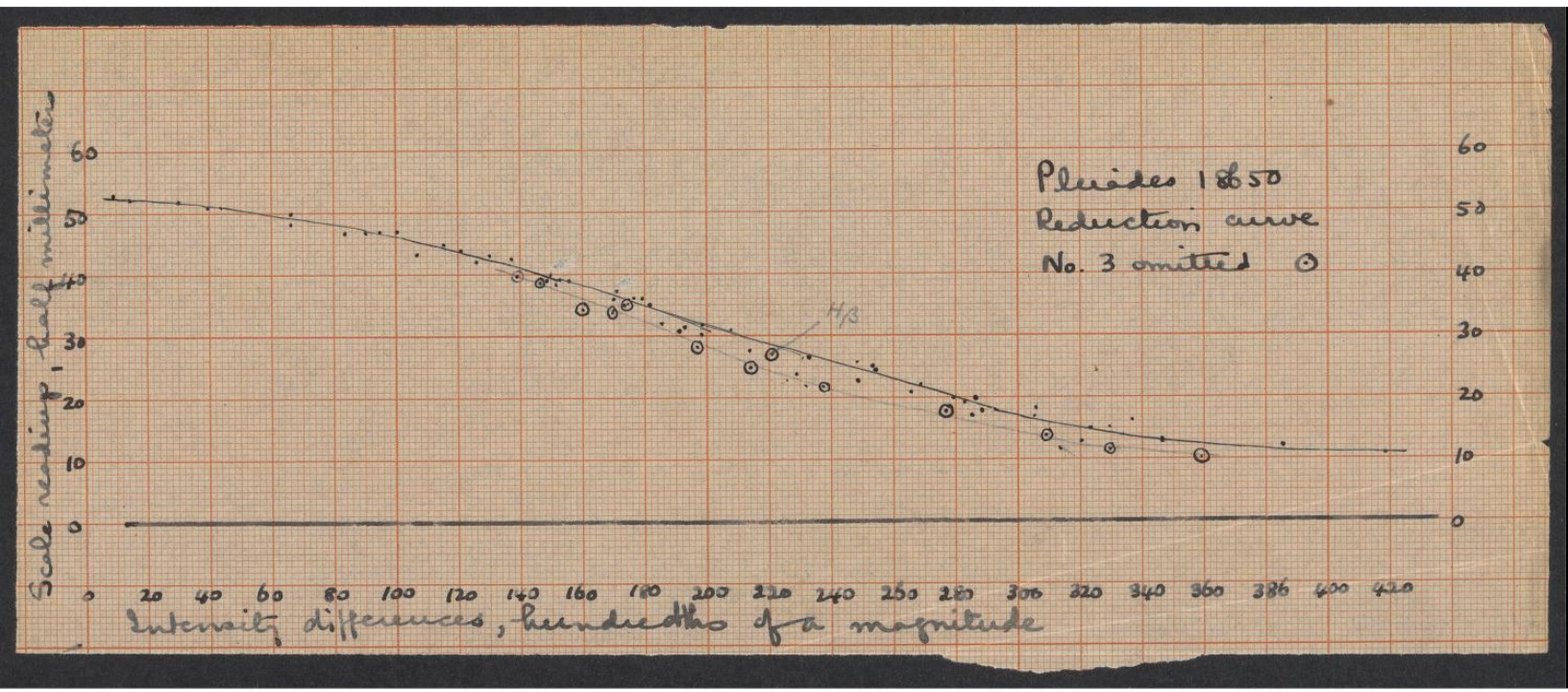
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1924phae.proj.11[illegible]P



78
14
74
70

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1924phae.proj.110P

Continued from page 100-101

ap. 1 ap. 3

No	Mean	n	m+n	b+m+n	ī	m+n	[n I m+n]	Δn	n	m+n	b+m+n	ī	m+n	[n I m+n]	Δn
151	07	—	—	—		—	—	—	—	—	—	—	—	—	—
152	06	—	—	—		—	—	—	—	—	—	—	—	—	—
153	11	—	—	—		—	—	—	90	92	97	89	91	124 116	108	16
154	08	—	—	—		—	—	—	—	—	—	—	—	—	—	—
155	04	—	—	—		—	—	—	—	—	—	—	—	—	—	—
156	04	—	—	—		—	—	—	—	—	—	—	—	—	—	—
157	13	—	—	—		—	—	—	86	88	97	85	87	145	135	10
158	56	90	94	96		116	56	61	77	88	97	76	87	181	135	46
159	18	—	—	—		—	—	—	83	87	97	82	86	158	140	18
160	09	—	—	—		—	—	—	84	86	97	83	85	154	145	09
161	17	92	94	96		95	56	39	83	85	97	82	84	158	150	08
162	09	—	—	—		—	—	—	81	83	97	80	82	166	158	08
163	10	—	—	—		—	—	—	79	81	97	78	80	174	166	08
164	08	—	—	—		—	—	—	73	76	97	72	75	194	184	10
165	10	—	—	—		—	—	—	71	73	97	70	72	200	194	06
166	10	—	—	—		—	—	—	66	70	97	65	69	215	203	12
167	14	—	—	—		—	—	—	62	65	97	61	64	227	218	09

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Eq. 5 · Eq. 7

Δm	n	m+n	b+m+n	n̄	m+n	[n]	[m+n]	Δm	n	m+n	b+m+n	n̄	m+n	[n]	[m+n]	Δm
—	79	81	98	77	79	177	170	07	57	59	95	58	60	237	230	07
—	78	80	98	76	78	181	174	07	57	58	95	58	59	237	233	04
16	77	79	98	75	77	184	177	07	54	57	95	55	58	246	237	09
—	75	77	98	73	75	191	184	07	52	55	95	53	56	252	243	09
—	74	75	98	72	73	194	191	03	50	52	95	51	53	257	252	05
—	72	74	98	71	72	197	194	03	49	51	95	50	52	260	254	06
10	66	70	98	65	69	215	203	12	43	47	95	43	48	283	267	16
46	48	67	98	47	68	270	206	64	29	44	95	29	44	332	279	53
18	59	65	98	58	64	237	218	19	37	42	95	37	42	302	286	16
09	60	63	98	59	62	233	224	09	37	40	95	37	40	302	292	10
08	58	61	98	57	60	240	230	10	36	39	95	36	39	306	295	11
08	57	59	98	56	58	243	237	06	35	37	95	35	37	310	302	08
08	51	55	98	50	54	260	249	11	31	34	95	31	34	324	313	11
10	48	50	98	47	49	270	264	06	28	30	95	28	30	336	328	08
06	44	46	98	43	45	283	276	07	25	29	95	25	29	348	332	16
12	42	43	98	41	42	289	286	03	26	27	95	26	27	344	340	04
09	37	41	98	36	40	306	292	14	21	25	95	21	25	368	348	20

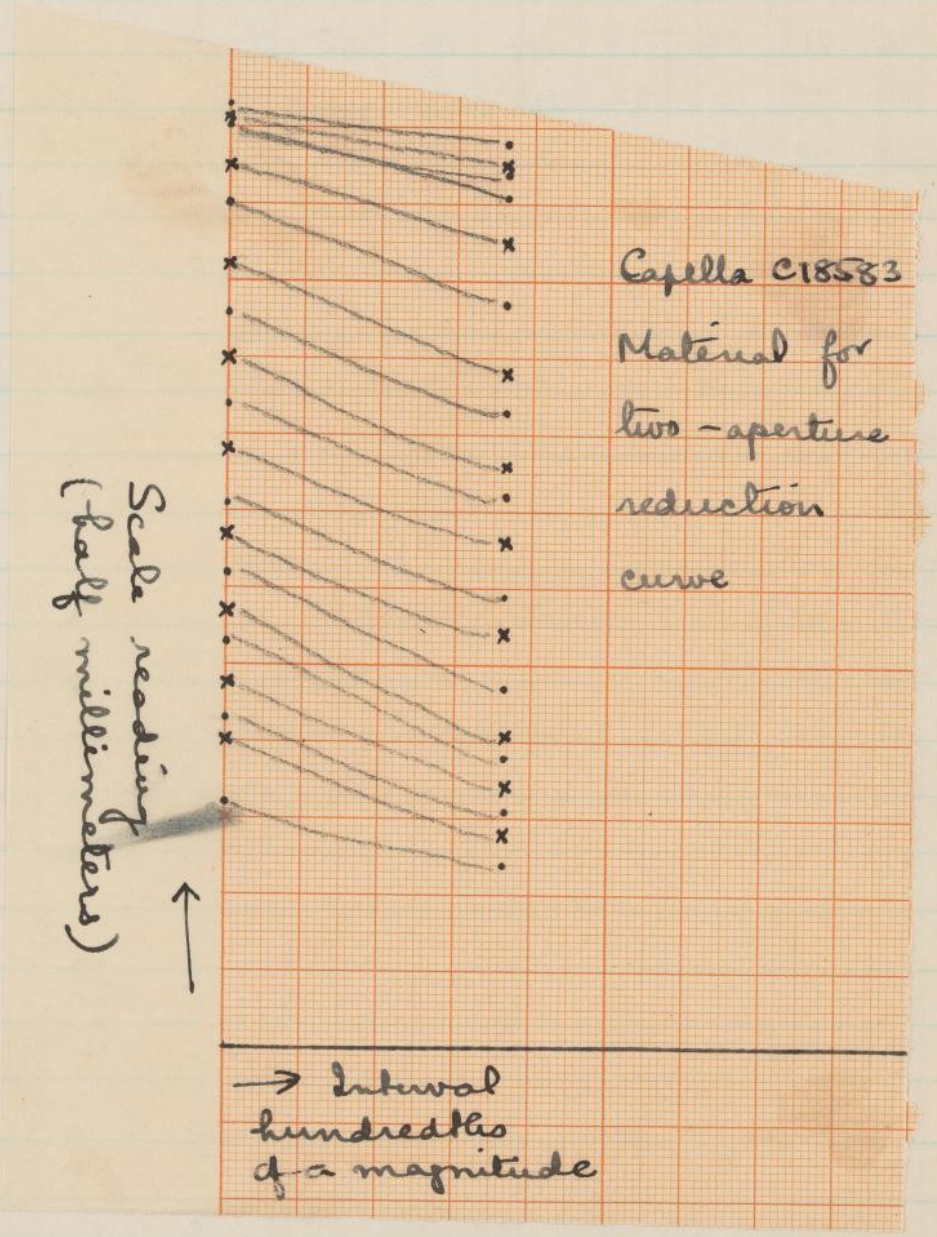
53

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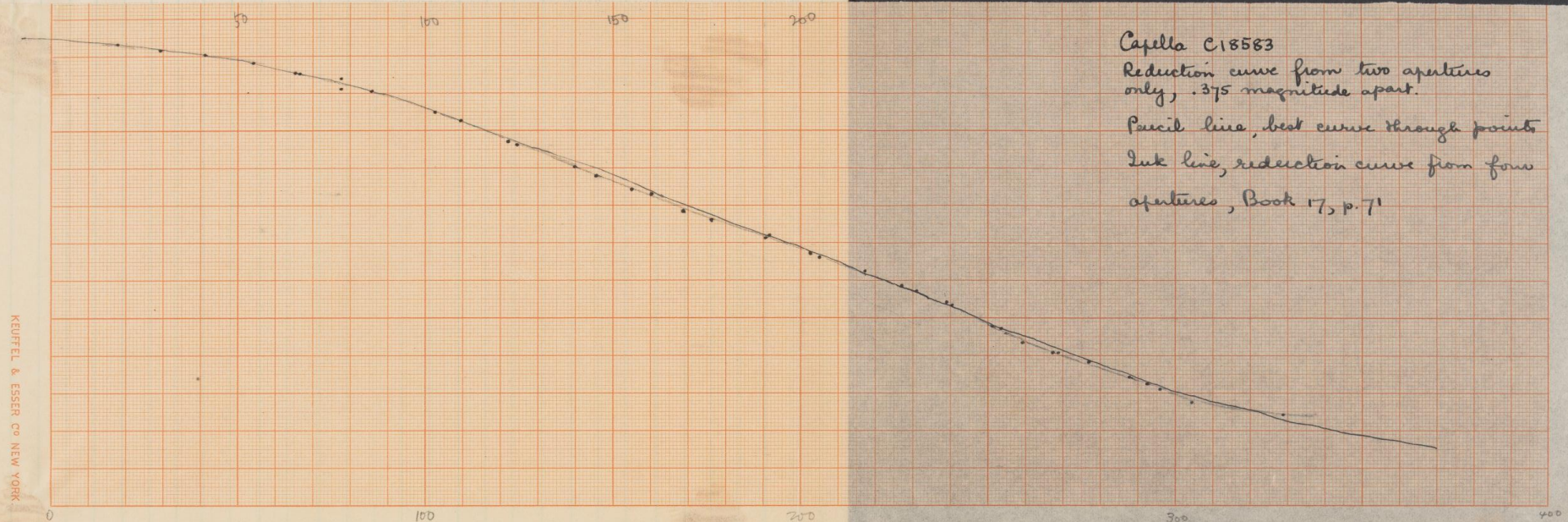
Capella C18583.

Test of reduction curve from two apertures only.



The duplication of the original reduction curve is satisfactory.

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Capella C18583
Reduction curve from two apertures only, .375 magnitude apart.
Pencil line, best curve through points
Ink line, reduction curve from four apertures, Book 17, p. 71

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Betelgeuze C 18678

ap. 1. ap. 3

No.	n	mtn	t+mtn	n̄	m̄tn	(n)	(mtn)	Δm	n	mtn	t+mtn	n̄	m̄tn	(n)	(mtn)	Δm	n
1	3	6	134														
2	2	6	134														
3	2	6	134														
4	2	7	134														
5	4	7	134														
6	4	8	134														
7	3	8	134														
8	3	8	134														
9	5	8	134														
10	6	8	134														
11	3	9	134														
12	5	9	134														
13	6	9	134														
14	6	9	134														
15	6	10	134														
16	5	11	134														
17	3	11	134														
18	9	12	134														
19	10	12	134														
20	4	12	134														
21	9	12	134														
22	4	12	134														
23	8	13	134														
24	6	13	134														
25	8	13	134														
26	5	13	134														
27	9	14	134														
28	7	14	134														
29	7	14	134														
30	7	15	134														

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afs. 5 afs. 7

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No.	ap. 1 n	ap. 1 mtn	ap. 1 tmtn	ap. 3 n	ap. 3 mtn	ap. 3 tmtn
31	10	15	134			
32	10	15	134			
33	9	16	134			
34	10	16	134			
35	11	16	134			
36	11	17	134			
37	10	17	134			
38	11	17	134			
39	13	17	134			
40	9	18	134			
41	10	19	134			
42	11	20	134			
43	12	20	134			
44	13	20	134			
45	12	21	134			
46	14	22	134			
47	11	22	134			
48	12	22	134			
49	11	22	134			
50	13	23	134			
51	11	23	134			
52	13	24	134			
53	18	25	134			
54	15	25	134			
55	20	26	134			
56	15	26	134			
57	16	26	134			
58	21	27	134			
59	23	27	134			
60	20	28	134			

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Ap. 5 | Ap. 7

n | m+n | 1+m+n | $\bar{m}$ | m+n | (m) | (m+n) | Δm | n | m+n | 1+m+n | $\bar{m}$ | m+n | (m) | (m+n) | Δm | Mean

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Op. 1 | Op. 3

No.	n	m+n	t+m+n	$\bar{n}$	m+n	(n)	t+m+n	Δm	n	m+n	t+m+n	$\bar{n}$	m+n	(n)	t+m+n	Δm	n
61	22	30	134														
62	22	30	134														
63	25	30	134														
64	18	32	134														
65	24	32	134														
66	25	34	134														
67	24	35	134														
68	32	36	134														
69	27	37	134						~~14~~	~~30~~	~~134~~						
70	32	39	134						~~14~~	~~31~~	~~134~~						
71	35	40	134						~~15~~	~~32~~	~~134~~						
72	26	42	134						~~13~~	~~32~~	~~134~~						
73	22	43	134						~~12~~	~~33~~	~~134~~						
74	17	46	134						~~13~~	~~34~~	~~134~~						
75	18	48	134						~~13~~	~~35~~	~~134~~						
76	27	50	134						17	35	134						
77	28	52	134						16	36	134						
78	35	53	134						18	37	134						
79	46	55	134						24	38	134						
80	38	58	134						23	39	134						
81	30	60	134						24	39	134						
82	26	62	134						14	40	134						
83	19	64	134						13	42	134						
84	32	66	134						20	43	134						
85	49	70	134						25	44	134						
86	59	73	134						31	48	134						
87	63	77	134						33	49	134						
88	60	78	134						34	49	134						
89	67	82	134						35	51	134						
90	70	84	134						39	53	134						

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n	m+n	t+m+n	$\bar{n}$	$\frac{}{m+n}$	(w)	(m+w)	s m	n	m+n	t+m+n	$\bar{n}$	$\frac{}{m+n}$	(w)	(m+w)	s m	Mean
11	25	135														
17	25	135														
23	26	135														
18	27	135														
20	27	135														
25	28	135														
23	29	135														
18	29	135														
19	30	135														
21	31	135														
19	32	135														
23	33	135														
21	33	135														
23	35	135														
25	35	135														
21	36	135														

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No.	asp. 1 n	m+n	t m+n	Δm	asp. 3 n	m+n	t m+n	Δm
91	73	84	134		39	53	134	
92	79	87	134		48	55	134	
93	72	89	134		42	56	134	
94	70	90	134		39	57	134	
95	65	92	134		37	59	134	
96	60	93	134		33	60	134	
97	81	95	134		49	61	134	
98	66	96	134		37	63	134	
99	82	98	134		46	65	134	
100	82	98	134		50	66	134	
101	74	99	134		43	67	134	
102	88	100	134		61	68	134	
103	80	100	134		53	69	134	
104	69	102	134		40	70	134	
105	89	102	135		56	72	134	
106	94	102	135		61	72	134	
107	97	103	135		66	74	134	
108	92	104	135		59	75	134	
109	73	104	135		40	66	134	
110	87	105	135		54	77	134	
111	90	106	135		60	78	134	
112	90	106	135		57	79	134	
113	90	107	135		57	80	134	
114	87	107	135		55	81	134	
115	87	108	135		55	82	134	
116	92	109	135		60	83	134	
117	94	109	135		61	84	134	
117a	98	110	135		—	—	—	
117b	104		135		—	—	—	
118	99		135		68	85	134	

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Ap. 5 | Ap. 7

n	m+n	t+m+n	$\bar{n}$	m+n	(n)	(m+n)	Δm	n	m+n	t+m+n	$\bar{n}$	m+n	(n)	(m+n)	Δm	Mean
29	36	135														
26	37	135														
23	38	135														
22	38	135														
29	39	135														
32	39	135														
—																
33	40	135														
31	41	135														
22	41	135														
—																
27	43	135														
29	44	135														
28	44	135														
—																
—																
28	46	135														
27	46	135														
—	—	—														
27	48	135														
30	49	135														
31	49	135														
41	50	135														
38	51	135														
36	51	135														
25	52	135														
—																
—	—	—														
—	—	—														

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No.	ap. 1 n	m+n	t+m+n	n̄	m+n	(n)	(m+n)	Δ m	ap. 3 n	m+n	t+m+n	n̄	m+n	(n)	(m+n)	Δ m	n
119			135						66	86	134						
120	98	112	135						51	86	134						34
121	91	113	135						71	87	134						28
122	94	113	135						67	88	134						3
123	~		135						65	88	134						4
124	93	114	135						57	89	134						2
125	71	115	135						59	90	134						2
126	94	115	135						57	91	134						3
127	107	115	135						37	92	134						3
128	105	116	135						58	93	134						4
129	99	116	135						73	94	134						3
130	98	117	135						76	94	134						3
131	103	117	135						69	95	134						3
132	—	—	—						65	95	134						—
133	97	118	135						74	96	134						3
133a	—	—	—						—	—	—						—
134	—	—	—						65	97	134						3
134a	—	—	—						—		—						—
135	108	119	135						80	98	134						4
136	94	119	135						58	98	135						2
137	98	120	135						66	99	135						3
138	103	120	135						71	100	135						3
139	115	121	135						87	100	135						3
139a	—	—	—						92	101	135						3
140	111	121	135						82	101	135						4
141	120	122	135						96	102	135						6
142	107	123	135						74	102	135						4
143	118	123	135						94	103	135						6
144	116	124	135						90	103	135						5
145	120	124	135						95	104	135						6

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ap. 5 ap. 7

n	m+n	t+m+n	$\bar{n}$	$\overline{m+n}$	(n)	(m+n)	Δm	n	m+n	t+m+n	$\bar{n}$	$\overline{m+n}$	(n)	(m+n)	Δm	mean
34	54	135														
28	56	135														
32	57	135														
42	57	135														
28	58	135														
20	59	135														
30	60	135														
39	61	135														
43	62	135														
35	63	135														
34	63	135														
38	64	135														
—	—	—														
35	65	135														
—	—	—														
37	65	135														
—	—	—														
46	66	135														
29	68	135														
34	69	135														
38	70	135														
53	70	136														
58	71	136														
48	72	136														
61	73	136														
41	74	136														
62	74	136														
55	75	136														
63	76	136														

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ap. 1 ap. 3

n	m+n	4m+n	n̄	m̄+n	(n)	(m+n)	Δm	n	m+n	4m+n	n̄	m̄+n	(n)	(m+n)	Δm	n

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1924phae.proj.119P

ap. 5

ap. 7

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ap. 1 ap. 3

D.	n	m+n	l+m+n	$\bar{n}$	$\overline{m+n}$	(n)	$(m+n)$	Δm	n	m+n	l+m+n	$\bar{n}$	$\overline{m+n}$	(n)	$(m+n)$	Δm	n		

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Aff. 5 Aff. 7

n	m+n	Δm+n	$\bar{n}$	$\overline{m+n}$	(n)	(m+n)	Δm	n	m+n	Δm+n	$\bar{n}$	$\overline{m+n}$	(n)	(m+n)	Δm	Mean

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Aff. 1

$$n \quad m+n \quad l+m+n \quad \bar{n} \quad \overline{m+n} \quad (n) \quad (m+n) \quad \Delta m$$

Aff. 3

$$n \quad m+n \quad l+m+n \quad \bar{n} \quad \overline{m+n} \quad (n) \quad (m+n) \quad \Delta m \quad n$$

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ap. 5

ap. 7

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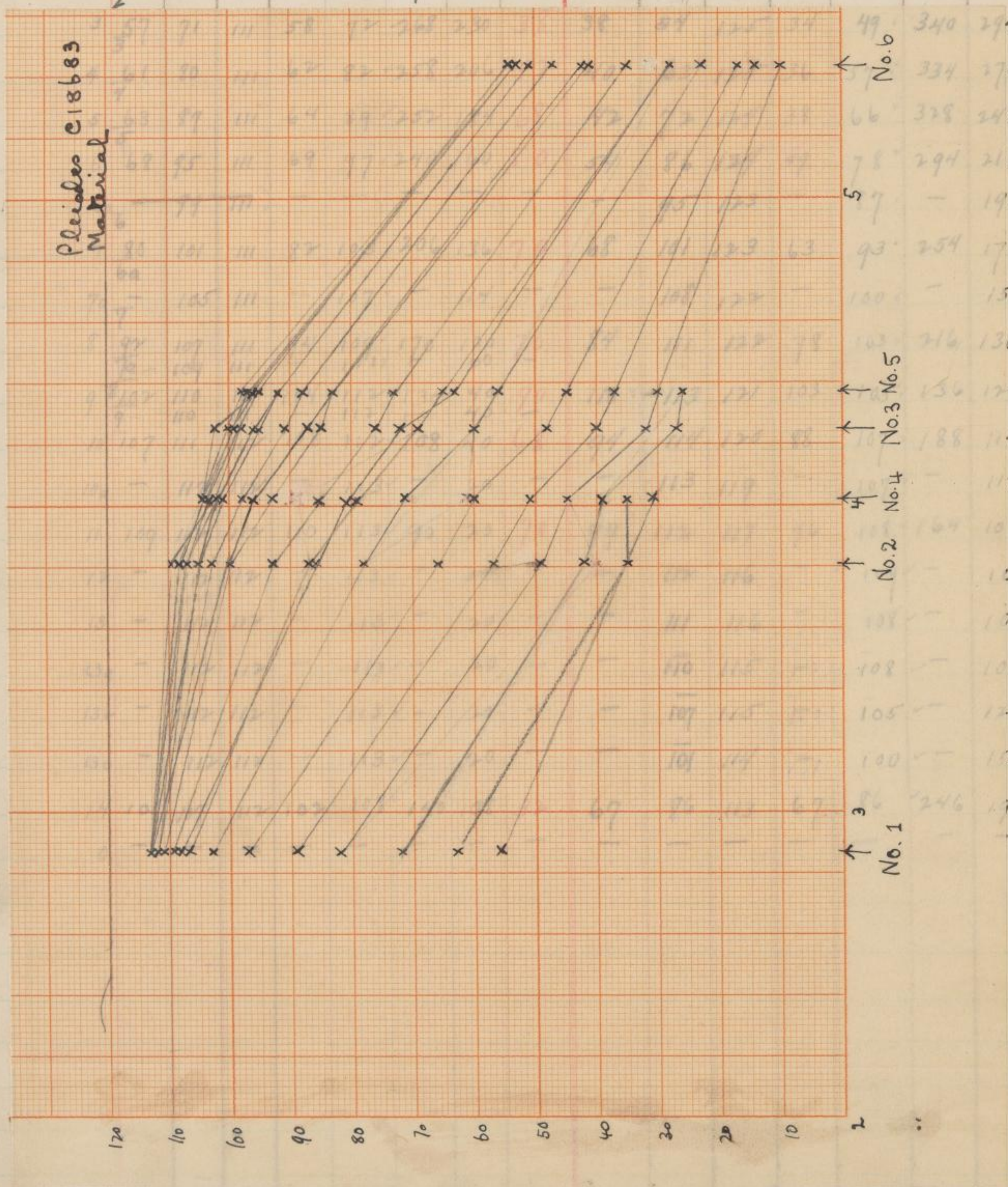
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Pleiades C18683 1 prism Reduced to l+m+n = 113

	No I 2.87								No 2 3.81							
	n	m+n	l+m+n	$\bar{n}$	$\overline{m+n}$	(n)	(m+n)	Δm	n	m+n	l+m+n	$\bar{n}$	$\overline{m+n}$	(n)	(m+n)	Δm
1	$\frac{51}{1}$	55	111	52	56	284	274	10	32	39	125	29	35	358	338	20
2	$\frac{54}{2}$	62	111	55	63	276	254	22	36	46	125	33	42	344	316	28



(m+n)	Δm
294	46
270	64
248	80
216	78
190	—
174	80
150	—
136	80
124	17
114	74
114	—
108	56
100	—
108	—
108	—
104	—
150	—
94	52
—	—

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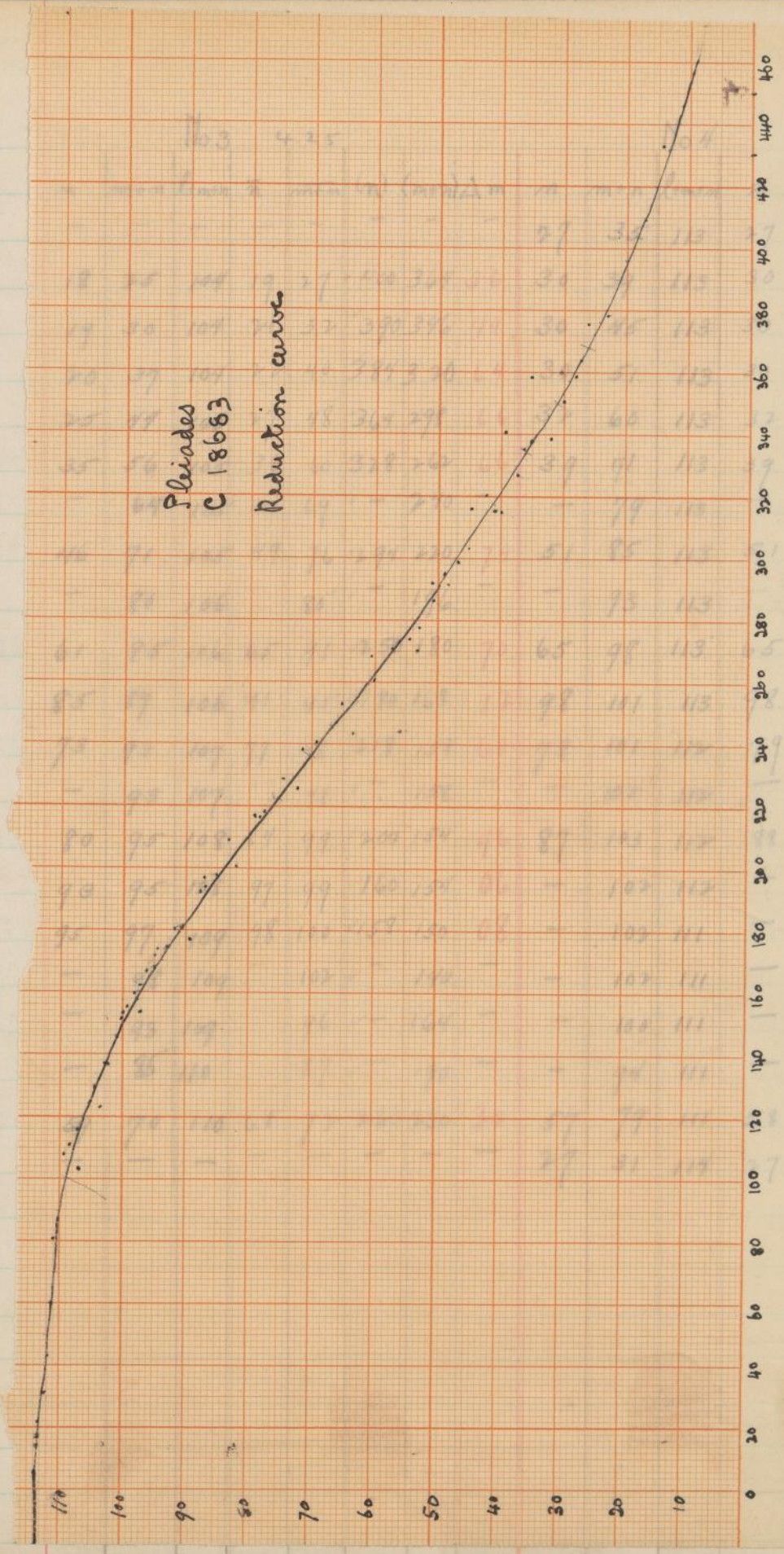
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Pleiades C18683 1 prism Reduced to d+m+n = 113

	No I 2.87								No 2 3.81							
	n	m+n	l+m+n	$\bar{n}$	$\overline{m+n}$	(n)	(m+n)	Δ m	n	m+n	l+m+n	$\bar{n}$	$\overline{m+n}$	(n)	(m+n)	Δ m
1	51	55	111	52	56	284	274	10	37	39	125	29	35	358	338	20
2	54	62	111	55	63	276	254	22	36	46	125	33	42	344	316	28
3	57	71	111	58	72	268	230	38	38	54	125	34	49	340	294	46
4	61	80	111	62	82	258	206	52	40	63	125	36	57	334	270	64
5	63	87	111	64	89	252	184	68	42	72	124	38	66	328	248	80
6	68	95	111	69	97	240	160	80	54	86	124	49	78	294	216	78
6a	—	99	111	—	—	—	—	—	—	95	123	—	87	—	190	—
7	80	101	111	82	103	206	136	70	68	101	123	63	93	254	174	80
7a	—	105	111	—	107	—	114	—	—	108	122	—	100	—	150	—
8	92	107	111	94	109	170	100	70	84	111	122	78	103	216	136	80
8a	—	109	111		111		60									
9	102	110	111	104	112	130	40	90	110	113	121	103	105	136	124	12
9a	—	110	111	—	112	—	40									
10	107	111	112	108	112	108	40	68	94	114	120	88	107	188	114	74
10a	—	112	112	—	113	—	20	—	—	113	119	—	107	—	114	—
11	109	112	112	110	113	90	20	70	99	112	117	96	108	164	108	56
12	—	112	112	—	113	—	20	—	—	112	116	—	109	—	100	—
13	—	112	112	—	113	—	20	—	—	111	116	—	108	—	108	—
13a	—	112	112	—	113	—	20	—	—	110	115	—	108	—	108	—
13b	—	112	112	—	113	—	20	—	—	107	115	—	105	—	124	—
13c	—	112	112	—	113	—	20	—	—	101	114	—	100	—	150	—
14	101	107	112	102	108	140	108	32	67	86	113	67	86	246	194	52
0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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		(m+n)	Δm
	1	338	26
	4	324	30
	4	306	48
	4	288	66
	6	262	84
	4	234	90
		212	–
	8	196	92
		174	–
	0	158	92
	8	146	12
	2	140	72
		136	–
	8	130	58
		136	–
		130	–
		130	–
		140	–
		164	–
	68	208	60
	04	350	14

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No 3 4.25

n	m+n	l+m+n	n̄	m+n	(n)	(m+n)	Δm
—	—	—	—	—	—	—	—
18	25	104	19	27	400	364	36
19	30	104	21	32	390	346	44
20	37	104	22	40	384	320	64
25	44	104	27	48	364	298	66
35	56	105	38	60	328	262	66
—	64	105	—	69	—	240	—
46	71	105	49	76	294	220	74
—	80	106	—	85	—	196	—
61	85	106	65	91	250	180	70
85	89	106	91	95	180	168	12
73	93	107	77	98	218	158	60
—	93	107	—	98	—	158	—
80	95	108	84	99	200	154	46
93	95	108	97	99	160	154	06
95	97	109	98	100	158	150	08
—	98	109	—	102	—	140	—
—	93	109	—	96	—	164	—
—	85	110	—	87	—	190	—
59	70	110	61	72	260	230	30
—	—	—	—	—	—	—	—

No 4 4.02

n	m+n	l+m+n	n̄	m+n	(n)	(m+n)	Δm
27	35	113	27	35	364	338	26
30	39	113	30	39	354	324	30
30	45	113	30	45	354	306	48
30	51	113	30	51	354	288	66
32	60	113	32	60	346	262	84
39	71	113	39	71	324	234	90
—	79	113	—	79	—	212	—
51	85	113	51	85	288	196	92
—	93	113	—	93	—	174	—
65	98	113	65	98	250	158	92
98	101	113	98	101	158	146	12
78	101	112	79	102	212	140	72
—	102	112	—	103	—	136	—
87	103	112	88	104	188	130	58
—	102	112	—	103	—	136	—
—	102	111	—	104	—	130	—
—	102	111	—	104	—	130	—
—	100	111	—	102	—	140	—
—	94	111	—	96	—	164	—
57	79	111	58	81	268	208	60
27	31	114	27	31	364	350	14

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Pleiades C 1886 83 1 prism Reduced to l+m+n = 113

	No 5 4.87								No 6 5.43							
	n	m+n	l+m+n	$\bar{n}$	$\overline{m+n}$	(n)	(m+n)	Δ m	n	m+n	l+m+n	$\bar{n}$	$\overline{m+n}$	(n)	(m+n)	Δ m
1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2	19	26	113	19	26	400	368	32	—	—	—	—	—	—	—	—
3	20	30	113	20	30	396	354	42	5	11	125	5	10		454	—
4	19	37	113	19	37	400	330	70	4	15	125	4	14		426	—
5	23	45	113	23	45	380	306	74	7	19	124	6	17		410	—
6	30	56	113	30	56	354	274	80	10	25	124	9	23	460	380	80
6a	—	65	113	—	65	—	250	—	—	30	123	—	28	—	360	—
7	41	73	113	41	73	318	228	90	15	38	123	14	35	426	338	88
7a	—	83	113	—	83	—	202	—	—	45	123	—	41	—	318	—
8	55	88	113	55	88	276	188	88	23	50	122	21	47	390	300	90
9	87	92	113	87	92	190	176	14	50	55	121	47	51	300	288	12
10	67	94	112	68	95	242	168	74	29	57	120	27	54	364	278	86
10a	—	94	112	—	95	—	168	—	—	57	119	—	54	—	278	—
11	74	95	112	75	96	222	164	58	34	56	118	33	53	344	280	64
12	—	95	111	—	97	—	160	—	—	56	117	—	53	—	280	—
13	—	96	111	—	98	—	158	—	—	56	117	—	53	—	280	—
13a	—	94	111	—	96	—	164	—	—	56	116	—	54	—	278	—
13b	—	90	111	—	92	—	176	—	—	52	115	—	51	—	288	—
13c	—	81	111	—	83	—	202	—	—	42	114	—	42	—	316	—
14	44	62	111	45	63	306	254	52	18	28	114	18	28	404	360	44
0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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Reduction Table C 18683

Scale Reading	Int	Scale Reading	Int	Scale Reading	Int	Scale Reading	Int	Scale Reading	Int.
9	460	32	346	54	278	76	220	98	158
10	454	33	344	55	276	77	218	99	154
11	446	34	340	56	274	78	216	100	150
12	440	35	338	57	270	79	212	101	146
13	432	36	334	58	268	80	210	102	140
14	426	37	330	59	266	81	208	103	136
15	420	38	328	60	262	82	206	104	130
16	414	39	324	61	260	83	202	105	124
17	410	40	320	62	258	84	200	106	120
18	404	41	318	63	254	85	196	107	114
19	400	42	316	64	252	86	194	108	108
20	396	43	312	65	250	87	190	109	100
21	390	44	310	66	248	88	188	110	90
22	384	45	306	67	246	89	184	111	60
23	380	46	304	68	242	90	182	112	40
24	376	47	300	69	240	91	180	113	20
25	372	48	298	70	236	92	176		
26	368	49	294	71	234	93	174		
27	364	50	290	72	230	94	170		
28	360	51	288	73	228	95	168		
29	358	52	284	74	226	96	164		
30	354	53	280	75	222	97	160		
31	350								

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Pleiades HA

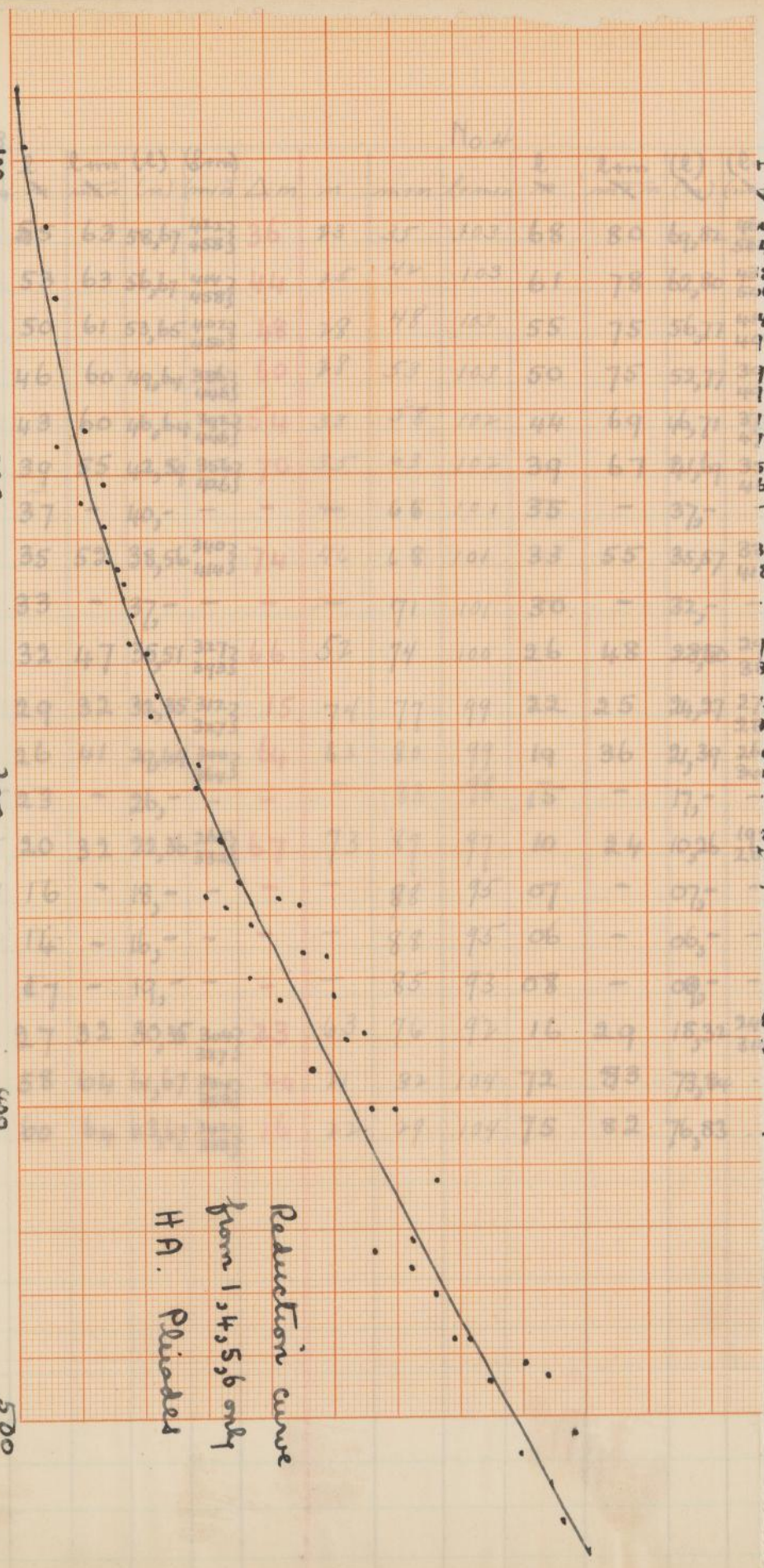
Reduced to l+m+n=105. at violet end

	No 1								No 2							
	n	m+n	l+m+n	l	l+m	(l)	(l+m) (m+n)	Δm	n	m+n	l+m+n	l	l+m	(l)	(l+m) (m+n)	Δm
1	66	77	119	3542	53	37,46	3343 3723	38	61	68	105	37	44	37,44	335 364	29
2	61	81	119	3438	58	33,51	318 392	74	58	69	105	36	47	36,47	331 377	46
3	62	85	119	3234	57	30,50	304 389	85	61	71	105	34	44	34,44	322 364	42
4	60	90	119	29	59	25,52	280 397	117	56	73	105	32	49	32,49	313 385	72
5	71	95	119	24	48	21,42	260 356	96	57	75	105	30	48	30,48	304 382	78
6	75	98	119	21	44	18,38	247 340	87	57	79	106	27	49	26,48	285 382	97
6a	–	100	118	18	–	16,–	–	–	–	82	106	24	–	23,–	–	–
7	80	101	118	17	38	15,33	226 318	92	63	85	106	21	43	21,42	260 356	96
7a	–	102	117	15	–	14,–	–	–	–	88	107	19	–	19,–	–	–
8	86	105	117	12	31	11,27	198 290	92	69	90	107	17	38	17,37	240 335	95
9	105	107	116	09	11	09,10	182 191	89	90	93	108	15	18	15,18	226 246	20
10	93	108	115	07	22	07,19	160 250	90	78	95	109	14	31	14,30	218 304	86
10a	–	110	115	05	–	05,–	–	–	–	98	109	11	–	11,–	–	–
11	105	111	113	02	08	02,08	100 172	72	88	101	110	09	22	09,22	182 265	83
a	–	111	112	01	–	01,–	–	–	–	103	111	08	–	08,0	–	–
b	–	110	111	01	–	01,–	–	–	–	104	112	08	–	08,–	–	–
c	–	109	111	02	–	02,–	–	–	–	103	113	10	–	10,–	–	–
14	98	104	110	06	12	06,12	150 204	54	82	94	114	20	32	29,31	250 308	58
0	64	74	120	46	56	40,49	348 365	17	63	67	105	38	42	38,42	340 356	16
-1	62	70	120	50	58	44,51	364 393	29	62	66	105	39	43	39,43	344 360	16

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No 3

n	m+n	l+m+n	l	l+m	(l)	(l+m)	Δm
37	45	100	55	63	58,67	422 / 458	36
37	47	100	53	63	56,67	414 / 458	44
39	50	100	50	61	53,65	402 / 450	48
40	54	100	46	60	49,64	386 / 446	60
40	57	100	43	60	46,64	392 / 446	54
44	60	99	39	55	42,59	356 / 426	70
—	62	99	37	—	40,-	—	—
47	64	99	35	52	38,56	340 / 414	74
—	65	98	33	—	37,-	—	—
51	66	98	32	47	35,51	327 / 393	66
65	68	97	29	32	32,35	312 / 327	15
55	70	96	26	41	29,44	300 / 364	64
—	72	95	23	—	26,-	—	—
63	75	95	20	32	22,36	265 / 332	67
—	77	93	16	—	18,-	—	—
—	78	92	14	—	16,-	—	—
—	75	92	17	—	19,-	—	—
59	64	91	27	32	30,35	304 / 327	23
36	42	100	58	64	61,67	334 / 358	24
36	40	100	60	64	63,67	342 / 358	16

No 4

n	m+n	l+m+n	l	l+m	(l)	(l+m)	Δm
23	35	103	68	80	69,82	464 / 564	50
25	42	103	61	78	62,80	438 / 506	68
28	48	103	55	75	56,77	414 / 494	80
28	53	103	50	75	52,77	398 / 494	96
33	58	102	44	69	46,71	373 / 472	99
35	63	102	39	67	41,69	351 / 465	114
—	66	101	35	—	37,-	—	—
46	68	101	33	55	35,57	332 / 418	86
—	71	101	30	—	32,-	—	—
52	74	100	26	48	28,50	295 / 389	94
74	77	99	22	25	24,27	275 / 289	14
63	80	99	19	36	21,39	260 / 344	84
—	83	98	15	—	17,-	—	—
73	87	97	10	24	10,26	192 / 285	93
—	88	95	07	—	07,-	—	—
—	88	95	06	—	06,-	—	—
—	85	93	08	—	08,-	—	—
63	76	92	16	29	18,32	246 / 314	68
21	32	104	72	83	73,84	..	—
22	29	104	75	82	76,83	..	—

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	No 5								No 6							
	l	l+m	l+m+n	m̄	m̄+n	(n)	(m+n)	Δm	l	l+m	l+m+n	m̄	m̄+n	(n)	(m+n)	Δm
1	86	94	102	89	98				-	-	105					
2	81	90	-	84	93				-	-	105					
3	77	87	-	80	90				-	-	105					
4	70	86	-	73	89				90	102	105	90	102			
5	65	83	-	67	86				86	99	105	86	99			
6	58	76	-	66	79	430	502	72	80	97	105	80	97			
6a	53	-	-	55	-	-	-		72	90	106	75	-			
7	48	71	-	50	74	390	482	92	75	-	105	72	90			
7a	43	-	-	45	-	-	-		67	-	106	66	-			
8	39	58	-	41	60	352	430	78	63	82	106	62	81	438	514	76
9	33	37	-	35	39	327	345	18	60	-	106	59	-			
10	28	46	-	29	48	300	382	82	56	72	106	56	71	414	472	58
10a	21	-	-	22	-	-	-		53	-	107	52	-	-	-	
11	17	31	-	18	32	245	314	69	49	72	107	48	70	382	469	87
a	14	-	-	15	-	-	-		46	-	107	45	-	-	-	
b	11	-	-	12	-	-	-		45	-	107	44	-	-	-	
c	12	-	-	13	-	-	-		50	-	108	48	-	-	-	
14	19	29	-	20	30	276	304	28	63	76	108	61	74	434	482	48
0	89	96	102	92	99				-	-	105	-	-			
-1	91	96	102	94	99				-	-	105	-	-			

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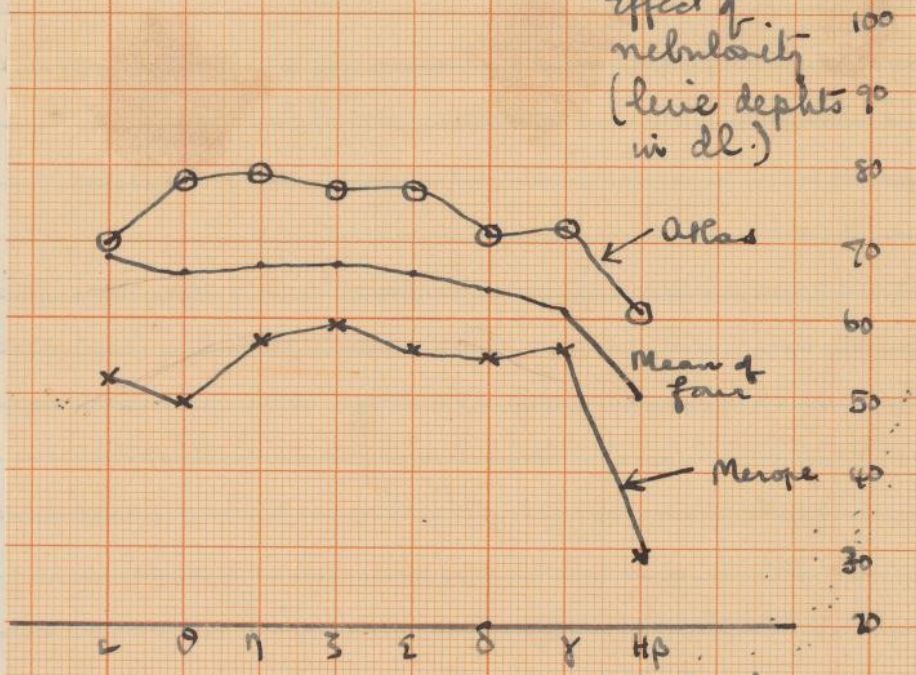
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A								B						
b	b+m	l-m	n	m+n	(m)	(m+n)	Δ m	b	b+m	l-m	n	m+n	(m)	(m+n)	Δ m
~~76~~ 70	~~30~~ 82	~~105~~ 100	73	85	479	524	(45)	–							
64	80	101	66	83				–							
59	79	101	61	82				–							
52	77	101	54	80	406	506	100	72	79	104	73	80	480	506	26
45	77	101	46	80	372	506	124	70	78	104	71	79	472	502	30
38	68	101	39	71	344	472	128	65	76	104	66	77	453	494	41
–	–	–	–	–	–	–	–	~~61~~	–	–			–	–	
29	57	102	29	58	300	422	122	61	76	104	62	77	438	494	56
19	45	102	19	46	250	372	122	55	80	104	56	81	414	514	100
13	32	103	13	32	212	313	101	48	~~77~~	105	48	~~77~~	380	~~418~~ 494	114
5	18	104	5	18	140	245	105	37	62	105	37	62	335	438	103
16	30	105	16	30	226	304	78	52	70	106	51	69	394	466	72

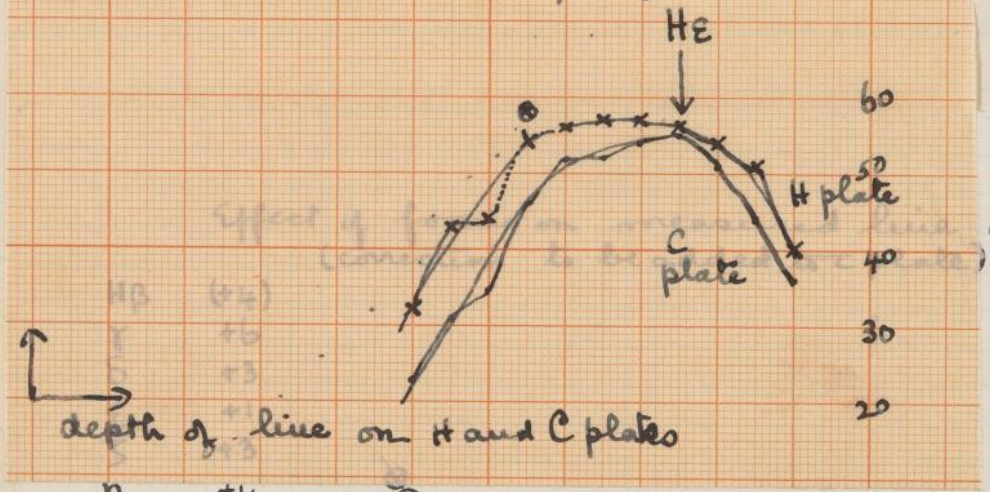
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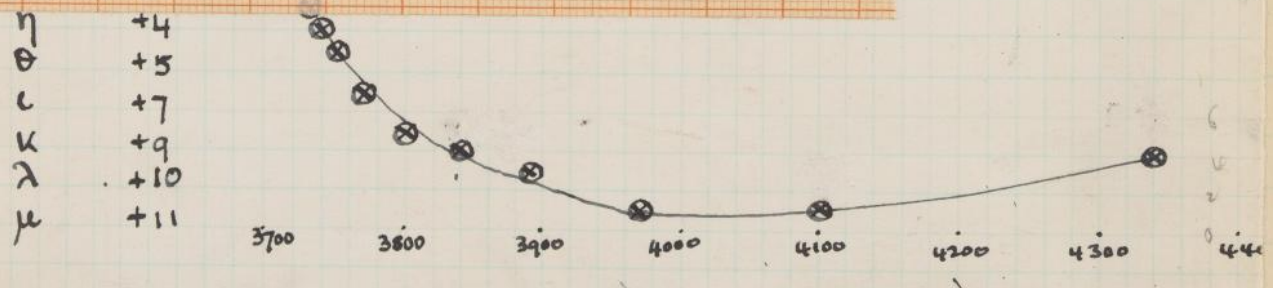
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Effect of nebulosity (line depths in dl.)



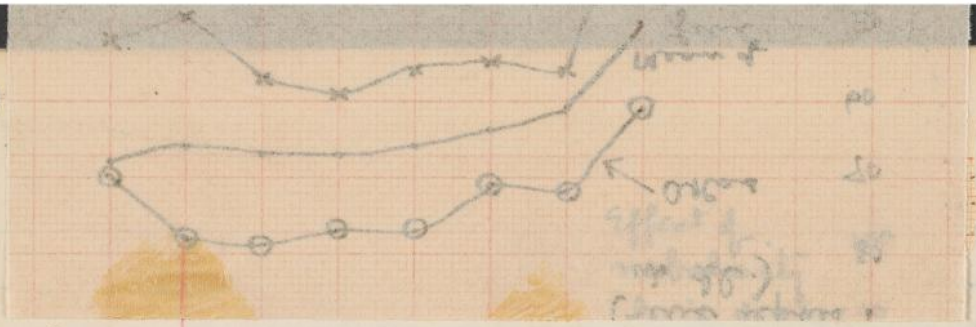
Effect of focus.
(It is assumed that the reflector plate is in good focus)





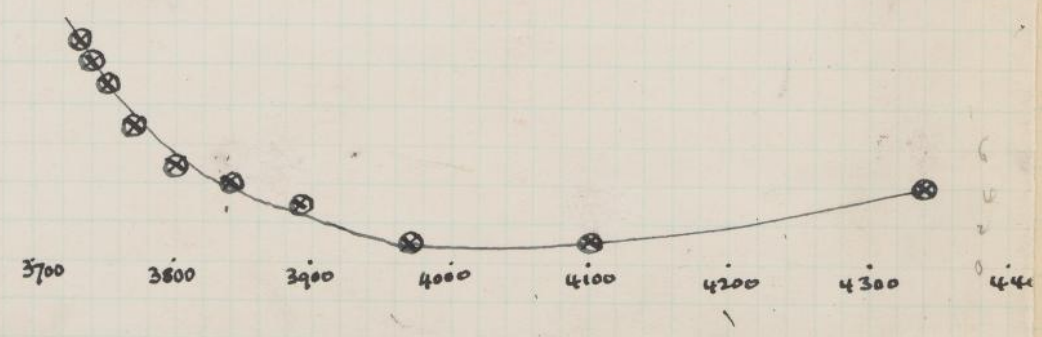
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Effect of focus on measured line depth. (dl)
(correction to be added to c plate)

Hβ	(+4)
γ	+6
δ	+3
ε	+1
3	+3
η	+4
θ	+5
ι	+7
κ	+9
λ	+10
μ	+11



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Preliminary examination of Atlas + Pleione for line depth. One H plate, see above for reductions.

	See Book H, p. 24 H. C plates, mean of 8						H plate								Mean
	1	2	3	4	5	6	1	2	3	4	5	6	A	B	
	24	21	25	21	26		30	16	28	37					32 of 1,2,3,4,5
1	31	33	28	29	31		49	35	33	47					43 from H pl
				↓											
2	39	39	34	34	34	35	54	32	36	52					44
				↓											
3	47	48	43	47	44	46	(66)	48	42	59			60		58
				↓											
4	51	54	48	51	52	39	59	51	39	60			68		56
				↓											
5	51	53	50	52	54	64	55	59	47	65	49		69		57
				↓											
6	52	54	48	55	54	57	57	59	49	55	57		67		57
				↓											
7	55	54	48	56	56	57	57	58	46	58	51	50	67	60	56
8				↓											
9	24	14	11	12	14	12	08	17	13	09	15		~~61~~		
10	51	50	44	49	51	54	56	55	45	54	53	.	61	65	54
11	46	42	37	43	45	49	48	53	46	58	47	55	62	61	51
12			9	8				-	-		-		-		
13			8	8				-	-		-		-		
14	(24)	33	24	35	39	44	39	41	19	47	22	36	51	48	40

Pleiades. Test of line depths of Atlas + Pleione

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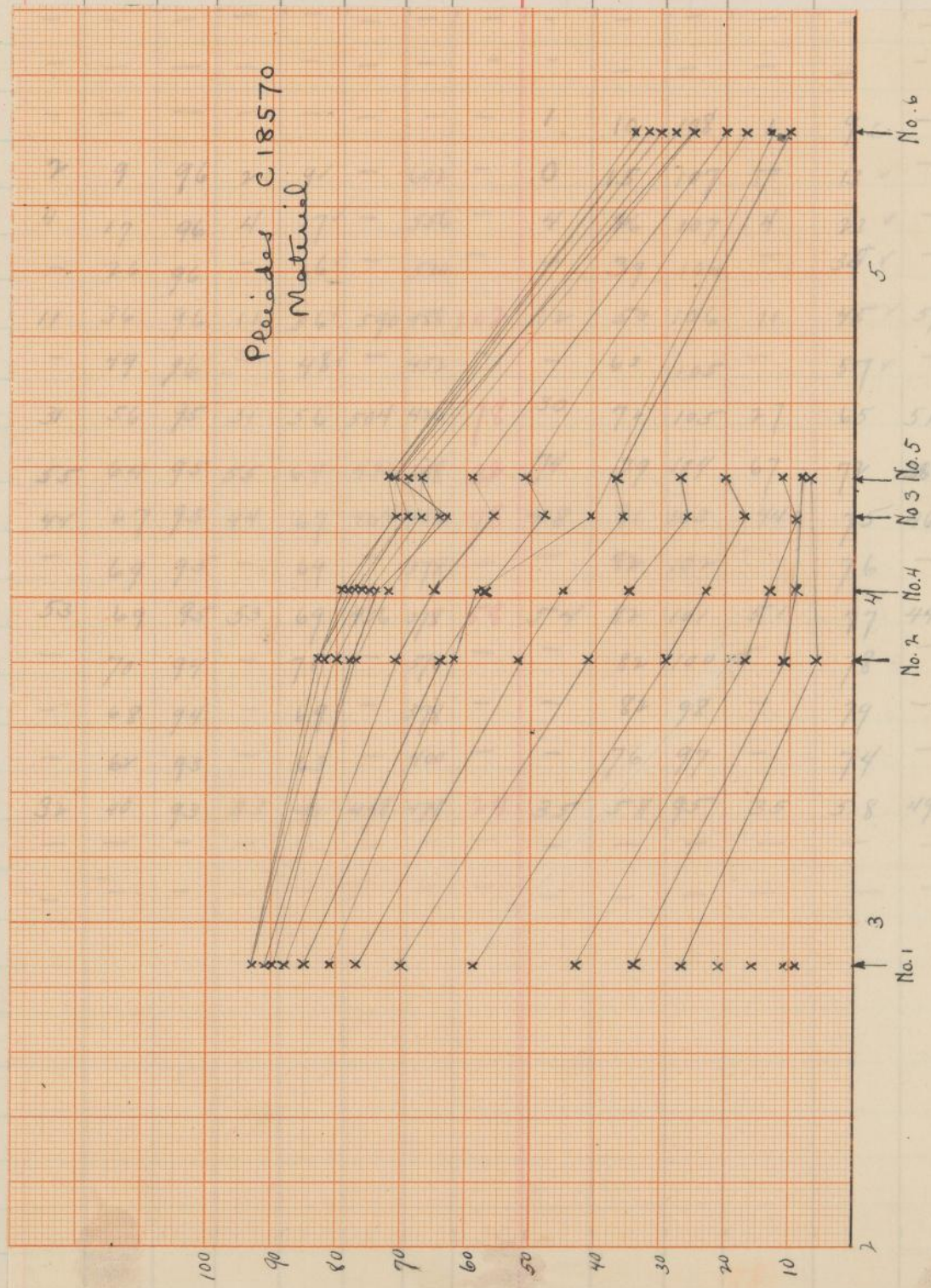
Pleiades C-18570

Reduced to: l+m+n = 95...

	No. 1								No. 2							
	n	m+n	l+m+n	$\bar{n}$	$\bar{m+n}$	(n)	(m+n)	Δm	n	m+n	l+m+n	$\bar{n}$	$\bar{m+n}$	(n)	(m+n)	Δ'm
1	6	16	97	6	16	632	560	72	—	—	—	—	—	—	—	—
2	7	21	97	7	21	670	540	80	—	—	—	—	—	—	—	—
3	11	28	97	11	27	590	516	74	1	6	95	1	6	—	632	—
4	11	35	97	11	34	590	494	96	7	11	95	2	11	—	590	590
5	16	44	97	16	43	560	468	92	2	17	95	2	17	—	556	—
6	27	60	97	26	59	570	414	106	5	29	95	5	29	—	510	—
6a	—	71	97	—	70	—	376	—	—	41	95	—	41	—	474	—
7	48	79	97	47	77	456	346	110	19	52	95	19	52	548	440	108
7a	—	87	97	—	85	—	300	—	—	64	95	—	64	—	398	—
8	70	90	97	69	88	378	276	102	39	71	95	39	71	480	370	110
9	91	93	97	89	91	268	252	16	72	77	95	72	77	368	346	22
10	81	94	96	80	93	332	224	108	56	80	95	56	80	426	332	94
10a	—	94	96	—	93	—	224	—	—	81	94	—	82	—	320	—
11	85	94	96	84	93	308	224	84	62	82	94	63	83	400	314	86
a	—	94	96	—	93	—	224	—	—	82	94	—	83	—	314	—
b	—	93	95	—	93	—	224	—	—	82	94	—	83	—	314	—
c	—	90	95	—	90	—	260	—	—	77	94	—	78	—	342	—
14	73	81	95	73	81	364	328	36	42	61	93	43	62	468	404	64
0	4	11	97	4	11	—	590	—	—	—	—	—	—	—	—	—
-1	4	9	97	4	9	—	602	—	—	—	—	—	—	—	—	—

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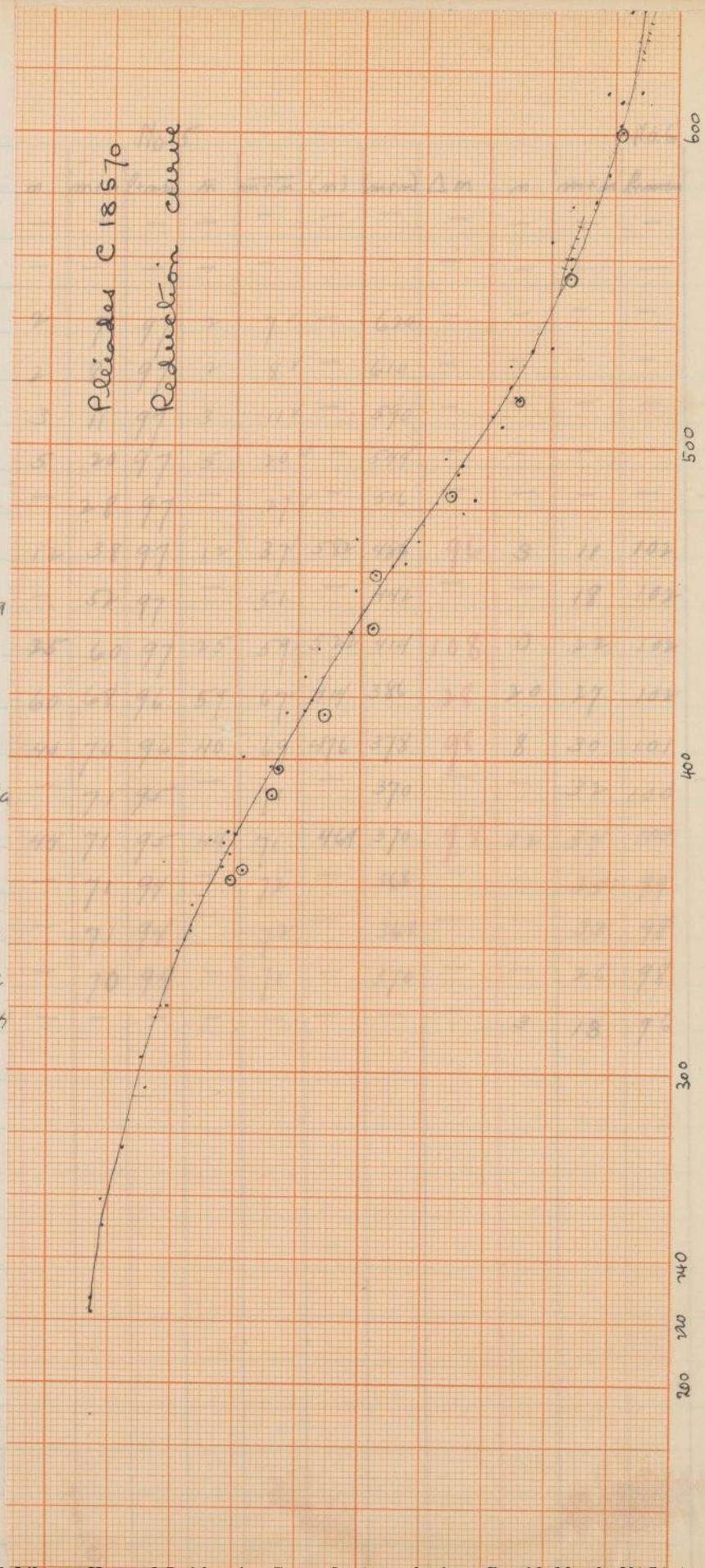
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No. 3								No. 4							
n	m+n	l+m+n	ñ	m+n	(n)	(m+n)	Δm	n	m+n	l+m+n	ñ	m+n	(n)	(m+n)	Δm
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	1	10	108	1	9	—	602	—
7	9	96	7	9	—	602	—	0	15	107	—	13	—	576	—
4	17	96	4	17	—	556	—	4	26	107	4	23	—	530	—
—	26	96	—	26	—	520	—	—	39	106	—	35	—	492	—
11	36	96	11	36	590	488	102	12	50	106	11	45	590	462	178
—	49	96	—	48	—	452	—	—	63	105	—	57	—	422	—
31	56	95	31	56	504	476	78	30	72	105	27	65	516	394	122
55	64	95	55	64	430	398	32	74	79	104	67	72	386	368	18
44	67	95	44	67	464	386	78	48	81	103	44	75	464	356	108
—	69	95	—	69	—	378	—	—	82	102	—	76	—	350	—
53	69	95	53	69	436	378	58	54	82	101	51	77	442	346	96
—	70	94	—	71	—	370	—	—	82	100	—	78	—	342	—
—	68	94	—	69	—	378	—	—	82	98	—	79	—	338	—
—	67	93	—	63	—	400	—	—	76	97	—	74	—	360	—
32	40	93	33	41	498	474	24	35	58	95	35	58	492	418	74
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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	l	(m+n)	n
1	–	–	–
2	–	–	–
3	–	–	–
4	–	–	–
5	–	–	–
6	–	–	–
6a	–	–	–
7	–	596	–
7a	–	556	–
8	–	544	–
9	48	522	26
10	10	512	98
10a	–	506	–
11	90	500	90
a	–	494	–
b	–	500	–
c	–	522	–
15	–	576	–

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	No. 5								No. 6							
	n	m+n	l+m+n	$\bar{n}$	$\overline{m+n}$	(n)	(m+n)	Δm	n	m+n	l+m+n	$\bar{n}$	$\overline{m+n}$	(n)	(m+n)	n
1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
3	2	7	97	2	7	—	620	—	—	—	—	—	—	—	—	—
4	2	8	97	2	8	—	610	—	—	—	—	—	—	—	—	—
5	3	11	97	3	11	—	590	—	—	—	—	—	—	—	—	—
6	5	20	97	5	20	—	544	—	—	—	—	—	—	—	—	—
6a	—	28	97	—	27	—	516	—	—	—	—	—	—	—	—	—
7	12	38	97	12	37	582	486	96	3	11	102	2	10	—	596	—
7a	—	52	97	—	51	—	442	—	—	18	102	—	17	—	556	—
8	25	60	97	25	59	522	414	108	0	22	102	0	20	—	544	—
9	60	68	96	54	67	414	386	28	20	27	102	19	25	548	522	26
10	40	70	96	40	69	476	378	98	8	30	101	8	28	610	512	98
10a	—	71	95	—	71	—	370	—	—	32	100	—	30	—	506	—
11	44	71	95	44	71	464	370	94	12	34	100	11	32	590	500	90
a	—	71	94	—	72	—	368	—	—	35	99	—	34	—	494	—
b	—	71	94	—	72	—	368	—	—	33	98	—	32	—	500	—
c	—	70	94	—	71	—	370	—	—	26	98	—	25	—	522	—
14	—	—	—	—	—	—	—	—	3	13	96	3	13	—	576	—

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Reduction Table C 18570

Scale Reading	Int	Scale Reading	Int.	Scale Reading	Int	Scale Reading	Int
6	637	28	512	50	446	97	368
7	620	29	510	51	442	93	364
8	610	30	506	52	440	94	360
9	602	31	504	53	436	95	356
10	596	32	500	54	432	96	350
11	590	33	498	55	430	97	346
12	582	34	494	56	426	98	342
13	576	35	492	57	422	99	338
14	570	36	488	58	418	80	332
15	564	37	486	59	414	81	328
16	560	38	482	60	412	82	320
17	556	39	480	61	408	83	314
18	552	40	476	62	404	84	308
19	548	41	474	63	400	85	300
20	544	42	472	64	398	86	292
21	540	43	468	65	394	87	284
22	536	44	464	66	390	88	276
23	530	45	462	67	386	89	268
24	526	46	458	68	382	90	260
25	522	47	456	69	378	91	252
26	526	48	452	70	376	92	240
27	516	49	448	71	370	93	224

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H 2680
a Orionis

Reduced to l+m+n = 93

Ap. I

	n	m+m	l+m+n	$\bar{n}$	$\bar{m+m}$	(n)	(m+m)	Δm
1	—	9	93	—	9			
2	50	50	93	50	50			
3	57	57	93	57	57			
4	60	60	93	60	60			
5	62	70	93	62	70			
6	—	77	93	—	77			
7	78	81	93	78	81			
8	90	91	93	90	91			
9	90	92	93	90	92			
10	89	91	93	89	91			
11	82	90	93	82	90			
12	83	90	93	83	90			
13	84	90	93	84	90			
14	77	85	93	77	85			
15	80	85	93	80	85			
16	82	84	93	82	84			
17	80	83	93	80	83			
18	75	82	93	75	82			
19	73	81	93	73	81			
20	73	81	93	73	81			
21	71	79	93	71	79			
22	68	78	93	68	78			
23	76	77	93	76	77			
24	74	77	93	74	77			
25	64	76	93	64	76			
26	66	75	93	66	75			
27	71	74	93	71	74			
28	63	72	93	63	72			
29	61	71	93	61	71			

Ap. II

	n	m+m	l+m+n	$\bar{n}$	$\bar{m+m}$	(n)	(m+m)	Δm
	—	8	90	—	8			
	—	33	90	—	34			
42	46	90	43	48				
46	52	90	48	54				
47	57	90	49	59				
61	66	90	63	68				
66	71	90	68	73				
84	86	90	87	89				
86	88	90	89	91				
84	86	90	87	89				
71	84	90	73	87				
71	83	90	73	86				
73	82	90	75	85				
63	76	90	65	79				
67	76	90	69	79				
71	75	90	73	77				
68	73	90	70	75				
61	71	91	62	73				
58	70	91	5	72				
59	69	91	60	71				
56	66	91	57	67				
51	65	91	52	66				
63	65	91	64	66				
59	64	91	60	65				
59	63	91	60	64				
55	61	91	56	62				
54	59	91	55	60				
46	58	91	47	59				
43	56	92	143	57				

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Ap. III

n	mtn	btmtn	n	mtn	(n)	(m+n)	Δm
–	7	90	–	8			
–	21	90	–	22			
–	27	90	–	28			
29	33	90	30	34			
37	34	90	33	35			
49	57	90	51	59			
55	63	90	57	65			
79	87	91	81	84			
81	84	91	83	86			
78	83	91	80	85			
61	80	91	62	82			
62	79	91	63	81			
64	78	91	65	80			
50	68	91	51	69			
55	62	92	56	63			
61	65	92	62	66			
56	64	92	57	65			
47	61	92	47	62			
44	60	92	44	61			
45	59	92	45	60			
43	55	92	43	56			
37	55	92	37	56			
49	52	92	49	53			
46	50	92	46	51			
46	49	92	46	49			
40	46	92	40	46			
40	45	92	40	45			
29	43	92	29	43			
28	42	92	28	42			

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H 2680
α Orionis

Reduced to ltmtn = ..93.

Ap. I

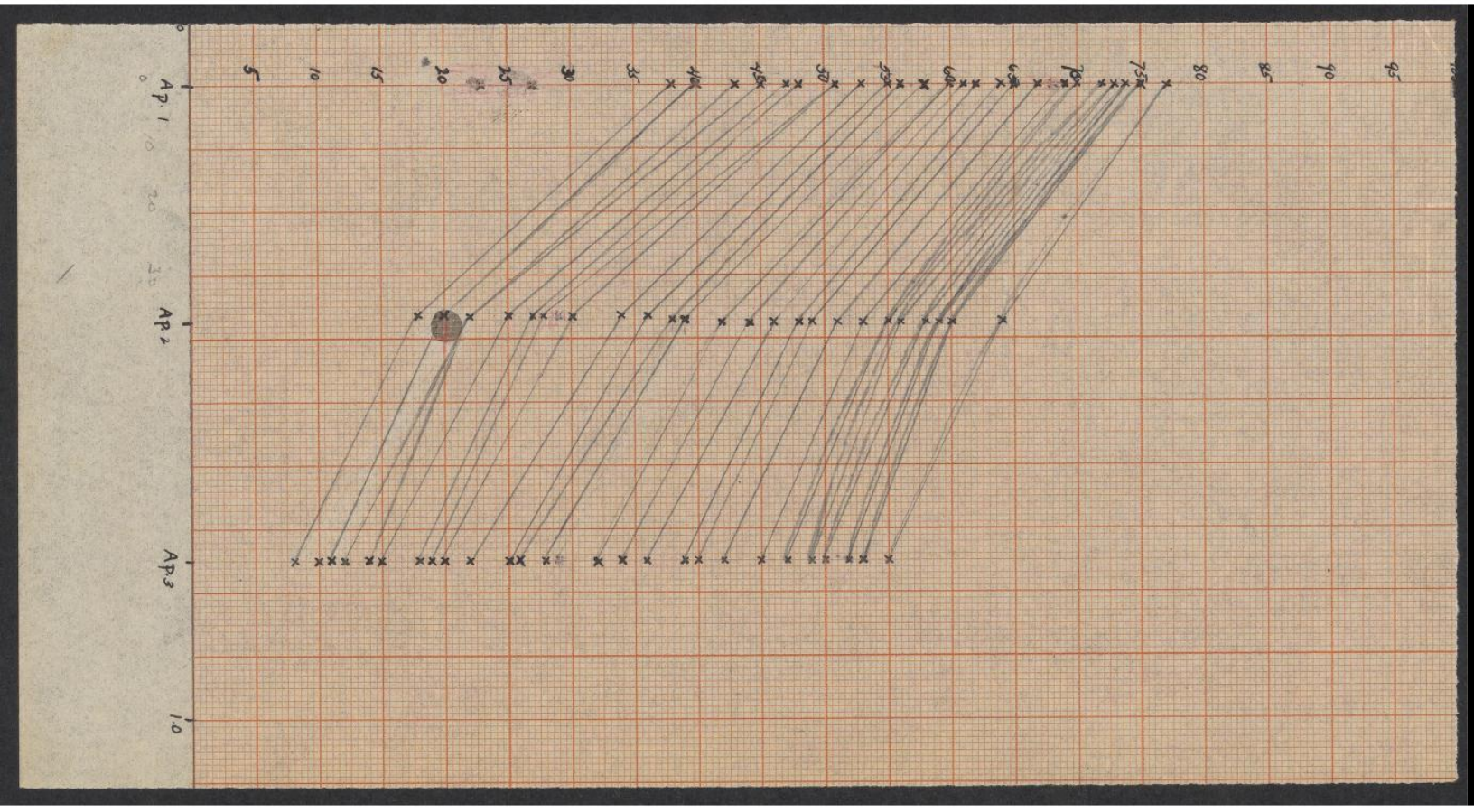
	n	mtn	ltmtn	π	mtn	(n)	(mtn)	Δm
30	53	70	93	53	70			
31	45	68	93	45	68			
32	64	67	93	64	67			
33	65	68	93	65	68			
34	64	68	93	64	68			
35	60	69	93	60	69			
36	55	70	93	55	70			
37	59	71	93	59	71			
38	54	72	93	54	72			
39	52	73	93	52	73			
40	69	73	93	69	73			
41	68	74	93	68	74			
42	68	75	93	68	75			
43	64	75	93	64	75			
44	67	76	93	67	76			
45	68	77	93	68	77			
46	65	77	93	65	77			
47	72	78	93	72	78			
48	71	77	92	72	78			
49	70	77	92	71	78			
50	68	76	92	69	77	21	0	
51	68	74	92	69	75	14	0	
52	66	73	92	67	74	16	0	
53	68	72	92	69	73	8	0	
54	67	71	92	68	72	8	0	
55	56	69	92	57	70	31	0	
56	59	68	92	60	69			
57	56	66	92	57	67			
58	54	64	92	55	65			

Ap. II

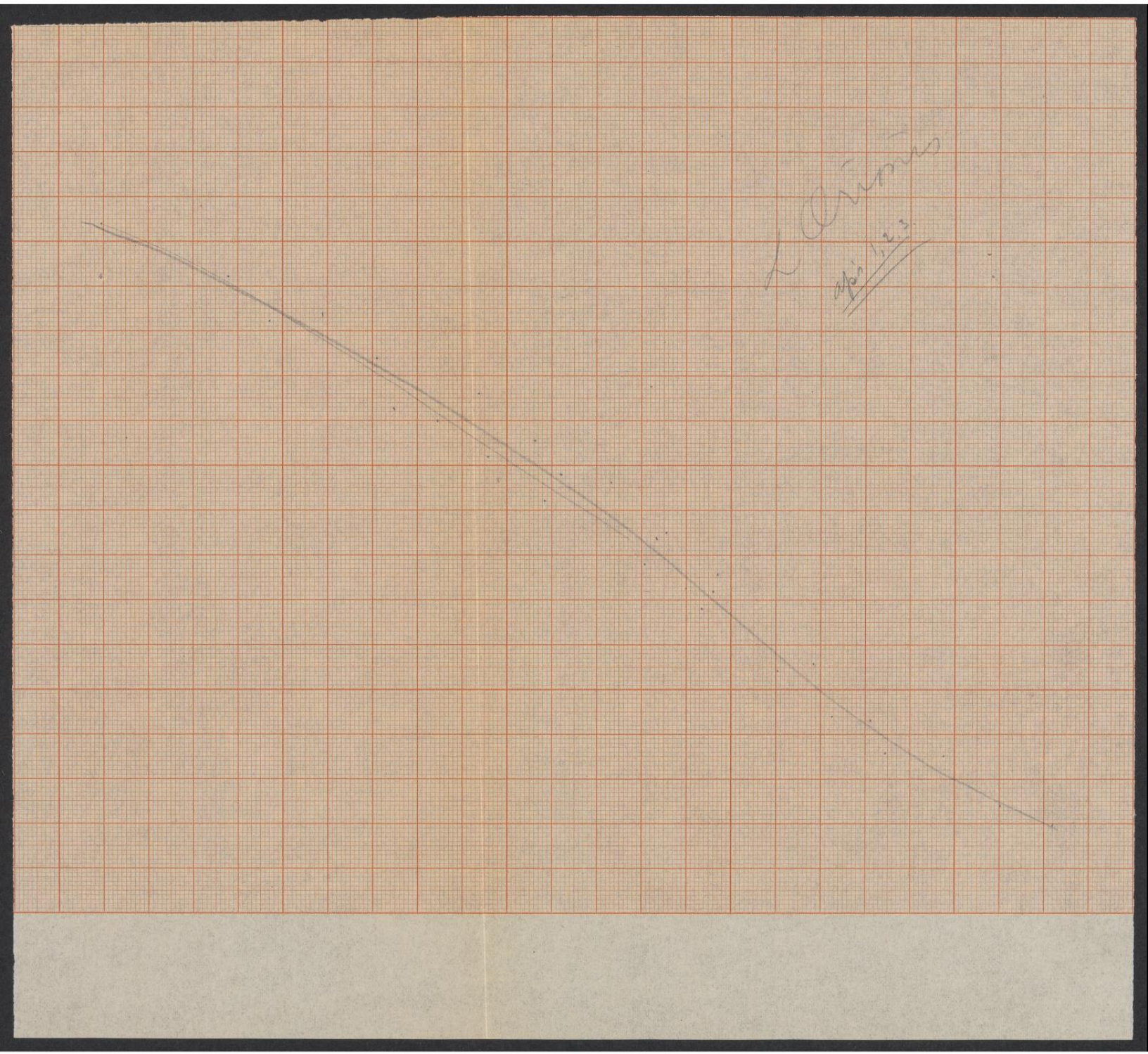
	n	mtn	ltmtn	π	mtn	(n)	(mtn)	Δm
32	53	91	35	54				
28	52	92	28	53				
47	51	92	47	52				
46	51	92	46	52				
47	52	92	47	53				
44	53	92	44	54				
42	54	92	42	55				
32	56	92	32	57				
37	57	92	37	58				
36	58	92	36	59				
56	60	92	57	61				
54	60	92	55	61				
51	61	92	52	62				
48	62	92	48	63				
51	64	92	52	65				
54	65	92	55	66				
50	65	92	51	66				
57	66	92	58	67				
56	66	92	57	67				
54	65	92	55	66	7	0		
54	63	92	55	64	75	37		
52	60	93	52	60	75	37		
50	59	93	50	59	—	37		
53	58	93	53	58				
47	56	93	47	56				
40	55	93	40	55				
42	53	93	42	53				
39	51	93	39	51				
39	49	93	39	49				

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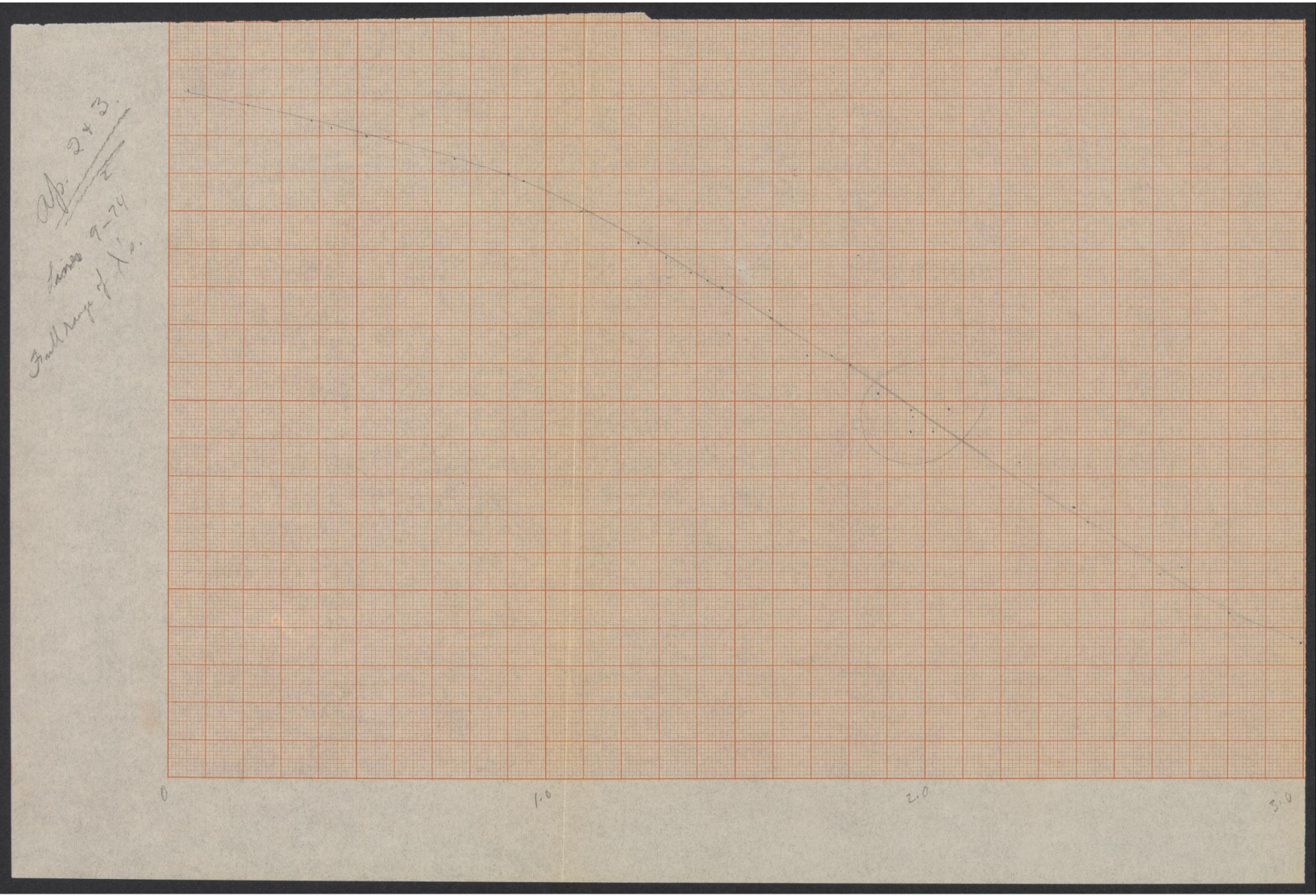
1924ph



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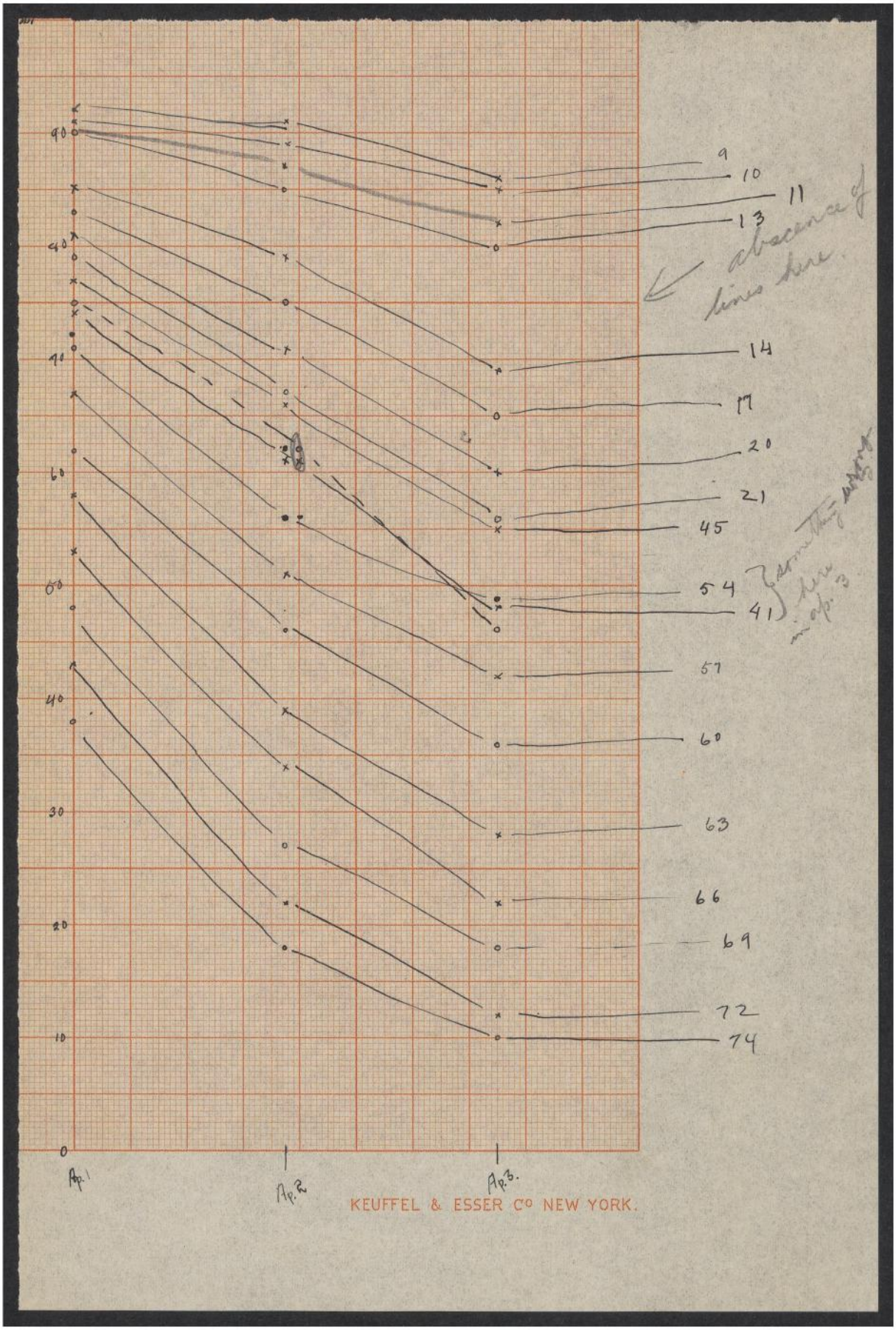


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Ap. III

n	m+n	l+m+n	$\bar{n}$	$\bar{m}+\bar{n}$	(n)	(m+n)	Δm
20	38	92	20	38			
13	37	92	13	37			
37	35	92	37	35			
33	36	92	33	36			
31	37	92	31	37			
29	38	92	29	38			
24	41	93	24	41			
18	42	93	18	42			
24	44	93	24	44			
22	46	93	22	46			
43	47	93	43	47			
41	48	93	41	48			
40	50	93	40	50			
35	51	93	35	51			
40	54	93	40	54			
41	55	93	41	55			
39	56	93	39	56			
49	57	93	49	57			
46	57	93	46	57			
44	57	93	44	57			
44	56	92	44	55			
44	54	94	44	53			
41	53	94	41	52			
46	51	94	45	50			
41	50	94	41	49			
30	48	94	30	47			
34	45	94	34	45			
28	42	94	28	42			
28	40	94	28	40			

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H 2680

α Orionis

Reduced to l+m+n=.93....

Ap. I

	n	m+n	l+m+n	π	m+n	(n)	(m+n)	Δ m
59	58	63	92	59	64			
60	58	61	92	58	62			
61	51	60	92	57	61			
62	53	59	92	54	60			
63	43	57	92	43	58			
64	41	55	92	41	56			
65	42	54	92	43	55			
66	41	52	92	41	53			
67	32	50	92	32	51			
68	40	50	92	40	51			
69	35	48	92	35	48			
70	34	47	92	34	47			
71	35	45	92	35	45			
72	33	43	92	33	43			
73	31	40	92	31	40			
74	29	38	92	29	38			
75	10	27	92	10	27			
76	9	23	92	9	23			
77								

Ap. II

n	m+n	l+m+n	π	m+n	(n)	(m+n)	Δ m
41	48	93	41	48			
40	46	93	40	46			
34	44	93	34	44			
35	42	93	35	42			
26	39	93	26	39			
25	38	93	25	38			
26	36	93	26	36			
25	34	93	25	34			
16	30	94	16	30			
22	28	94	22	28			
19	27	94	19	27			
18	25	94	18	25			
17	22	94	17	22			
15	22	94	15	22			
15	20	94	15	20			
11	18	94	11	18			

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Ap. III

n	mtn	Cmtn	ñ	mtn	(n)	Cmtn	Δm
32	39	94	32	39			
31	36	94	31	36			
26	34	94	26	34			
28	32	94	28	32			
15	28	94	15	28			
15	26	94	15	26			
16	25	94	16	25			
15	22	94	15	22			
8	20	94	8	20			
12	19	94	12	19			
10	18	94	10	18			
7	15	94	7	15			
7	14	94	7	14			
6	12	94	6	12			
3	11	94	3	11			
2	10	94	2	10			

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H 2696

Reduced to 125

	No I								No 2							
	n	m+n	l+m+n	$\bar{n}$	$\overline{m+n}$	(n)	(m+n)	Δm	n	m+n	l+m+n	$\bar{n}$	$\overline{m+n}$	(n)	(m+n)	Δm
−2	32	36	125	32	36	409	391	18	34	36	126	34	36	400	391	09
−1	31	36	125	31	36	414	391	23	35	38	126	35	38	396	384	12
0	35	48	125	35	48	396	354	42	36	43	126	36	43	391	368	23
1	36	55	125	36	45?	391	337	54	37	50	126	37	50	387	349	38
2	39	63	125	39	63	380	320	60	38	58	126	38	58	384	331	53
3	42	70	125	42	70	372	303	69	37	65	126	37	64	387	~~349~~ 317	70
4	43	77	125	43	77	368	287	81	40	71	126	40	70	377	303	74
5	47	82	125	47	82	356	275	81	42	76	126	42	76	372	292	80
6	53	88	125	53	88	341	259	82	48	82	126	48	82	353	277	76
6a	–	92	125	–	92	–	249	–	–	86	126	–	86	–	267	–
7	64	96	125	64	96	317	238	79	56	90	126	56	89	337	257	80
7a	–	102	126	–	101	–	223	–	–	95	126	–	94	–	244	–
8	78	105	126	77	104	287	213	74	66	97	126	65	96	315	238	77
9	107	110	126	106	109	205	~~219~~ 192	13	95	99	126	94	98	243	232	11
10	93	115	126	92	114	249	164	85	76	102	126	75	101	292	223	69
11	114	123	126	113	122	171	104	67	90	109	126	89	108	256	196	60
a	–	124	127	–	122	–	104	–	–	111	126	–	110	–	187	–
b	–	125	127	–	123	–	86	–	–	114	126	–	113	–	171	–
c	–	124	127	–	122	–	104	–	–	111	126	–	110	–	187	–
14	112	119	127	110	117	186	142	44	85	100	126	84	99	270	229	41

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	No. 4								No. 5							
	n	m+n	l+m+n	$\bar{n}$	$\overline{m+n}$	(n)	(m+n)	Δm	n	m+n	l+m+n	$\bar{n}$	$\overline{m+n}$	(n)	(m+n)	Δm
-2	16	21	126	16	21	..	480	-	4	-	—	-	-			
-1	19	24	126	19	24	496	458	38	4	7	124	4	7			
0	18	27	126	18	27	..	435	-	6	9	124	6	9			
1	17	30	126	17	30	..	420	-	6	11	124	6	11			
2	16	34	126	16	34	..	400	-	5	14	124	5	14			
3	20	39	126	20	39	490	380	110	8	18	124	8	18			
4	21	44	126	21	44	480	365	115	8	22	124	8	22			
5	24	51	126	24	51	458	346	112	10	30	124	10	30			
6	25	59	126	25	59	450	328	122	13	37	124	13	37			
6a	-	64	126	—	63	-	320	-	-	42	124	-	42			
7	35	67	126	35	66	296	313	83	19	46	124	19	46	494	359	135
7a	-	72	126	-	71	-	301	-	-	51	124	-	51	-		
8	41	77	126	41	76	374	290	84	22	57	124	22	57	472	332	140
9	77	82	125	77	82	287	275	12	57	63	124	57	63	333	320	
10	55	82	125	55	82	337	275	62	39	70	123	39	71	380	301	79
11	77	101	125	77	101	287	223	64	61	88	123	62	90	322	254	68
a	-	106	125	-	106	-	206	-	—	95	123	-	97	-		
b	-	110	125	-	110	-	187	-	-	99	123	-	101	-		
c	-	109	125	-	109	-	191	-	-	97	122	-	99	-		
14	73	95	125	73	95	297	240	57	59	82	122	60	84	326	270	56

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#2696

No 6

	n	m+n	l+m+n	$\bar{n}$	$\overline{m+n}$	(n)	(n+m)	Δ M
-2	–	–	–	–	–			
-1	–	–	–	–	–			
0	–	–	–	–	–			
1	–	–	–	–	–			
2	2	8	124	2	8			
3	3	9	124	3	9			
4	5	10	124	5	10			
5	5	13	124	5	13			
6	7	16	124	7	16			
6a	–	19	124	–	19			
7	7	21	124	7	21	..		
7a	–	25	124	–	25	–		
8	8	26	124	8	26	..		
9	26	31	124	26	31	442	413	19
10	13	19	123	13	19	..		
11	20	44	123	20	45	488	362	126
a	–	47	123	–	48	–		
b	–	51	123	–	52	–		
c	–	49	122	–	50	–		
14	14	30	122	14	30			

No. A

	n	m+n	l+m+n	$\bar{n}$	$\overline{m+n}$	(n)	(n+m)	Δ M
1	10	17	123	10	17	..	..	
2	12	23	123	12	23	..	..	
3	14	30	123	14	30	..	..	
4	17	39	123	17	40	516	378	138
5	17	48	123	17	49	516	351	165
6	24	59	123	24	60	458	326	132
6a	33	72	123					
7	↓	↓	↓	33	74	404	294	120
8	49	85	123	50	87	349	262	87
9	90	92	123	92	94	249	244	05
10	70	100	123	72	102	299	220	79
11	91	111	123	93	113	246	192	54
14	83	100	123	85	102	267	220	47

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No. B

	n	m+n	l+m+n	$\bar{n}$	$\bar{m+n}$	(n)	(m+n)	Δm
-2	—	—	—					
-1	—	—	—					
0	—	—	—					
1	—	—	—					
2	—	—	—					
3	5	9	125	5	9			
4	6	11	125	6	11			
5	11	15	125	11	15			
6	11	20	125	11	20			
6a	—	25	125	—	25			
7	13	27	125	13	27			
7a	—	32	125	-	32			
8	14	35	125	14	35			
9	33	39	125	33	39	404	380	24
10	17	46	125	17	46	516	359	157
11	32	63	125	32	63	409	320	89
a	—	70	125	—	70			
b	—	73	126	—	73			
c	—	67	126	—	67			
14	27	45	126	27	45	435	362	93

No. 3

	n	m+n	l+m+n	$\bar{n}$	$\bar{m+n}$	(n)	(m+n)	Δm
1	14	21	127	14	21	..		
2	16	25	127	16	25	..		
3	15	30	127	15	30	..		
4	15	36	127	15	36	..		
5	15	41	127	15	40	..		
6	20	46	127	20	45	488	362	116
6a	25	54	127					
7	↓	↓	↓	25	53	450	341	109
8	30	61	127	30	60	419	326	93
9	59	66	127	58	65	331	315	16
10	43	71	127	42	70	372	303	69
11	67	86	127	66	85	313	267	46
a								
b								
c								
14	67	78	127	66	77	313	287	26

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Pleiades.

C-18 5 68. For Fainter Stars.

No.	H.D. No.	R.A. 1900	Dec. 1900	Ptm.	Spect.
7	23441	3h 40.1m	24° 13	6.46	B9
8	23432	3 40.0	24 15	5.85	B8
9	23568	3 41.1	24 13	6.68	B9
10	23813	3 43.4	24 05	6.63	B9
11	23822	3 43.0	23 34	6.57	F0
12	23923	3 43.8	23 25	6.11	B8
13	23964	3 44.1	23 33	6.68	B9
14	24076	3 45.0	23 40	6.76	A0
15	23753	3 42.5	23 08	5.51	B8
16	23607 629	3 41.4 41.5	23 49 48	B 8.1	A0
17	23632 607	3 41.5	23 30	6.82	A0
18	23631	3 41.5	23 37	6.94	B9
19	23489	3 40.5	23 51	6.96	A0
20	23948	3 44.0	24 03	7.34	A0
21	24013	3 44.5	24 12	7 26	A2
22	23609	3 41.4	23 25	8.0	F5

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1924phae.proj.1160P

Line.	H	#1 Alcyone. μφ 649								#2. Electra μφ 655							
		n	m+n	l+m+n	$\bar{n}$	$\bar{m}+\bar{n}$	[n]	[m+n]	Δn	dl	n	m+n	l+m+n	$\bar{n}$	$\bar{m}+\bar{n}$	[n]	[m+n]	Δn	dl
	β																		
	γ																		
	δ																		
	ε																		
	ζ																		
	η																		
	θ																		
	i																		
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	λ																		
	μ																		
	ν																		
	ξ																		
	o																		
	π																		

		#13 μφ 653	#14 μφ 656
	β		
	γ		
	δ		
	ε		
	ζ		
	η		
	θ		
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	λ		
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1924phae.proj.1109P

Lino.	#3 Merope								#4. Maia. MΦ 646							
	n	m+n	l+m+n	n	m+n	[n]	[m+n]	Δm	M	n	m+n	l+m+n	n	m+n	[n]	[m+n]	Δm	M
β																		
γ																		
δ																		
ε																		
ζ																		
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θ																		
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κ																		
λ																		
μ																		
ν																		
ξ																		
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	#15 MΦ 657	#16 MΦ 650
β		
γ		
δ		
ε		
ζ		
η		
θ		
ι		
κ		
λ		
μ		
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ξ		
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1924phae.proj.1109P

Line. #5 Taygeta. #6 Celaeno. MΦ 654

H	n	m+n	l+m+n	n̄	m+n	[n]	[m+n]	Δm	dl	n	m+n	l+m+n	n̄	m+n	[n]	[m+n]	Δm	dl	H
β																			β
γ																			γ
δ																			δ
ε																			ε
ζ																			ζ
η																			η
θ																			θ
i																			i
κ																			κ
λ																			λ
μ																			μ
ν																			ν
ξ																			ξ
ο																			ο
π																			π

#17 MΦ 650 #18 MΦ 651

β																			β
γ																			γ
δ																			δ
ε																			ε
ζ																			ζ
η																			η
θ																			θ
i																			i
κ																			κ
λ																			λ
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ν																			ν
ξ																			ξ
ο																			ο

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dl	H	#7 n	m+n	[m+n]	π	m+π	[π]	[m+n]	Δm	dl	#8 n	m+n	[m+n]	π	m+π	[π]	[m+n]	Δm	dl.
	β																		
	γ																		
	δ																		
	ε																		
	ζ																		
	η																		
	θ																		
	ι																		
	κ																		
	λ																		
	μ																		
	ν																		
	ξ																		
	ο																		
	π																		
		#19									#20								
	β																		
	γ																		
	δ																		
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	ζ																		
	η																		
	θ																		
	ι																		
	κ																		
	λ																		
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Line | #9 | #10 | μφ 658 | Line

H	n	m+n	[n]	[m+n]	Δm	dl.
β						
γ						
δ						
ε						
ζ						
η						
θ						
i						
K						
λ						
μ						
ν						
ξ						
o						
π						

#21 | μφ 659 | #22. | μφ 652

β						
γ						
δ						
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ζ						
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θ						
i						
K						
λ						
μ						
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ξ						
o						

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1924phae.proj.11MP

Line #11 49 660 #12

H																	
β																	
γ																	
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ζ																	
η																	
θ																	
ι																	
κ																	
λ																	
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ξ																	
ο																	
π																	

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1924phae.proj.110P

H 2687

Reduced to 85

	No. 1								No. 2							
	n	m+n	t min	$\bar{n}$	$\bar{m+n}$	(n)	(n+m)	Δm	n	m+n	t min	$\bar{n}$	$\bar{m+n}$	(n)	(n+m)	Δm
π	14	18	82	15	19											
ο	15	19	82	16	20											
ξ	16	20	82	17	21											
ν	17	22	82	18	23				15	17	81	16	18			
μ	19	25	82	20	26				13	19	81	14	20			
λ	18	29	82	19	30				17	21	81	18	22			
κ	21	33	82	22	34				15	24	81	16	25			
ι	22	38	82	23	39				17	28	81	18	29			
θ	23	41	82	24	48				20	32	81	21	34			
η	25	44	82	26	46				20	36	80	21	38			
ζ	30	49	82	31	51				25	41	80	27	44			
ε	38	56	82	39	58				29	46	79	31	49			
δ	49	64	82	51	66				34	48	78	36	51			
γ	61	72	82	63	75				40	53	77	43	56			
β	46	63	82	48	65				28	37	75	30	39			

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	No 3								No. 4							
	n	m+n	6m+n	$\overline{n}$	$\overline{m+n}$	(n)	(m+n)	Δm	n	m+n	6m+n	$\overline{n}$	$\overline{m+n}$	(n)	(m+n)	Δm
11																
o																
ξ																
ν	8	10	83	8	10											
μ	8	12	83	8	12											
λ	8	19	83	8	13											
κ	10	15	83	10	15											
ι	11	17	83	11	17				7	15	83	7	15			
θ	11	19	83	11	19				9	18	83	9	18			
η	13	23	83	13	24				11	22	83	11	23			
ζ	15	26	83	15	27				13	26	83	13	27			
ε	19	30	83	19	31				17	32	82	18	33			
δ	21	35	82	22	36				24	39	82	25	41			
γ	30	41	82	31	43				36	49	81	38	51			
β	25	28	81	26	29				29	39	80	31	41			

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H 2687

	No 5								No 6							
	n	m+n	p+m+n	$\overline{n}$	$\overline{m+n}$	(n)	(m+n)	Δm	n	m+n	p+m+n	$\overline{n}$	$\overline{m+n}$	(n)	(m+n)	Δm
11																
o																
ξ																
ν																
ψ																
λ																
κ																
ι									3	5	80	3	5			
θ									4	6	80	4	6			
η									4	9	79	4	9			
ζ	5	7	83	5	7				7	11	78	8	12			
ε	5	14	82	5	15				9	15	77	10	17			
δ	14	25	81	15	26				10	19	76	11	21			
γ	26	38	79	28	41				14	21	74	16	24			
β	23	30	76	26	34				8	13	71	10	16			

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	No A								No B							
	m	$m+n$	$(m+n)$	$\bar{m}$	$\overline{m+n}$	(m)	$(m+n)$	Δm	n	$m+n$	$(m+n)$	$\bar{n}$	$\overline{m+n}$	(m)	$(m+n)$	Δm
$\overline{11}$																
o	5	8	89	5	8											
ξ	7	10	89	7	10											
ν	8	12	89	8	11											
μ	8	14	89	8	13											
λ	9	16	89	9	15											
κ	12	18	89	11	17											
ι	13	22	89	12	21											
θ	14	26	88	14	25											
η	16	32	88	15	31				3	7	85	3	7			
δ	20	28	88	19	27				4	11	85	4	11			
ε	29	47	88	28	45				10	18	85	10	18			
δ	38	56	88	37	54				15	24	85	15	24			
γ	51	66	87	50	64				20	32	85	20	32			
β	39	52	86	39	51				16	23	84	16	23			

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Pleiades C-18568. Line Depths by Spectrum Class.

dl

Class	Star	No	Hβ	Hγ	Hδ	Hε	H 5	Hη	Hθ	Hι	HK	Hλ	Hμ	Hν
B5	Alcyone	1	24	51	59	66	52	53	51	48	40	31	22	15
	Electra	2	35	42	52	57	56	52	52	49	39	30	11	08
	Maia	4	43	43	49	64	61	58	54	48	41	29	22	12
	Celaeno	6	34	51	55	56	49	52	45	27	27	31	28	—
	Sum		136	187	215	243	218	215	202	172	147	121	83	35
	Mean		34	47	54	61	54	54	50	43	37	30	21	12
B8		8	—	49	55	57	56	56	54	—	—			
		12	43	52	51	60	66	56	51	39	40			
		15	32	48	51	54	—	—	—	—	—			
	Sum		75	149	151	171	122	112	105	39	40			
	Mean		38	50	52	57	61	56	52	39	40			
B9		7	49	50	57	61	65	58	55	48	40			
		9	47	63	64	65	65	54	49	34	—			
		10	55	50	55	61	53	55	48	40	28			
		13	38	36	26	50	47	59	28	—	—			
		18	48	62	67	59	40	28	—	—	—			
	Sum		237	261	269	296	270	254	180	122	68			
	Mean		47	52	54	59	54	51	45	41	34			
A0		14	51	29	38	41	41	43	28	40				
		16	36	48	50	57	53	—	—	—				
		17	61	51	62	58	—	—	—	—				
		19	67	65	62	55	40	40	28	—				
		20	59	41	45	55	39	—	—	—				
	Sum		274	240	257	266	173	83	56	40				
	Mean		55	48	51	53	44	42	28	40				
A2		21												
F0		11												
F5		22												

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Pleiades C-18568 Mean Line Depths By Type.

Spectrum	β	γ	δ	ε	K	ζ	η	θ	ι	κ	λ	μ	ν	No. stars.
B5	34	47	54	61		54	54	50	43	37	30	21	12	4
B8	38	50	52	57		61	56	52	39	40				3
B9	47	52	54	59		54	51	45	41	34				5
A_0	55	48	51	53		44	42	28	40					5
A_2	—	36	58	59		55	48							1
F_0	36	36	50	65	62									1
F_5	—	—	41	43	48									1

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α Persei

C 18707

Reduced to 90

	Qp 1.								Qp 3							
	n	m+n	4min	$\bar{n}$	$\overline{m+n}$	(n)	(m+n)	Δm	n	m+n	4min	$\bar{n}$	$\overline{m+n}$	(n)	(m+n)	Δm
1	22	49	90	22	49	398	324	74	7	23	89	7	23	460	395	65
2	43	60	90	43	60	340	293	47	10	37	89	15	37	422	356	76
3	—	—	—	—	—	—	—	—	26	37	89	26	37	387	356	31
4	—	—	—	—	—	—	—	—	28	39	89	28	39	382	350	32
5	53	64	90	53	64	314	280	34	28	42	89	28	42	382	343	39
6	—	—	—	—	—	—	—	—	24	43	89	24	43	392	340	52
7	—	—	—	—	—	—	—	—	35	46	89	35	46	361	332	29
8	—	—	—	—	—	—	—	—	33	46	89	33	47	366	329	37
9	—	—	—	—	—	—	—	—	—	47	—	—	—	—	—	—
10	55	68	90	55	63	307	283	24	30	48	89	30	49	375	324	51
11	—	—	—	—	—	—	—	—	31	49	89	31	50	372	321	51
12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
13	—	—	—	—	—	—	—	—	17	50	89	17	51	414	318	96
14	38	70	90	38	70	254	260	94	14	52	89	14	53	426	314	112
15	—	—	—	—	—	—	—	—	22	53	89	22	54	398	311	87
16	—	—	—	—	—	—	—	—	31	54	89	31	55	372	307	65
17	—	—	—	—	—	—	—	—	43	55	89	43	56	340	304	36
18	—	—	—	—	—	—	—	—	45	56	89	46	57	332	301	31
19	—	—	—	—	—	—	—	—	46	57	89	47	58	329	298	31
20	73	76	90	73	76	250	239	11	51	58	89	52	59	316	296	20
21	72	77	90	72	77	254	234	20	50	59	89	51	60	318	293	25
22	66	68	90	66	68	273	267	6	57	60	89	58	61	298	289	9
23	66	69	90	66	64	273	264	9	56	61	89	57	62	301	286	15
24	—	—	—	—	—	—	—	—	61	62	89	62	63	286	283	3
25	72	80	90	72	80	254	219	35	50	63	89	61	64	318	280	62
26	75	81	90	75	81	243	213	30	43	64	89	48	65	340	276	64
27	75	81	90	75	81	243	213	30	54	65	89	55	66	307	273	34
28	64	81	90	64	81	280	213	67	44	66	89	44	67	338	270	68
29	59	82	90	59	82	296	208	88	34	66	89	34	67	364	270	94

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~~Qp 5~~ Qp 5

	n	m+n	l+m+n	$\bar{n}$	$\bar{m}+n$	(m)	(m+n)	n m	Dmm	m+n	l+m+n	$\bar{n}$	$\bar{m}+n$	(m)	(m+n)	n m
301	—	—	—	—				—	70							
2	—	—	—	—	—	—	—	—	62							
3	—	—	—	—	—	—	—	—	31							
4	—	-	-	—	—	—	—	—	32							
5	—	—	—	—		—	—	—	26							
6	5	15	90	5	15	472	422	50	51							
7	9	15	90	9	15	450	422	28	28							
8	12	16	90	12	16	434	418	16	26							
9	10	17	90	10	17	444	414	30	30							
10	8	18	90	8	18	456	411	45	40							
11	5	19	90	5	19	472	408	64	38							
12	8	20	90	8	20	456	404	52	52							
13	5	21	90	5	21	472	401	71	68							
14	2	21	90	2	21	500	401	99	102							
15	6	22	90	6	22	466	398	68	78							
16	7	23	90	7	23	460	395	65	65							
17	15	24	90	15	24	422	392	30	33							
18	20	25	90	20	25	404	390	14	22							
19	17	26	90	17	26	414	387	27	29							
20	23	27	90	23	27	395	384	11	1/84							
21	21	29	90	21	29	401	378	23	23							
22	28	31	90	28	31	382	372	10	8							
23	28	32	90	28	32	382	369	13	12							
24	-	34	90	-	34	—	—	-	3							
25	29	35	90	33	35	395	361	34	44							
26	25	37	90	25	37	390	356	36	48							
27	25	38	90	25	38	390	354	36	33							
28	17	39	90	17	39	414	350	64	66							
29	10	40	90	10	40	444	348	96	93							

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	Ap 1.								Ap 3							
	n	m+n	l+m+n	$\bar{n}$	$\bar{m+n}$	(n)	(m+n)	Δm	n	m+n	l+m+n	$\bar{n}$	$\bar{m+n}$	(n)	(m+n)	Δm
30	69	82	90	63	82	383	208	75	40	67	90	40	67	348	270	78
31	—	—	—					—	54	67	90	54	67	311	270	41
32	—	—	—					—	55	68	90	55	68	307	267	40
33	—	—	—					—	57	68	90	57	68	301	267	34
34	—	—	—					—	61	69	90	61	69	289	264	25
35	78	84	90	78	84	229	198	31	58	69	90	58	69	298	264	34
36	—	—	—					—	68	70	90	68	70	267	260	7
37	—	—	—					—	63	70	90	63	70	283	260	23
38	—	—	—					—	62	71	90	62	71	286	257	29
39	—	—	—					—	62	71	90	62	71	286	257	29
40	—	—	—					—	63	72	90	63	72	283	254	29
41	—	—	—					—	65	72	90	65	72	276	254	22
42	—	—	—					—	—	—	—	—	—	—	—	—
43	—	—	—					—	—	—	—	—	—	—	—	—
44	13	85	90	13	85	430	193	237	2	74	90	2	74	500	247	253
45	—	—	—					—	3	75	90	3	75	494	243	51
46	—	—	—					—	—	—	—	—	—	—	—	—
47	—	—	—					—	61	75	90	61	75	289	243	46
48	—	—	—					—	63	75	90	63	75	283	243	40
49	—	—	—					—	65	76	90	65	76	276	239	37
50	—	—	—					—	67	76	90	67	76	270	239	31
51	—	—	—					—	67	77	90	67	77	270	234	36
52	24	88	90	24	88	392	171	221	5	79	90	5	79	472	224	248
53	—	—	—					—	—	—	—	—	—	—	—	—
54	—	—	—					—	—	—	—	—	—	—	—	—
55	63	88	90	63	88	283	171	112	68	79	90	68	79	267	224	43
56	—	—	—					—	70	79	90	70	79	260	224	36
57	—	—	—					—	75	80	90	75	80	249	219	24
58	—	—	—					—	76	80	90	76	80	239	219	20

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Op 5.

	n	m+n	b+m+n	$\bar{n}$	$\overline{m+n}$	(n)	(m+n)	Δm	mean Δm's
30	14	40	90	14	40	426	348	76	76
31	25	41	90	25	41	390	345	45	43
32	26	41	90	26	41	387	345	42	41
33	27	42	90	27	42	384	343	41	38
34	33	43	90	33	43	366	340	26	26
35	29	44	90	29	44	378	338	40	35
36	41	45	90	41	45	345	335	10	8
37	34	45	90	34	45	364	335	29	24
38	33	46	90	33	46	366	332	34	32
39	33	46	90	33	46	366	332	34	32
40	37	47	90	37	47	356	329	27	28
41	—	—	—	—	—	—	—	—	22
42	31	48	90	31	48	372	327	45	45
43	2	49	90	2	49	500	324	76	76
44	0	49	90	0	49	—	—	—	45
45	—	—	—	—	—	—	—	—	51
46	—	—	—	—	—	—	—	—	—
47	31	50	90	31	50	372	321	51	48
48	35	51	90	35	51	361	318	43	42
49	39	51	90	39	51	350	318	32	34
50	41	52	90	41	52	345	316	29	30
51	39	53	90	39	53	350	314	36	36
52	0	54	90	0	54	—	—	—	34
53	—	—	—	—	—	—	—	—	—
54	22	55	90	22	55	398	307	91	91
55	40	56	90	40	56	348	304	44	33
56	46	57	90	46	57	332	301	31	34
57	51	58	90	51	58	318	298	20	22
58	54	59	90	54	59	311	296	15	28

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	Ap 1.								Ap 3							
	n	mtn	(n-mtn)	$\bar{n}$	$\bar{m}$tn	(n)	(mtn)	ΔM	n	mtn	(n-mtn)	$\bar{n}$	$\bar{m}$tn	(n)	(mtn)	ΔM
59									73	81	90	73	81	250	213	37
60									77	81	90	77	81	234	213	21
61									74	81	90	74	81	247	213	34
62									79	82	90	79	82	224	208	16
63									78	82	90	78	82	229	208	21
64									79	82	90	79	82	224	208	16
65									80	82	90	80	82	219	208	11
66									78	83	90	78	83	229	203	26
67									75	83	90	75	83	243	203	40
68									76	83	90	76	83	239	203	36
69									81	84	90	81	84	213	198	15
70									78	84	90	78	84	229	198	31
71									79	84	90	79	84	224	198	26
72									82	84	90	82	84	208	198	10
73									79	84	90	79	84	224	198	26
74									81	84	90	81	84	213	198	15
75									81	84	90	81	84	213	198	15
76									75	84	90	75	84	243	198	45
77									80	84	90	80	84	219	198	21
78									81	85	90	81	85	213	193	20
79									82	85	90	82	85	208	193	15
80									80	85	90	80	85	219	193	26
81									77	85	90	77	85	234	193	41
82	82	89	89	83	90	203	160	103	63	85	90	63	85	283	193	90
83									80	85	90	80	85	219	193	26
84									83	85	90	83	85	203	193	10
85									81	85	90	81	85	213	193	20
86									81	85	90	81	85	213	193	20
87									79	85	90	79	85	224	193	31

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Ap 5

m		n	m+n	(4m+n)	$\bar{n}$	$\overline{m+n}$	(n)	(m+n)	Δm	mean Δm's
37	59	58	60	90	58	60	298	293	5	21
21	60	55	61	90	55	61	307	289	18	20
34	61	50	61	90	50	61	321	289	32	31
16	62	—	—	—	—	—	—	—	—	16
21	63	—	—	—	—	—	—	—	—	21
16	64	58	62	90	58	62	298	286	12	14
11	65	59	63	90	59	63	296	283	13	12
26	66	56	63	90	56	63	304	283	21	24
40	67	53	64	90	53	64	314	280	34	37
36	68	—	—	—	—	—	—	—	—	36
15	69	60	64	90	60	64	293	280	13	14
31	70	57	65	90	57	65	301	276	25	28
26	71	57	65	90	57	65	301	276	25	26
10	72	60	65	90	60	65	293	276	17	14
26	73	57	65	90	57	65	301	276	25	26
15	74	59	66	90	59	66	296	273	23	19
15	75	59	66	90	59	66	296	273	23	19
45	76	51	66	90	51	66	318	273	45	45
21	77	—	—	—	—	—	—	—	—	21
20	78	60	66	90	60	66	293	273	20	15
15	79	—	—	—	—	—	—	—	—	15
26	80	63	67	90	63	67	283	270	13	20
41	81	—	—	—	—	—	—	—	—	41
90	82	37	67	90	37	67	356	270	86	93
26	83	58	67	90	58	67	298	270	28	27
10	84	62	67	90	62	67	286	270	16	13
20	85	61	68	90	61	68	289	268	21	20
20	86	60	68	90	60	68	293	268	25	22
31	87	57	68	90	57	68	301	268	33	32

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	Qp. 1								Qp 3.							
	n	mm	[illegible]	$\overline{n}$	$\overline{m+n}$	(m)	(m+n)	Δm	n	mm	[illegible]	$\overline{n}$	$\overline{m+n}$	(m)	(m+n)	Δm
88									80	85	90	80	85	219	193	26
89									85	86	90	85	86	193	188	5
90									81	86	90	81	86	213	188	25
91									84	86	90	84	86	198	188	10
92									82	86	90	82	86	208	188	20
93									83	86	90	83	86	203	188	15
94									85	86	90	85	86	193	188	5
95									78	86	89	79	87	224	181	43
96									79	86	89	80	87	219	181	38
97									82	86	89	83	87	203	181	22
98									81	86	89	82	87	208	181	27
99									83	86	89	83	87	203	181	22
100									81	86	89	82	87	208	181	27
101									82	86	89	83	87	203	181	22
102									82	86	89	83	87	203	181	22
103									84	87	89	85	88	193	171	22
104									83	87	89	84	88	198	171	27
105									80	87	89	81	88	213	171	42
106									83	87	89	84	88	198	171	27
107									84	87	89	85	88	193	171	22
108									85	87	89	86	88	188	171	17
109									83	87	89	84	88	198	171	27
110									84	87	89	85	88	193	171	22
111									—	—	—	—	—	—	—	—
112									84	87	89	85	88	193	171	22
113									86	87	89	87	88	181	171	10
114									84	87	89	85	88	193	171	22
115									85	87	89	86	88	188	171	17
116									85	87	89	86	88	188	171	17

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Ap 5

	n	m+n	(m+n)	$\bar{n}$	m+n	(n)	(m+n)	Δm	mean ΔM's
88	58	68	90	58	68	298	267	31	28
89	65	68	90	65	68	276	267	9	7
90	60	68	90	60	68	293	267	26	26
91	62	68	90	62	68	286	267	19	14
92	61	68	90	61	68	289	267	22	21
93	62	68	90	62	68	286	267	19	17
94	64	68	90	64	68	280	267	13	9
95	54	69	90	54	69	311	264	47	45
96	55	69	90	55	69	307	264	43	40
97	59	69	90	59	69	296	264	32	27
98	60	69	90	60	69	293	264	29	28
99	63	69	90	63	69	283	264	19	20
100	59	69	90	59	69	296	264	32	30
101	60	69	90	60	69	293	264	29	20
102	59	69	90	59	69	296	264	32	27
103	63	69	90	63	69	283	264	19	20
104	60	70	90	60	70	293	260	33	30
105	47	70	90	47	70	329	260	69	56
106	61	70	90	61	70	289	260	29	28
107	62	70	90	62	70	286	260	26	24
108	65	70	90	65	70	276	260	16	16
109	61	70	90	61	70	289	260	29	28
110	63	70	90	63	70	283	260	23	22
111	65	70	90	65	70	276	260	16	16
112	64	70	90	64	70	280	260	20	21
113	69	70	90	69	70	264	260	4	7
114	61	70	90	61	70	289	260	29	26
115	64	70	90	64	70	280	260	20	18
116	66	71	90	66	71	273	257	16	16

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1924phae.proj.110P

	Ap 1								Ap 3							
	n	m+n	l-m+n	$\bar{n}$	$\overline{m+n}$	(n)	(m+n)	Δm	n	m+n	l-m+n	$\bar{n}$	$\overline{m+n}$	(n)	(m+n)	Δm
117	–	–	–	–	–	–	–	–	82	87	89	83	88	203	171	32
118	–	–	–	–	–	–	–	–	84	87	89	85	88	193	171	22
119	–	–	–	–	–	–	–	–	81	87	89	82	88	208	171	37
120	–	–	–						84	87	89	85	88	193	171	22
121	–	–	–						82	87	89	83	88	203	171	32
122	–	–	–						85	87	89	86	88	188	171	17
123	–	–	–						84	87	89	85	88	193	171	22
124	–	–	–						85	87	89	96	86	188	171	17
125	83	88	89	84	89	198	160	~~38~~	70	87	89	71	88	257	171	86
126	–								88	87	89	84	88	198	171	27
127	–								85	87	89	86	88	188	171	17
128	–								86	87	89	87	88	181	171	10
129	–								85	87	89	86	88	188	171	17
130	–								84	87	89	85	88	193	171	22
131	–								–	–	–	–	–	–	–	–
132	–								83	87	89	84	88	198	171	27
133	–								86	87	89	87	88	181	171	10
134	–								85	87	89	86	88	188	171	17
135	–								84	87	89	85	88	193	171	22
136	–								–	–	–	–	–	–	–	–
137	–								–	–	–	–	–	–	–	–
138	–								84	87	89	85	88	193	171	22
139	–								–	–	–	–	–	–	–	–
140	–								–	–	–	–	–	–	–	–
141	–								–	–	–	–	–	–	–	–
142	–								84	88	89	85	89	193	160	33
143	–								–	–	–					
144	–								–	–	–					
145	–								–	–	–					

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Gp 5

	n	m+n	L+m+n	$\bar{n}$	m+n	(n)	(m+n)	Δm	mean Δm's
117	59	71	90	59	71	296	257	39	36
118	64	71	90	64	71	280	257	23	22
119	57	71	90	57	71	301	257	44	40
120	62	71	90	62	71	286	257	29	26
121	60	71	90	60	71	293	257	36	34
122	66	71	90	66	71	273	257	16	16
123	62	72	90	62	72	286	254	32	27
124	62	72	90	62	72	286	254	32	24
125	42	72	89	43	73	340	250	90	71. 88
126	62	72	89	63	73	283	250	33	30
127	67	72	89	68	73	267	250	17	17
128	70	72	89	71	73	257	250	7	8
129	67	72	89	68	73	267	250	17	17
130	64	72	89	65	73	276	250	26	24
131	—	—	—	—	—	—	—	—	—
132	62	72	89	63	73	283	250	33	30
133	69	72	89	70	73	260	250	10	10
134	65	72	89	66	73	273	250	23	20
135	64	72	89	65	73	276	250	26	24
136	—	—	—	—	—	—	—	—	—
137	67	72	89	68	73	267	250	17	17
138	64	72	89	65	73	276	250	26	24
139	68	72	89	69	43	264	250	14	14
140	68	73	89	69	74	264	247	17	17
141	68	73	89	69	74	264	247	17	17
142	68	73	89	64	74	280	247	33	33
143	67	73	89	68	74	267	247	20	20
144	66	73	89	67	74	270	247	23	23
145	65	73	89	66	74	273	247	26	26

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	Ap 1								Ap 3							
	n	m+n	G m+n	$\bar{n}$	$\bar{m+n}$	(n)	(m+n)	Δm	n	m+n	G m+n	n	m+n	n	m+n	Δm
146	—	—							—	—	—					
147	—	—							—	—	—					
148	—	—							—	—	—					
149	—	—							—	—	—					
150	—	—							—	—	—					
151	—	—							—	—	—					
152	—	—							—	—	—					
153	—	—							—	—	—					
154	—	—							—	—	—					
155	—	—							—	—	—					
156	—	—							—	—	—					
157	—	—							—	—	—					
158	—	—							—	—	—					
159	—	—							—	—	—					
160	—	—							—	—	—					
161	—	—							—	—	—					
162	—	—							—	—	—					
163	—	—							—	—	—					
164	—	—							—	—	—					
165	—	—							—	—	—					
166	—	—							—	—	—					
167	—	—							—	—	—					
168	—	—							—	—	—					
169	—	—							—	—	—					
170	—	—							—	—	—					
171	—	—							—	—	—					
172	—	—							—	—	—					
173	—	—							—	—	—					
174	—	—							85	87	89	86	88	188	171	17

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Ap 5.

	n	m+n	l+m+n	$\bar{n}$	$\overline{m+n}$	(n)	(m+n)	Δm	mean Δm
146	70	73	89	71	74	257	247	10	10
147	66	73	89	67	74	270	247	23	23
148	67	73	89	68	74	267	247	20	20
149	68	73	89	69	74	264	247	17	17
150	70	74	89	71	75	257	243	14	14
151	71	74	89	72	75	254	243	11	11
152	70	74	89	71	75	257	243	14	14
153	69	74	89	70	75	260	243	17	17
154	67	74	89	68	75	267	243	24	24
155	67	73	89	68	74	267	247	20	20
156	—	—	—	—	—	—	—	—	—
157	—	—	—	—	—	—	—	—	—
158	68	73	89	69	74	264	247	17	17
159	66	73	89	67	74	270	247	23	23
160	69	73	89	70	74	260	247	13	13
161	71	73	89	72	74	254	247	7	7
162	71	73	89	72	74	254	247	7	7
163	66	73	89	67	74	270	247	23	23
164	69	73	89	70	74	260	247	13	13
165	68	73	89	66	74	267	247	20	20
166	—	—	—	—	—	—	—	—	—
167	—	—	—	—	—	—	—	—	—
168	—	—	—	—	—	—	—	—	—
169	—	—	—	—	—	—	—	—	—
170	—	—	—	—	—	—	—	—	—
171	—	—	—	—	—	—	—	—	—
172	—	—	—	—	—	—	—	—	—
173	—	—	—	—	—	—	—	—	—
174	65	72	89	66	73	273	250	23	20

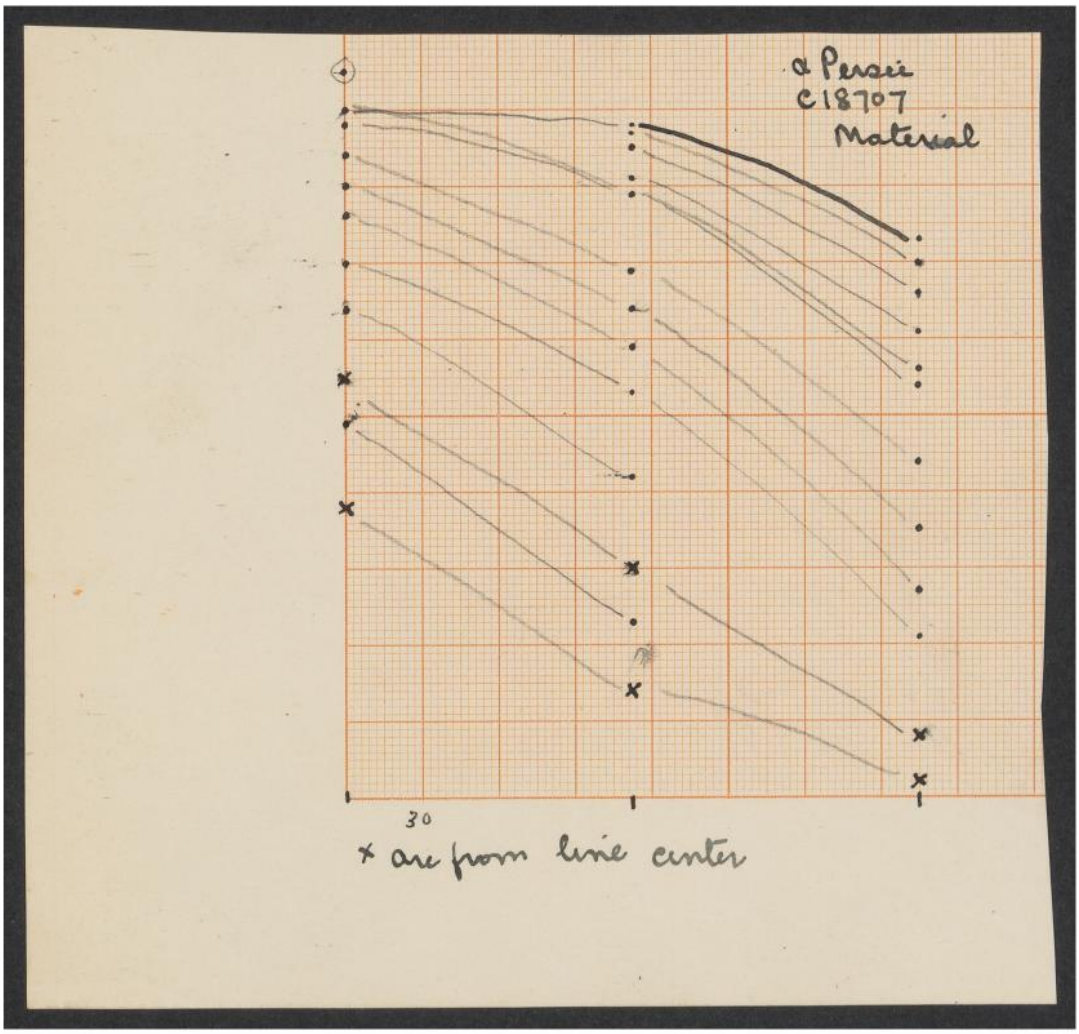
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	Qp. 1								Qp. 3.							
	n	m+n	t+m+n	$\bar{n}$	$\bar{m}+n$	(m)	(m+n)	ΔM	n	m+n	t+m+n	$\bar{n}$	$\bar{m}+n$	(m)	(m+n)	ΔM
175	–	–	–	–	–	–	–	–	–	–	–					
176	–	–	–	–	–	–	–	–	–	–	–					
177	–	–	–	–	–	–	–	–	–	–	–					
178	–	–	–	–	–	–	–	–	–	–	–					
179	–	–	–	–	–	–	–	–	–	–	–					
180	–	–	–	–	–				–	–	–					
181	–	–	–	–	–				–	–	–					
182	–	–	–	–	–				–	–	–					
183	–	–	–	–	–				–	–	–					
184	–	–	–	–	–				–	–	–					
185	–	–	–	–	–				–	–	–					
186	–	–	–	–	–				–	–	–					
187	–	–	–	–	–				–	–	–					
188	–	–	–	–	–				82	55	89	83	86	203	188	15
189	–	–	–	–	–				–	–	–					
190	–	–	–	–	–				–	–	–					
191	–	–	–	–	–				–	–	–					
192	–	–	–	–	–				–	–	–					
193	–	–	–	–	–				–	–	–					
194	–	–	–	–	–				–	–	–					
195	–	–	–	–	–				–	–	–					
196	–	–	–	–	–				–	–	–					
197	–	–	–	–	–				–	–	–					
198	–	–	–	–	–				–	–	–					
199	–	–	–	–	–				–	–	–					
200	75	82	88	86	83	239	203	36	60	76	89	61	77	289	234	55

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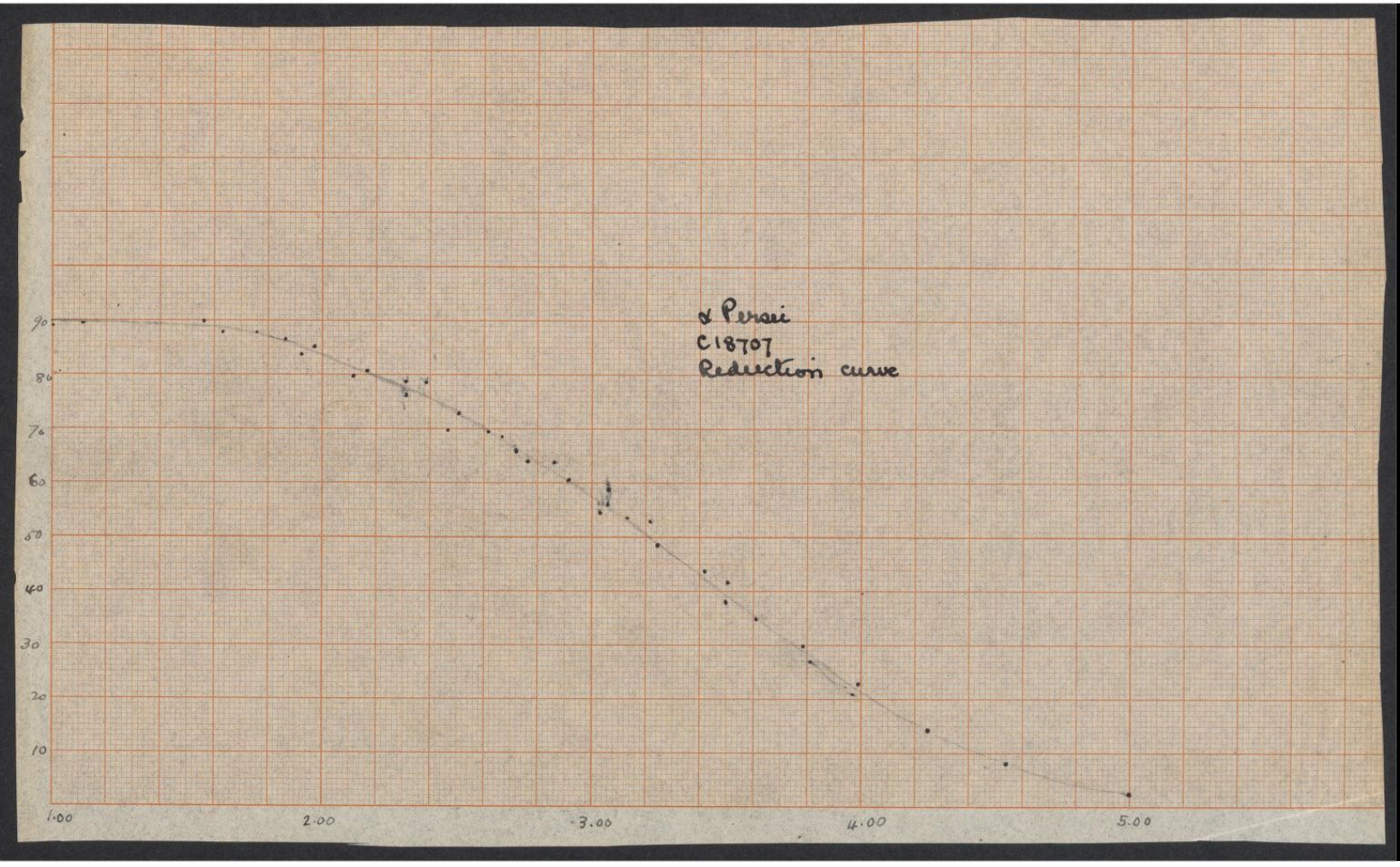
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C 18707

0		39	350	78	229
1		40	348	79	224
2	500	41	345	80	219
3	494	42	343	81	213
4	482	43	340	82	208
5	472	44	338	83	203
6	466	45	335	84	198
7	460	46	332	85	193
8	456	47	329	86	188
9	450	48	327	87	181
10	444	49	324	88	171
11	438	50	321	89	160
12	434	51	318	90	100
13	430	52	316		
14	426	53	314		
15	422	54	311		
16	418	55	307		
17	414	56	304		
18	411	57	301		
19	408	58	298		
20	404	59	296		
21	401	60	293		
22	398	61	289		
23	395	62	286		
24	392	63	283		
25	390	64	280		
26	387	65	276		
27	384	66	273		
28	382	67	270		
29	378	68	267		
30	375	69	264		
31	372	70	260		
32	369	71	257		
33	366	72	254		
34	364	73	250		
35	361	74	247		
36	358	75	243		
37	356	76	239		
38	354	77	234		

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	n	m+n	l+m+n	$\overline{n}$	$\overline{m+n}$	(n)	(m+n)	4M.	mean Dec.
175	68	72	89	69	73	264	250	14	14
176	—	—	—	—	—				
177	—	—	—	—	—				
178	—	—	—	—	—				
179	—	—	—	—	—				
180	65	70	89	66	71	273	257	16	16
181	—	—	—	—	—				
182	—	—	—	—	—				
183	63	68	89	64	69	280	264	24	24
184	—	—	—	—	—				
185	—	—	—	—	—				
186	—	—	—	—	—				
187	—	—	—	—	—				
188	60	66	89	61	67	289	270	19	17
189	—	—	—	—	—				
190	—	—	—	—	—				
191	—	—	—	—	—				
192	—	—	—	—	—				
193	—	—	—	—	—				
194	—	—	—	—	—				
195	53	59	89	54	60	311	293	18	18
196	—	—	—	—	—				
197	—	—	—	—	—				
198	—	—	—	—	—				
199	—	—	—	—	—				
200	29	53	89	29	54	378	311	67	58

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Reduced to 75

	Gp 1:								Gp 3							
1	n	m+n	t+m+n	$\bar{n}$	m+$\bar{n}$	(n)	(m+n)	Δm	n	m+n	t+m+n	$\bar{n}$	m+$\bar{n}$	(n)	(m+n)	Δm
↘ 1	20	26	72	21	27	340	316	24	7	15	72	7	16	—	362	—
↘ 2	20	35	72	21	37	340	280	40	9	18	72	9	19	—	350	—
3	29	36	72	30	38	304	276	28	—	—	—	—	—	—	—	—
* 4	30	38	72	31	40	300	268	32	—	—	—	—	—	—	—	—
5	—	40	72	—	—	—	—	—	—	—	—	—	—	—	—	—
6	—	—	—	—	—	—	—		10	21	72	10	22	390	336	54
7	—	—	—	—	—	—	—		15	21	72	16	22	362	336	26
8	—	—	—	—	—	—	—		16	23	72	17	24	358	328	30
9	—	—	—	—	—	—	—		19	23	72	20	24	344	328	16
↘ 10	31	43	72	32	45	296	254	42	13	24	72	14	25	370	324	46
11	32	44	72	33	46	292	252	40	15	25	72	16	26	362	320	42
12	30	45	72	31	47	300	248	52	14	25	72	15	26	366	320	46
13	—	—	—	—	—	—	—	—	8	26	72	8	27	—	316	—
14	17	46	72	18	48	354	244	110	7	27	72	7	28	—	312	—
15	—	—	—	—	—	—	—	—	9	28	72	9	29	—	308	—
↘ 16	31	48	72	32	50	296	238	58	14	28	72	15	29	366	308	56
17	41	49	72	43	51	260	234	26	20	29	72	21	30	340	304	36
18	43	49	72	45	51	254	234	20	23	30	72	24	31	328	300	28
19	43	51	72	45	53	254	226	28	22	32	72	23	33	332	292	40
↘ 20	48	53	72	50	55	238	218	20	28	35	72	29	37	308	280	28
21	47	53	72	49	55	242	218	24	27	36	72	28	38	312	276	36
22	51	54	72	53	56	226	214	12	32	37	72	33	39	292	272	20
23	51	55	72	53	57	226	210	16	33	38	72	34	40	290	268	22
24	52	55	72	54	57	222	210	12	34	39	72	35	41	286	266	20
25	46	56	72	48	58	244	206	38	27	40	72	28	42	312	262	50
26	48	57	72	50	59	238	200	38	29	42	72	30	44	304	258	46
↘ 27	50	58	72	52	60	230	196	34	30	42	72	31	44	300	258	40
28	40	58	72	42	60	262	196	66	23	43	72	24	45	328	254	74
29	33	59	72	34	61	290	190	100	16	44	72	17	46	358	252	106

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	Q_p 5								Q_p 7								mean
	n	m+n	l+m+n	n	m+n	(n)	(m+n)	Δm	n	m+n	l+m+n	n	m+n	(n)	(m+n)	Δm	
1	—	—							—	—							24
2	—								—	—							40
3	—								—	—							28
4	—								—	—							32
5	—								—	—							
6									—	—							
7	—								—	—							
8	—								—	—							
9	—								—	—							
10									—	—							44
11									—	—							41
12									—	—							49
13									—	—							
14									—	—							110
15									—	—							
16									—	—							57
17									—	—							31
18									—	—							24
19									—	—							34
20									—	—							24
21									—	—							30
22									—	—							16
23									—	—							19
24									—	—							16
25									—	—							44
26									—	—							42
27									—	—							38
28									—	—							70
29									—	—							103

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	Ap 1								Ap 3							
	n	m+n	t+m+n	$\bar{n}$	$\bar{m+n}$	(n)	(m+n)	Δm	n	m+n	t+m+n	$\bar{n}$	$\bar{m+n}$	(n)	(m+n)	Δm
30	—	—	—						—	—	—					
31	—	—	—						33	44	72	34	46	290	252	38
32	50	59	72	52	61	230	190	40	33	45	72	34	47	290	248	42
33	51	60	72	53	63	226	180	46	33	45	72	34	47	290	248	42
34	55	60	72	57	63	210	180	30	35	46	72	37	48	280	244	36
35	52	61	72	54	64	222	174	48	38	46	72	34	48	290	244	46
36	60	61	72	63	64	180	174	06	41	47	72	43	49	260	242	22
37	—	—	—						38	48	72	40	50	268	238	30
38	55	61	72	57	64	210	174	26	36	48	72	38	50	276	238	38
39	55	62	72	57	65	210	168	42	39	49	72	41	51	266	234	32
40	56	62	72	58	65	206	168	38	41	49	72	43	51	260	234	26
41	57	62	72	59	65	200	168	32	42	49	72	44	51	258	234	24
42	53	63	72	55	66	218	162	56	34	50	72	35	52	286	230	56
43	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
44	3	63	72	3	66	—	162	—	5	50	72	5	52	—	—	—
45	—	—	—	—	—	—	—	—	6	51	72	6	53	—	—	—
46	—	—	—	—	—	—	—	—	—	—	—	—	—			—
47	55	64	72	57	67	210	156	54	35	52	72	37	53	280	226	54
48	56	64	72	58	67	206	156	50	39	52	72	41	53	266	226	40
49	58	65	72	60	68	196	148	48	42	53	72	44	54	258	222	36
50	59	65	72	62	68	184	148	36	43	54	72	45	56	254	214	40
51	57	65	72	59	68	200	148	52	42	54	72	44	56	258	214	44
52	7	66	72	7	69	—	140	—	7	55	72	7	57	—	210	—
53	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
54	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
55	50	67	72	52	70	230	134	96	48	56	72	45	58	254	206	48
56	60	67	72	63	70	180	134	46	46	57	72	47	59	248	200	48
57	64	68	72	67	71	156	126	30	50	57	72	52	59	280	200	30
58	65	68	72	68	71	148	126	22	51	58	72	53	60	226	196	30

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	Ap 5								Ap 7								
	n	m+n	t max	$\bar{n}$	$\overline{m+n}$	(n)	(m+n)	Δm	n	m+n	t max	$\bar{n}$	$\overline{m+n}$	(n)	(m+n)	Δm	Lucern
30									1	8	74	1	8				–
31									2	8	74	2	8				38
32									2	8	74	2	8				41
33									4	9	74	4	9				44
34									5	9	74	5	9				33
35									3	9	74	3	9				47
36									8	10	74	8	10				14
37									4	10	74	4	10				30
38									4	10	74	4	10				32
39									5	10	74	5	10				37
40									6	11	74	6	11				32
41									–	11	74	–	–	–			29
42									2	11	74	2	11				56
43									0	11	74	0	11				–
44									0	12	74	0	12				–
45									1	12	74	1	12				–
46									3	12	74	3	12				–
47									·	–	–	–	–				54
48									5	12	74	5	12				45
49									6	13	74	6	13				42
50									7	13	74	7	13				38
51									7	13	74	7	13				48
52									0	15	74	0	15				–
53									3	15	74	3	15	–	–	–	–
54									7	15	74	7	15	–	–	–	–
55									11	15	74	11	15	386	366	20	55
56									8	16	74	8	16	–	–	–	47
57									12	16	74	12	16	380	362	18	26
58									14	17	74	14	17	370	358	12	21

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	Gp 1.								Gp. 3.							
	n	mtn	tmtn	$\bar{n}$	$\bar{m}tn$	(n)	(mtn)	Δm	n	mtn	tmtn	$\bar{n}$	$\bar{m}tn$	(n)	(mtn)	Δm
59	62	68	72	65	71	168	126	42	48	58	72	50	60	238	196	42
60	66	68	72	69	71	140	126	14	52	59	72	54	61	222	190	32
61	63	69	72	66	72	162	118	44	48	59	72	50	61	238	190	48
62	68	69	72	71	72	126	118	8	55	59	72	57	61	210	190	20
63	67	69	72	70	72	134	118	16	54	60	72	56	63	214	180	34
64	67	69	72	70	72	134	118	16	55	60	72	57	63	210	180	30
65	67	69	72	70	72	134	118	16	56	60	72	58	63	206	180	26
66	66	69	72	69	72	140	118	22	53	60	72	55	63	218	180	38
67	64	69	72	67	72	156	118	38	51	60	72	53	63	226	180	46
68	64	69	72	69	72	140	118	22	53	60	72	55	63	218	180	38
69	68	70	72	71	73	126	108	16	55	60	72	57	63	210	180	30
70	66	70	72	69	73	140	108	32	53	60	72	55	63	218	180	38
71	67	70	72	70	73	134	108	26	54	61	72	56	64	214	174	40
72	69	70	72	72	73	118	108	10	57	61	72	59	64	200	174	26
73	67	70	72	70	73	134	108	26	54	61	72	56	64	214	174	40
74	68	70	72	71	73	126	108	18	56	61	72	58	64	206	174	32
75	68	70	72	71	73	126	108	18	55	61	72	57	64	210	174	36
76	64	70	72	67	73	156	108	48	49	61	72	51	64	234	174	60
77	—	—	72	—	—	—	—	—	—	—	—	—	—	—	—	—
78	65	70	72	71	73	126	108	18	55	61	72	57	64	210	174	36
79	66	70	72	69	73	140	108	32	48	62	72	50	65	238	168	70
80	68	70	72	71	73	126	108	18	55	62	72	57	65	210	168	42
81	63	70	72	66	73	162	108	54	—	—	—	—	—	—	—	—
82	56	71	72	58	74	206	96	110	40	62	72	42	65	262	168	94
83	66	71	72	69	74	146	96	44	56	62	72	58	65	206	168	38
84	68	71	72	71	74	126	96	30	58	62	72	60	65	196	168	28
85	68	71	72	71	74	126	96	30	57	62	72	59	65	200	168	32
86	68	71	72	71	74	126	96	30	58	63	72	60	66	196	162	34
87	67	71	72	70	74	134	96	38	55	63	72	57	66	210	162	48

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	Ap 5								Ap 7								
	n	mean	t mean	$\bar{m}$	$\bar{m}$ tn	(m)	(m+n)	Δm	n	mean	t mean	$\bar{m}$	$\bar{m}$ tn	(m)	(m+n)	Δm	mean Δm
	59								11	18	74	11	18	386	354	32	39
	60								15	19	74	15	19	366	350	16	21
	61								12	19	74	12	19	380	350	30	41
	62								18	20	74	18	20	354	344	10	13
	63								17	20	74	17	20	358	344	14	21
	64								16	21	74	16	21	362	340	22	28
	65								17	21	74	17	21	358	340	18	20
	66								15	22	74	15	22	366	336	30	30
	67								13	22	74	13	22	376	336	40	41
	68								14	22	74	14	22	370	336	34	31
	69								20	23	74	20	23	344	332	12	19
	70								15	23	74	15	23	366	332	34	35
	71								16	24	74	16	24	362	328	34	33
	72								19	24	74	19	24	350	328	22	19
	73								17	24	74	17	24	358	328	30	32
	74								17	25	74	17	25	358	324	34	28
	75								17	25	74	17	25	358	324	34	29
	76								12	25	74	12	25	380	324	56	55
	77								19	25	74	19	25	350	324	26	26
	78								17	25	74	17	25	358	324	34	29
	79								20	25	74	20	25	344	324	20	41
	80								20	25	74	20	25	344	324	20	27
	81								18	25	74	18	25	350	324	26	40
	82								6	26	74	6	26	–	–	–	101 ~~88~~
	83								17	26	74	17	26	358	320	38	40
	84								22	26	74	22	26	336	320	16	25
	85								19	26	74	19	26	350	320	30	31
	86								18	27	74	18	27	354	316	38	34
	87								17	27	74	17	27	358	316	42	43

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	Ap 1								Ap 3							
	n	m+n	4m+n	$\bar{n}$	$\bar{m}+\bar{n}$	(n)	(m+n)	4m	n	m+n	4m+n	$\bar{n}$	$\bar{m}+\bar{n}$	(n)	(m+n)	4m
88	67	71	72	70	74	134	96	38	56	68	72	58	66	206	162	44
89	70	71	72	73	74	108	96	12	60	68	72	63	66	180	162	18
90	68	71	72	71	74	126	96	30	57	63	72	59	66	200	162	38
91	69	71	72	72	74	118	96	22	59	68	72	61	66	190	162	28
92	68	71	72	71	74	126	96	30	58	68	72	60	66	196	162	34
93	69	71	72	72	74	118	96	22	58	64	72	60	67	196	156	40
94	70	71	72	73	74	108	96	12	60	64	72	63	67	180	156	24
95	66	71	72	69	74	140	96	44	58	64	72	55	67	218	156	62
96	68	71	72	71	74	126	96	30	54	64	72	56	67	214	156	58
97	69	71	72	72	74	118	96	22	58	64	72	60	67	196	156	40
98	69	71	72	72	74	118	96	22	57	64	72	59	67	200	156	44
99	70	71	72	73	74	108	96	12	59	64	72	61	67	190	156	34
100	68	71	72	71	74	126	96	30	55	64	72	57	67	210	156	54
101	—	—	—	—	—	—	—	—	58	64	72	60	67	196	156	40
102	68	71	72	71	74	126	96	30	56	64	72	58	67	206	156	50
103	70	71	72	73	74	108	96	12	59	64	72	61	67	190	156	34
104	69	71	72	72	74	118	96	22	57	64	72	59	67	200	156	44
105	68	71	72	71	74	126	96	30	55	64	72	57	67	210	156	54
106	69	71	72	72	74	118	96	22	57	64	72	59	67	200	156	44
107	—	—		—	—	—	—	—	59	64	72	60	67	196	156	40
108	—	—	—	—	—	—	—	—	60	64	72	63	67	180	156	24
109	70	71	72	73	74	108	96	12	58	64	72	60	67	196	156	40
110	—	—	—	—	—		—	—	59	64	72	61	67	190	156	34
111	—	—	—	—	—		—	—	—	—	—	—	—	—	156	—
112	70	71	72	73	74	108	96	12	59	64	72	61	67	190	156	34
113	—	—	—	—	74		96	—	62	64	72	65	67	168	156	12
114	70	71	72	73	74	108	96	12	58	64	72	60	67	196	156	40
115	—	—	—						60	64	72	63	67	180	156	24
116									60	64	72	63	67	180	156	24

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	Gp 5								Gp 7								
	n	mean	(mean)	$\bar{n}$	mean	(n)	(mean)	am	n	mean	(mean)	$\bar{n}$	mean	(n)	(mean)	Am	Am
88									19	27	74	19	27	350	316	34	39
89									23	27	74	23	27	332	316	16	15
90									19	27	74	19	27	350	316	34	34
91									21	27	74	21	27	340	316	24	25
92									19	27	74	19	27	350	316	34	39
93									20	28	74	20	28	344	312	32	31
94									22	28	74	22	28	336	312	24	20
95									14	28	74	14	28	370	312	48	51
96									16	28	74	16	28	362	312	50	46
97									17	28	74	17	28	358	312	46	36
98									17	28	74	17	28	358	312	46	37
99									19	28	74	19	28	350	312	38	28
100									18	28	74	18	28	354	312	32	39
101									18	29	74	18	29	354	308	46	43
102									19	29	74	19	29	350	308	42	41
103									21	29	74	21	29	340	308	32	26
104									20	29	74	20	29	344	308	36	34
105									17	29	74	17	29	358	308	50	45
106									20	29	74	20	29	344	308	36	34
107									21	29	74	21	29	340	308	32	36
108									24	29	74	24	29	328	308	20	22
109									20	29	74	20	29	344	308	36	29
110									22	29	74	22	29	336	308	28	21
111									26	29	74	26	29	320	308	12	12
112									22	30	74	22	30	336	304	32	26
113									26	30	74	26	30	320	304	16	14
114									20	30	74	20	30	344	304	40	31
115									22	30	74	22	30	336	304	32	28
116									24	30	74	24	30	328	304	24	24 ~~48~~

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	Ap 1.								Ap 3							
	n	min n	Lmin n	$\bar{n}$	min $\bar{n}$	(n)	(min n)	Δn	n	min n	Lmin n	$\bar{n}$	min $\bar{n}$	(n)	(min n)	Δn
117	70	72	72	73	75	108	70	38	57	65	72	59	68	200	148	52
118	—	—	—		—	—	—		60	65	72	63	68	180	148	32
119	69	72	72	72	75	118	70	48	56	65	72	58	68	206	148	58
120	70	72	72	73	75	108	70	38	59	65	72	61	68	190	148	42
121	70	72	72	73	75	108	70	38	57	65	72	59	68	200	148	52
122	71	72	72	74	75	96	70	26	60	65	72	63	68	180	148	32
123	70	72	72	73	75	108	70	38	58	65	72	60	68	196	148	48
124	—	—	—		—	—		—	60	65	72	62	68	184	148	36
125	63	72	72	66	75	162	70	92	44	65	72	46	68	252	148	104
126	—	—	—	—	—			—	58	65	72	60	68	196	148	48
127	—	—	—	—	—			—	61	65	72	64	68	174	148	26
128	—	—	—	—	—			—	62	65	72	65	68	168	148	20
129	—	—	—	—	—			—	60	65	72	63	68	180	148	32
130	71	72	72	74	75	96	70	26	59	65	72	61	68	190	148	42
131	—	—	—	—	—			—	—	—	—	—	—	—	—	
132	70	72	72	73	75	108	70	38	57	65	72	59	68	200	148	52
133	—	—	—	—	—			—	—	—	—	—	—	—	—	
134	—	—	—	—	—			—	60	65	72	63	68	180	148	32
135	71	72	72	74	75	96	70	26	59	65	72	61	68	190	148	42
136	—	—	—	—	—			—	—	—	—	—	—	—	—	—
137	—	—	—	—	—			—	60	65	72	63	68	180	148	32
138	—	—	—	—	—			—	58	65	72	60	68	196	148	48
139	—	—	—	—	—			—	61	65	72	64	68	174	148	26
140	—	—	—	—	—			—	62	65	72	65	68	168	148	20
141	—	—	—	—	—			—	62	65	72	65	68	168	148	20
142	70	72	72	73	75	108	70	38	59	65	72	61	68	190	148	42
143	—	—	—	—	—			—	62	65	72	65	68	168	148	20
144	—	—	—	—	—			—	61	65	72	64	68	174	148	26
140	71	72	72	74	75	96	70	26	60	65	72	63	68	180	148	32

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	Ap 5								Ap 7								mean
Δm		n	m+n	t m+n	$\bar{n}$	$\overline{m+n}$	(n)	(m+n)	Δm	n	m+n	t m+n	$\bar{n}$	$\overline{m+n}$	(n)	(m+n)	Δm	Δm
52	117									21	30	74	21	30	340	304	36	42
32	118									24	31	74	24	31	328	300	28	30
58	119									17	31	74	17	31	358	300	58	55
42	120									22	31	74	22	31	336	300	36	39
52	121									20	31	74	20	31	344	300	44	45
32	122									24	31	74	24	31	328	300	28	29
38	123									23	31	74	23	31	332	300	32	39
16	124									23	31	74	23	31	332	300	32	34
04	125									8	31	74	8	31	—	—	—	98 ~~98~~
48	126									20	31	74	20	31	344	300	44	46
26	127									27	31	74	27	31	316	300	16	22
20	128									28	32	74	28	32	312	296	16	18
12	129									27	32	74	27	32	316	296	20	26
42	130									25	32	74	25	32	324	296	28	32
	131									—	—	—	—	—	—	—	—	—
52	132									20	32	74	20	32	344	296	48	46
	133									27	32	74	27	32	316	296	20	20
12	134									23	32	74	23	32	332	296	36	34
-2	135									23	33	74	23	33	332	292	40	36
—	136									28	33	74	28	33	312	292	20	20
32	137									25	33	74	25	33	324	292	32	32
48	138									23	33	74	23	33	332	292	40	44
16	139									28	33	74	28	33	312	292	20	23
20	140									27	33	74	27	33	316	292	24	22
20	141									27	33	74	27	33	316	292	24	22
42	142									25	33	74	25	33	324	292	32	37
20	143									26	34	74	26	34	320	290	30	25
16	144									27	34	74	27	34	316	290	26	26
12	145									27	34	74	27	34	316	290	26	28

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Ap 1.

	n	m+n	t+m+n	$\bar{n}$	$\bar{m}+\bar{n}$	(n)	(m+n)	Δm
146	—	—	—					
147	—	—	—					
148	—	—	—					
149	—	—	—					
150	—	—	—					
151	—	—	—					
152	—	—	—					
153	—	—	—					
154	—	—	—					
155	—	—	—					
156	—	—	—					
157	—	—	—					
158	—	—	—					
159	—	—	—					
160	—	—	—					
161	—	—	—					
162	—	—	—					
163	—	—	—					
164	—	—	—					
165	—	—	—					
166	—	—	—					
167	—	—	—					
168	—	—	—					
169	—	—	—					
170	—	—	—					
171	—	—	—					
172	—	—	—					
173	—	—	—					
174	—	—	—					

Ap 3.

	n	m+n	t+m+n	$\bar{n}$	$\bar{m}+\bar{n}$	(n)	(m+n)	Δm
146	—	—	—	—	—	—	—	—
147	61	65	72	64	68	174	148	26
148	62	65	72	65	68	166	148	20
149	—	—	—	—	—	—	—	—
150	62	65	72	65	68	168	148	20
151	63	65	72	66	68	162	148	14
152	63	65	72	66	68	162	148	14
153	62	65	72	65	68	168	148	20
154	62	65	72	65	68	168	148	20
155	62	65	72	65	68	168	148	20
156	—	—	—	—	—	—	—	—
157	—	—	—	—	—	—	—	—
158	62	65	72	65	68	168	148	20
159	61	66	72	64	69	174	140	34
160	63	66	72	66	69	162	140	22
161	63	66	72	66	69	162	140	22
162	64	66	72	67	69	156	140	16
163	62	66	72	63	69	180	140	40
164	—	—	—	—	—	—	—	—
165	63	66	72	66	69	162	140	22
166	63	66	72	66	69	162	140	22
167	63	66	72	66	69	162	140	22
168	63	66	72	66	69	162	140	22
169	63	66	72	66	69	162	140	22
170	—	—	—	—	—	—	—	—
171	62	66	72	65	69	168	140	28
172	62	66	72	65	69	168	140	28
173	—	—	—	—	—	—	—	—
174	60	65	72	63	68	180	148	32

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	Ap 5							Ap 7								Mean
	n	m+n	l+m+n	$\bar{n}$	m+n(n)	(m+n)	Δm	n	m+n	l+m+n	$\bar{n}$	m+n	(n)	(m+n)	Δm	Δm
146								28	34	74	28	34	312	290	-22	22
147								26	34	74	26	34	320	290	30	28
148								28	35	74	28	35	312	286	26	23
149								31	35	74	31	35	300	286	14	14
150								30	35	74	30	35	304	286	18	19
151								32	35	74	32	35	296	286	10	12
152								31	35	74	31	35	308	286	14	14
153								30	35	74	30	35	304	286	18	19
154								28	35	74	28	35	312	286	26	23
155								27	35	74	27	35	316	286	30	25
156								31	35	74	31	35	300	286	14	14
157								32	35	74	32	35	296	286	10	10
158								28	35	74	28	35	312	286	26	23
159								27	35	74	27	35	316	286	30	32
160								30	35	74	30	35	304	286	18	20
161								32	35	74	32	35	296	286	10	16
162								30	35	74	30	35	304	286	18	17
163								28	35	74	28	35	312	286	26	33
164								29	35	74	29	35	308	286	22	22
165								30	34	74	30	34	304	290	14	18
166								31	34	74	31	34	300	290	10	16
167								30	34	74	30	34	304	290	14	17
168								—	—	—	—	—	—	—	—	22
169								31	34	74	31	34	300	290	10	16
170								—	—	—	—	34	—	—		—
171								30	34	74	30	34	304	290	14	21
172								29	34	74	29	34	308	290	18	29
173								29	33	74	29	33	308	292	16	16
174								27	33	74	27	33	316	292	24	28

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	Ap 1.								Ap 3							
	n	m+n	(t+m+n)	$\bar{n}$	$\overline{m+n}$	(n)	(m+n)	Δm	n	m+n	(t+m+n)	$\bar{n}$	$\overline{m+n}$	(n)	(m+n)	Δm
175	–	–	–	–	–				62	65	72	65	68	168	148	20
176	–	–	–	–	–				–	–	–	–	–			–
177	–	–	–	–	–				–	–	–	–	–			–
178	–	–	–	–	–				–	–	–	–	–			–
179	–	–	–	–	–				–	–	–	–	–			–
180	–	–	–	–	–				61	64	72	64	67	174	156	18
181	–	–	–	–	–				–	–	–	–	–			–
182	–	–	–	–	–				–	–	–	–	–			–
183	–	–	–	–	–				–	–	–	–	–			–
184	–	–	–	–	–				–	–	–	–	–			–
185	–	–	–	–	–				–	–	–	–	–			–
186	–	–	–	–	–				–	–	–	–	–			–
187	–	–	–	–	–				–	–	–	–	–			–
188	64	70	72	72	73	118	108	10	57	62	72	59	65	200	168	32
189	–	–	–	–	–				–	–	–	–	–			–
190	–	–	–	–	–				59	60	72	61	63	190	180	10
191	–	–	–	–	–				–	–	–	–	–			–
192	–	–	–	–	–				–	–	–	–	–			–
193	–	–	–	–	–				–	–	–	–	–			–
194	–	–	–	–	–				–	–	–	–	–			–
195	–	–	–	–	–				55	58	72	57	60	210	196	14
196	–	–	–	–	–				–	–	–	–	–			–
197	–	–	–	–	–				–	–	–	–	–			–
198	–	–	–	–	–				–	–	–	–	–			–
199	–	–	–	–	–				–	–	–	–	–			–
200	59	69	72	62	72	184	118	66	32	55	72	33	57	292	210	82
201	–	–	–	–	–				48	54	72	50	56	238	214	24
202	–	–	–	–	–				–	–	–	–	–			–
203	–	–	–	–	–				48	52	72	50	54	238	222	16

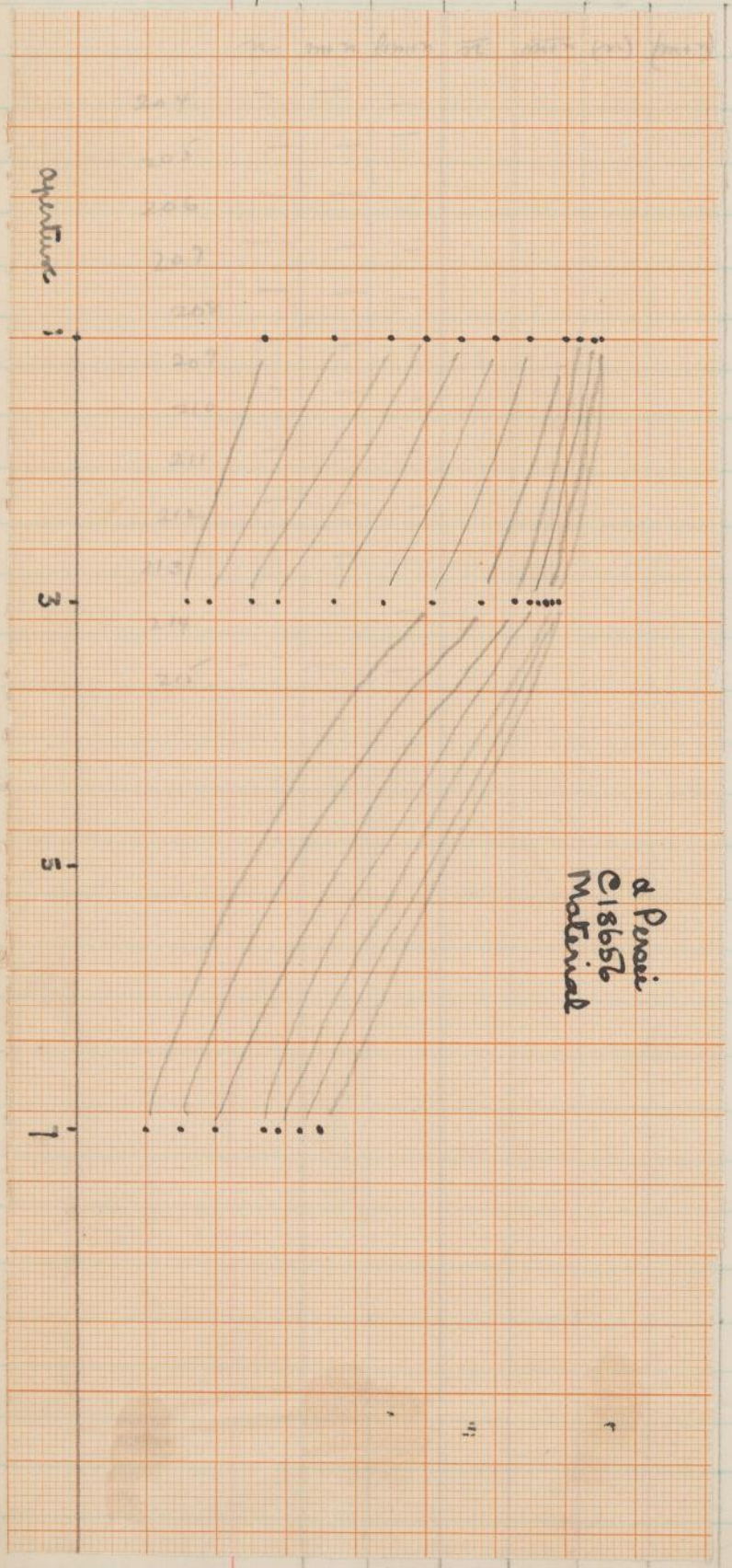
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Δm		Cyc 5								Cyc 7								
		n	m+n	(m+n)	$\bar{n}$	$\overline{m+n}$	(n)	(m+n)	Δm	n	m+n	(m+n)	$\bar{n}$	$\overline{m+n}$	(n)	(m+n)	Δm	mean Δm
20	175									29	33	74	29	33	308	292	16	18
–	176									–	–	–	–	–			–	–
–	177									–	–	–	–	–			–	–
–	178									–	–	–	–	–			–	–
–	179									–	–	–	–	–			–	–
18	180									28	31	74	28	31	312	300	12	16
–	181									27	31	74	27	31	316	300	16	16
–	182									28	30	74	28	30	312	304	8	8
–	183									27	30	74	27	30	316	304	12	12
–	184									25	30	74	25	30	324	304	10	10
–	185									25	29	74	25	29	324	308	16	16
–	186									26	28	74	26	28	320	312	8	8
–	187									24	28	74	24	28	328	312	16	16
32	188									21	27	74	21	27	340	316	24	22
–	189									23	26	74	23	26	332	320	12	12
10	190									23	26	74	23	26	332	320	12	11
–	191									–	–	–	–	–			–	–
–	192									–	–	–	–	–			–	–
–	193									–	–	–	–	–			–	–
–	194									–	–	–	–	–			–	–
14	195									17	20	74	17	20	358	344	14	14
–	196									–	–	–	–	–				–
–	197									–	–	–	–	–				–
–	198									–	–	–	–	–				–
–	199									–	–	–	–	–				–
52	200									6	15	74	6	15	–	–		74
24	201									–	–	–	–	–				24
–	202									–	–	–	–	–				
16	203									–	–	–	–	–				16

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Ap 3

Δm	n	m+n	(m+n)	$\bar{n}$	$\overline{m+n}$	(m)	(m+n)	Δm
	48	51	72	50	53	238	226	12
	47	50	72	49	52	242	230	12
	45	49	72	47	51	248	234	14
	41	47	72	43	49	260	242	18
	—	—	—	—	—	—		—
	40	46	72	42	48	262	244	18
	40	45	72	42	47	262	248	14
	—	—	—	—	—	—		—
	—	—	—	—	—	—		—
	—	—	—	—	—	—		—
	—	—	—	—	—	—		—
	29	35	72	30	37	304	280	24

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	$Ap\,1$								$Ap\,3$							
	n	$m+n$	$l+m+n$	$\bar{n}$	$\overline{m+n}$	(n)	$(m+n)$	Δn	n	$m+n$	$l+m+n$	$\bar{n}$	$\overline{m+n}$	(n)	$(m+n)$	Δn
204	—	—	—						48	51	72	50	53	235	226	12
205	—	—	—						47	50	72	49	52	242	230	12
206	—	—	—						45	49	72	47	51	248	234	14
207	—	—	—						41	47	72	43	49	260	242	18
208	—	—	—						—	—	—	—	—	—		—
209	—	—	—						40	46	72	42	48	262	244	18
210	—	—	—						40	45	72	42	47	262	248	14
211	—	—	—						—	—	—	—	—	—		—
212	—	—	—						—	—	—	—	—	—		—
213	—	—	—						—	—	—	—	—	—		—
214	—	—	—						—	—	—	—	—	—		—
215	—	—	—						29	35	72	30	37	304	280	24

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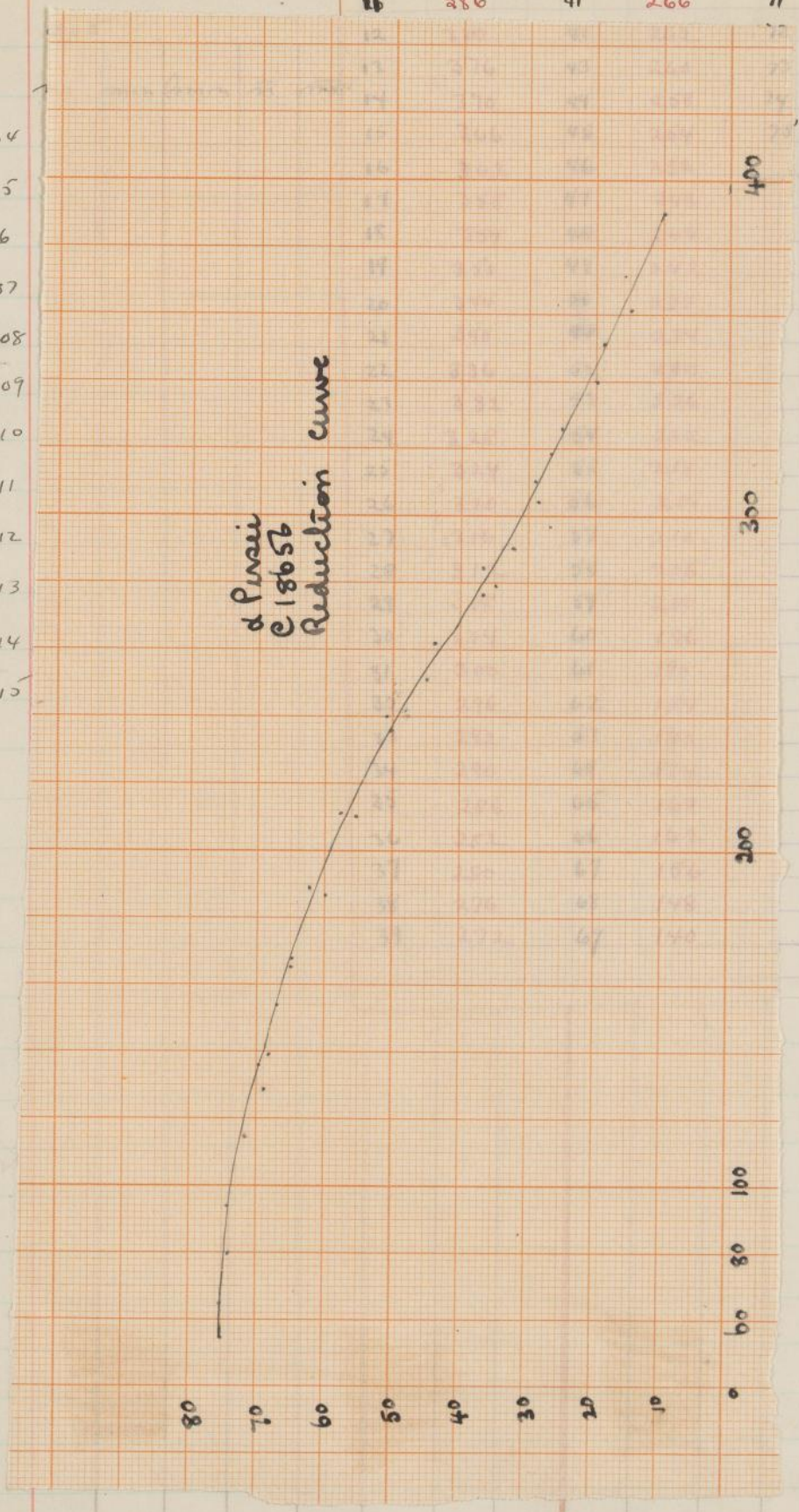
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L Perrii C 1856

10	390	40	268	70	134
11	386	41	266	71	126
					118
					108
					96
					70

mean

	Δm	Δm
204		12
205		12
206		14
207		18
208		—
209		18
210		14
211		—
212		—
213		—
214		—
215		24



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L Perrii C 1856

10	390	40	268	70	134
11	386	41	266	71	126
12	380	42	262	72	118
13	376	43	260	73	108
14	370	44	258	74	96
15	366	45	254	75	70
16	362	46	252		
17	358	47	248		
18	354	48	244		
19	350	49	242		
20	344	50	238		
21	340	51	234		
22	336	52	230		
23	332	53	226		
24	328	54	222		
25	324	55	218		
26	320	56	214		
27	316	57	210		
28	312	58	206		
29	308	59	200		
30	304	60	196		
31	300	61	190		
32	296	62	184		
33	292	63	180		
34	290	64	174		
35	286	65	168		
36	282	66	162		
37	280	67	156		
38	276	68	148		
39	272	69	140		

Ap 5

n | m+n | Δm+n | m̄ | m+ | Δm

mean Δm

204 12
205 12
206 14
207 18
208 —
209 18
210 14
211 —
212 —
213 —
214 —
215 24

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ap 5

	n	m+n	l+m+n	$\bar{n}$	m+n	(n)	(m+n)	ΔM	n	m+n	l+m+n	$\bar{n}$	m+n	(n)	(m+n)	ΔM	mean ΔM
204																	12
205																	12
206																	14
207																	18
208																	—
209																	18
210																	14
211																	—
212																	—
213																	—
214																	—
215																	24

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Sirius

C 18604

Reduced to 7b

No. 1

No. 2

	n	m+n	(m+n)	n̄	m+n̄	(n)	(m+n)	Δm	n	m+n	(m+n)	n̄	m+n̄	(n)	(m+n)	Δm
3	15												31	370	208	162
K	55												46	190	160	30
ε	29												54	280	130	150
δ	45												23	227	96	131
γ	53												37	195	75	120
β	40												46	240	160	80
No. 3																
3	0												7	440	330	110
K	18												40	340	306	34
ε	5												14	422	280	142
δ	10												21	382	247	135
γ	16												25	340	230	110
β	10												10	406	306	100

Sirius
C 18604
Material

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Sirius

C 18604

Reduced to 76

No. 1

	n	m+n	(m+n)	$\bar{n}$	$\overline{m+n}$	(n)	(m+n)	Δm
ζ	15	50	75	15	51	274	140	134
κ	~~55~~ 57	62	74	~~46~~ 64	64	~~160~~ 118	90	~~70~~ 28
ε	29	66	74	30	68	212	68	144
δ	45	71	73	47	74	156	0	156
γ	53	71	73	55	74	126	0	126
β	40	61	73	42	63	173	96	77

No. 2

	n	m+n	(m+n)	$\bar{n}$	$\overline{m+n}$	(n)	(m+n)	Δm
ζ	4	30	74	4	31	370	208	162
κ	36	45	74	37	46	190	160	30
ε	14	52	74	14	54	280	130	150
δ	25	60	73	26	63	227	96	131
γ	34	64	73	35	67	195	75	120
β	22	44	72	23	46	240	160	80

No. 3

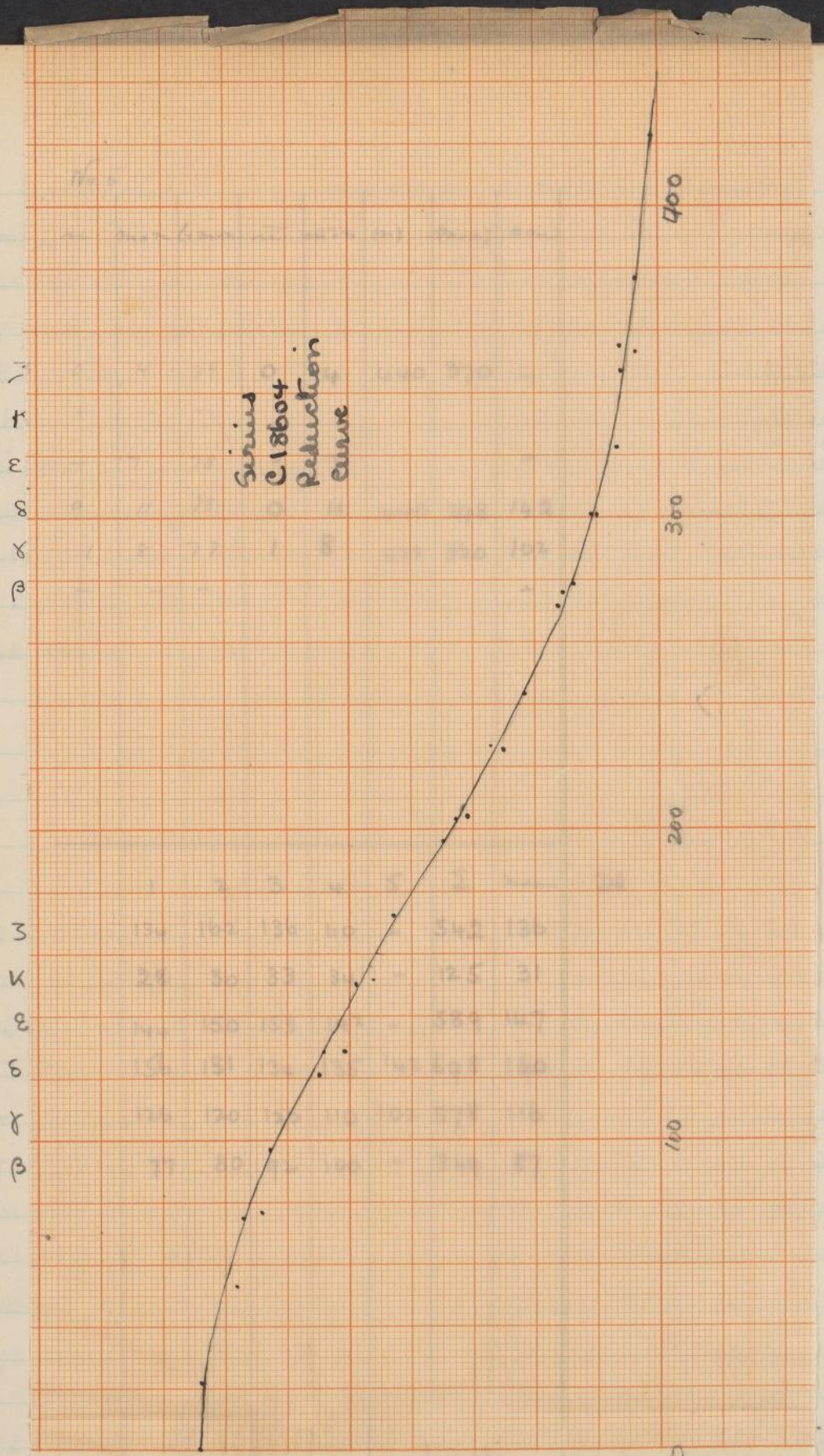
	n	m+n	(m+n)	$\bar{n}$	$\overline{m+n}$	(n)	(m+n)	Δm
ζ	0	15	77	0	15	440	264	136
κ	18	27	77	18	27	260	227	33
ε	5	33	77	5	33	355	202	153
δ	10	43	76	10	43	304	170	134
γ	16	49	76	16	49	268	148	120
β	10	29	74	10	30	304	212	92

No. 4

	n	m+n	(m+n)	$\bar{n}$	$\overline{m+n}$	(n)	(m+n)	Δm
ζ	0	7	76	0	7	440	330	110
κ	6	10	76	6	10	340	306	34
ε	1	14	76	1	14	422	280	142
δ	3	21	76	3	21	382	247	135
γ	6	25	75	6	25	340	230	110
β	2	10	78	2	10	406	306	100

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Means

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No 6

	n	m+n	(+m+n	$\bar{n}$	$\overline{m+n}$	(n)	(m+n)	Δm
ζ	0	4	79	0	4	440	370	–
κ	–	–	–					
ε	–	7	78	-	7			-
δ	0	11	78	0	11	440	298	142
γ	1	8	77	1	8	422	320	102
β	–	–	–					-

Means

	1	2	3	4	5	Σ	mean	Dl
ζ	134	162	136	110	-	542	136	
κ	28	30	33	34	-	125	31	
ε	144	150	153	142	-	589	147	
δ	156	131	134	135	142	698	140	
γ	126	120	120	110	102	578	116	
β	77	80	92	100	-	349	87	

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Sirius . H 2699 1 prism Reduced to 62

No. 1	n	mm	l+mm	n̄	m̄m	[n]	[mm]	Δm/2	dl
β	5	20	62	5	20	228	155	73	
γ	10	32	62	10	32	198	107	91	
δ	5	28	63	5	28	228	118	110	
ε	3	23	63	3	23	246	142	104	
κ	14	20	64	14	20	180	155	25	
ζ	3	14	64	3	14	246	180	66	
η	1	7	64	1	7	262	215	47	
θ	0	5	64	0	5	278	228	50	
ι	-	-	-						
κ	-	-	-						

No. 2	n	mm	l+mm	n̄	m̄m	[n]	[mm]	Δm/2	dl
	13	32	62	13	32	185	107	78	
	19	43	62	19	43	160	71	89	
	13	38	62	13	38	185	87	98	
	7	32	63	7	31	215	110	105	
	25	30	63	25	30	133	114	19	
	5'	24	63	5	24	228	137	81	
	2	16	63	2	16	253	169	84	
	2	11	63	2	11	253	193	60	
	2	7	63	2	7	253	215	38	
	1	5	63	1	5	262	228	44	

No. 3									
β	28	45	62	28	45	122	65	57	
γ	32	50	62	32	50	107	47	60	
δ	18	43	62	18	43	162	71	91	
ε	8	37	62	8	37	207	90	117	
κ	31	34	62	31	34	110	100	10	
ζ	5	28	62	5	28	228	122	106	
η	2	19	62	2	19	253	160	93	
θ	2	12	62	2	12	253	189	64	
ι	0	7	62	0	7	278	215	(63)	
κ	0	4	62	0	4	278	237	(41)	
λ	0	2	62	0	2	278	253	(25)	
μ	0	1	62	0	1	278	262	(16)	

No. 4									
	44	55	61	45	56	65	22	43	
	46	58	61	57	59	18	0	(18)	
	34	53	61	35	54	97	31	66	
	22	46	61	22	47	148	57	91	
	40	43	61	41	44	77	68	09	
	15	40	61	15	41	177	77	100	
	9	32	61	9	33	202	103	99	
	5	24	61	5	24	228	137	91	
	4	17	61	4	17	236	166	70	
	3	11	60	3	11	246	194	52	
	2	8	60	2	8	253	206	47	
	2	6	60	2	6	253	220	33	

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dl

No. 5	n	mtn	ltmm	$\bar{n}$	$\overline{mtn}$	[n]	[mtn]	Δm	dl
β	4	14	63	4	14				
γ	6	25	63	6	25				
δ	3	13	63	3	13	246			
ε	1	6	63	1	6	262			

Means (points with mtn between 5 and 55

Spectrum	1	2	3	4	Σ	mean
β	~~148~~	156	114	-	416	139
γ	182	178	120	-	480	160
δ	220	196	182	132	730	182
ε	208	210	234	182	834	208
κ	50	38	20	18	126	32
ζ	132	162	212	200	706	176
η	94	168	186	198	646	162
θ	100	120	128	182	530	132
ι	-	76	-	140	216	108
κ	-	88	-	104	192	96
λ	-	-	-	94		94
μ	-	-	-	66		66

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This reduces to scale of Bk. 20, p. 94

C 1879 β Geminorum #4

	m	m+45.2	Approx. λ	Mean Δm	dλ	λ
1	-					
2	-					
3	-					
4	-					
5	-					
6	-					
7	90.6	-45.4				
8	88.0	-42.8				
9	85.9	-40.7				
10	84.4	-39.2				
11	80.8	-35.6				
12	79.9	-34.7				
13	78.8	-33.6				
14	76.8	-31.6				
15	75.1	-29.9				
16	74.0	-28.8				
17	71.1	-25.9				
18	69.5	-24.3				
19	68.4	-23.2				
20	67.2	-22.0				
21	65.9	-20.7				
22	65.3	-20.1				
23	63.1	-17.9				
24	62.7	-17.5				
25	61.4	-16.2	3883			
26	60.6	-15.4	3885			
27	59.8	-14.6	3889			3889.1
28	57.9	-12.7	3896	22	.18	3895.5
29	57.1	-11.9	3902	26	21	3900.7
30	56.4	-11.2	3905	30	24	3903.1

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β Geminorum

		m	+m+45.2	approx. λ	Mean Δm	dl		
	31	55.8	-10.6		50	37	3905.6	
	32	55.0	-9.8	3910	14	12	3910.0	
	33	54.2	-9.0	3915	27	22	3916-18	
	34	52.6	-7.4	3922	72	48	3920.4 21.0	
3933	35	50.0	-4.8	3933	-	-	3933.8	3933
	36	48.8	-3.1	3944	55	40	3944.1	
	37	47.5	-2.3	3946	47	35	3945.2	
	38	46.9	-1.7	3952	36	28	3953.0	
	39	46.0	-0.8	3957	88	80	3956.6	
	40	44.9	+0.3	3960	111	64	3961.6	
3970	41	43.5	1.7	3967 3970	-	-	3970	3968
	42	41.0	4.2	3977	32	26	3976.8	
	43	39.5	5.7	3986	17	15	3987.0	
	44	38.2	7.0	3994 4000	26	21	3998.8	
	45	36.8	8.4	4003	29	23	4005.3	
	46	35.6	9.6	4008	11	10	4009-10	
	47	34.7	10.5	4013	10	09	4012.6	
	48	34.0	11.2	4017	11	10	4018.4	
	49	33.3	11.9	4024	15	13	4024.8	
	50	31.8	13.4	4028	39	30	4030.8	
	51	30.4	14.8	4039	11	16	4041.5	
	52	29.5	15.7	4046	61	48	4045.9	4046
	53	27.9	17.3		32	26	4052.6	4055
	54	27.5	17.7		38	30	4055.0	4058
	55	26.9	18.9	4062	54	40	4063.7	4064
	56	25.0	20.2	4068	39	30	4067.0	4072 4067
	57	24.0	21.2	4072	43	33	4071.9	4077
	58	22.9	22.3	4082	19	16	4076.8 4077.9	4082
	59	21.5	23.7	4088	13	11	4085.6	4085
	60	20.9	24.3	4091	33	26	4088.7	4086

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β Geminorum.

	m	45.2 − m	approx λ	Mean Δm	dl	λ	
61	20.0	25.2	4097	44	33	4096.2	4101
62	18.3	26.9	4103	32	26	4101.8	4105
63	17.0	28.2	4116	33	26	4116.8	4118
64	16.4	28.8	4120	35	28	4121.8	4.8
65	15.3	29.9	4124	39	30	4123.9	4124
66	14.7	30.5	4132?	50	37	4132.2	4128
67	12.9	32.3	4137	65	45	4134.8	4135
68	11.6	33.6	4143	57	41	4144	4144
69	10.8	34.4		57	41	4149	
70	10.0	35.2		42	32	4162	
71	9.2	36.0		49	36	4167	
72	8.1	37.1		65	45	4172	
73	6.9	38.3	4170	63	44	4177	
74	5.9	39.3	4177	58	41	4187	
75	5.3	39.9	4184	56	40	4194	
76	4.3	40.9	4187	69	47	4198-8	
77	3.6	41.6	4190	64	45	4202	
78	2.2	43.0		53	39	4210	
79	1.6	43.6	4202	64	45	4215	
80	0	45.2	4207	84	54	4227	
81	−1.4	46.6	4227	50	37	4238	
82	−3.4	48.6	4240	48	36	4246	
83	−4.0	49.2	4247	42	32	4254	
84	−4.9	50.1	4251	49	36	4261	
85	−6.7	51.9	?	76	50	4272	
86	−8.1	53.3	4272	41	31	4275	
87	−9.2	54.4	4275	56	40	4280-2	
88	−10.8	56.0	4289	75	50	4289	
89	−11.9	57.1	4295	50	37	4292	
90	−14.2	59.4	4305	61	43	4305	

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β Geminorum

	m	45.2 − m	Approx λ	Mean Δm	dl	
91	1 ?			15	13	4308
92	−16.3	61.5	4315	40	31	4315
93	−17.9	63.1	4326	33	26	4326
94	−18.8	64.0	4330	23	19	4330
95	−20.0	65.2	4340	23	19	4334
96	−20.9	66.1	4345	37	29	4337
97	−22.2	67.4	4348	69	47	4340
98	−22.9	68.1	4351	43	33	4352
99	−24.4	69.6	4363	32	26	4359
100	−25.1	70.3	4368	47	35	4
101	−26.3	71.5	4383	28	23	
102	−27.1	72.3	4391	27	22	
103	−28.7	73.9	4395	30	22	
104	−29.7	74.9	4408	23	19	
105	−31.6	76.8	4422	32	26	
106	−32.2	77.4	4435	34	27	
107	−33.1	78.3	4442-4	21	18	
108	−34.6	79.8	4455?	20	17	
109	−35.6	80.8	4467	18	15	
110	−36.1	81.3	4475	31	25	
111	−38.3	83.5	4497	13	11	
112	−40.0	85.2	4518	28	22	
113	−41.4	86.6	4528	16	14	
114	−42.6	87.8	4541-4	18	15	
115	−44.2	89.4	4554	13	11	
116	−46.1	91.3	4580	21	18	
117	−48.1	93.3	4596 4607	17	14	
118	−52.4	97.6	4647	14	12	
119	−53.3	98.5	4657	20	17	
[illegible]	−54.1	[illegible]	[illegible]	[illegible]	[illegible]	

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β Geminorum

	m	45.2 − m	Approx. λ	Mean Δm	dl	
121	− 55.5	100.7	4674	23	19	4682
122	− 56.9	102.1	4688	15	13	Hb ?
123	− 59.0	104.2	4710	14	12	4718
124	− 59.9	105.1	4728	17	14	4732
125	− 60.0	105.2	4734	15	13	4737
126	− 61.9	107.1	4746	17	14	4750
127	− 64.2	109.4	4768	12	10	4771
128	− 65.2	110.4	..	17	14	4799
129	− 67.8	113.0	4799	13	11	4805
130	− 69.8	115.0	4813	10	09	4818
131	− 71.2	116.4	4829	13	11	4832
132	− 72.6	117.8	4834	14	12	4839
133	− 74.2	119.4	4856	28	23	4861
134	− 75.5	121.7	4876	21	18	4882
135	− 76.9	122.1	4885	22	18	4886
136	− 78.8	124.0	4904	14	12	4904
137	− 79.8	125.0	4911	28	23	4919
138	− 81.5	127.7	4939 ?	16	14	4933
139	− 82.8	128.0	?	7	06	
140	− 83.7	129.9	4968	8	07	
141	− 84.9	130.1	4979 ?	9	08	
142	− 86.9	132.1	5000			
143	− 88.4	138.6	5012-14			
144	− 89.7	134.9	5023			
145	− 90.2	135.4	5036			
146						
147						
148						
149						

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ζ Tauri C 18584

	Ap 1. m	121.7-m	Wave λ	Mean Δw	dl	dl_I
1	121.6	+0.1	4227	126	.69	
2	120.0	1.7	4233	58	.41	
3	119.1	2.4	4236	50	.37	
4	117.5	4.2	4240	39	.30	
5	115.8	5.9	4244	29	.23	
6	114.9	6.8	4247	57	.41	
7	113.6	8.1	4251	75	.50	
8	112.1	9.6	4254	55	.40	
9	108.9	12.8	4260	88	.56	
10	108.1	13.6	4261	82	.53	
11	106.1	15.6	4268	42	.32	
12	103.8	17.9	4272	94	.58	
13	102.6	19.1	4275	50	.37	
14	101.0	20.7	4280	77	.51	
15	98.7	23.0	4283	101	.61	
16	97.4	24.3	4286	44	.33	
17	96.2	25.5	4285	17	.14	
18	95.6	26.1	4286	30	.24	
19	94.0	27.7	4289	97	.59	
20	93.1	28.6	4294	22	.18	
21	91.0	30.7	4297	48	.36	
22	90.2	31.5	4299	60	.42	
23	89.6	32.1	4301	28	.23	
24	88.9	32.8	4303	24	.20	
25	87.2	34.5	4305	58	.41	
26	86.2	35.5	4308	34	.27	
27	83.1	38.6	4315	32	.26	
28	81.3	40.4	4321	49	.36	
29	78.7	43.0	4326	104	.62	
30	75.5	46.2	4333 b	47	.35	

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Aldebaran

	m	121.7-m	a+m.7	Mean Dm	dl
31	76.4	45.3	4333	42	.32
32	75.0	46.7	4337	40	.31
33	73.3	48.4	4340	100	.60
34	72.8	48.9	4341	67	.46
35	70.9	50.8	4345	64	.45
36	69.1	52.6	4349	44	.33
37	68.1	53.6	4352	36	28
38	67.1	54.6	4354	43	.33
39	65.6	56.1	4357	64	.45
40	68.9	57.8	4360	45	.34
41	62.9	58.8	4363	18	.15
42	62.1	59.6	4364	27	.22
43	60.9	60.8	4367	48	.36
44	59.6	62.1	4372	53	.39
45	59.1	62.6	4374	58	.41
46	58.2	63.5	4376	35	~~.29~~
47	57.3	64.4	4379	37	.29
48	56.1	65.6	4380	23	.19
49	54.3	67.4	4383	40	.31
50	52.5	69.2	4387	37	.29
51	51.0	70.7	4389	50	.37
52	49.9	71.8	92	24	.20
53	48.7	73.0	94	21	.17
54	47.0	74.7	98	26	.21
55	45.8	75.9	4400	26	.21
56	44.4	77.3	02	30	.24
57	43.1	77.6	4405	55	.40
58	41.8	79.9	4408	54	.39
59	40.3	81.4	4415	36	.28 ~~.42~~
60	39.5	82.2		32	.26

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Aldebaran

				Mean Δw	dl
61	37.5	84.2	4422	28	.23
62	36.1	85.6	4427	42	.32
63	35.1	86.6	4430	29	.23
64	33.5	88.2	4435	30	.24
65	32.8	88.9	4436	18	.15
66	31.3	90.4	4438	34	.27
67	30.1	91.6	4441	28	.23
68	28.9	92.8	4442	25	.21
69	28.0	93.7	4444	32	.26
70	26.0	95.7	4450	30	.24
71	24.6	97.1	55	17	.14
72	21.9	98.8	59	08	.07
73	21.2	100.5	4462	15	.13
74	20.8	101.9	64	16	.14
75	19.4	103.3	66	22	.18
76	18.5	103.2	4469.5	37	.29
77	16.9	104.8	4476	45	.34
78	15.2	106.5	4481	28	.23
79	13.6	108.1	4485	19	.16
80	12.5	109.2	4490	41	.31
81	11.8	110.4	4495	22	.18
82	9.9	111.8	4497	26	.21
* 83	5.5 ?	116.2?	4499	23	.19
84	7.6	114.1	4502	20	.17
85	6.1	115.6	4508	25	.21
86	5.6	116.1	4513	20	.17
87	4.3	117.4	4515	24	.20
88	3.0	118.7	4518	25	.21
89	1.5	120.2	4520	10	.09
90	0	121.7	4523	33	.26

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Aldebaran

				Mean Δm	dl
91	- 1.3	123.0		12	.10
92	- 2.6	124.3		17	.14
93	- 4.8	126.5		10	.09
94	- 5.6	127.3		13	.11
95	- 7.4	129.1	4541	28	.23
96	- 8.5	130.2	4542	21	.18
97	- 9.9	131.6	4545	17	.14
98	- 10.9	132.6	4546 ~~4593~~	28	.23
99	- 11.1	132.8	4550	24	.20
100	- 12.0	133.7	4552	21	.18
101	- 13.7	134.7	4554	19	.16
102	- 15.3	137.0		21	.18
103	- 16.9	138.6		18	.15
104	- 18.4	140.1		19	.16
105	- 19.3	141.0		15	.13
106	- 20.0	141.7		22	.18
107	- 21.5	143.2		17	.14
108	- 22.1	143.8		17	.14
109	- 23.	144.7		19	.16
110	- 24.2	145.9		22	.18
111	- 25.5	147.2	4582	34	.27
112	- 27.4	149.1	4584	29	.23
113	- 29.2	150.9	4586	22	.18
114	- 30.1	151.8	4588	29	.23
115	- 31.1	152.8	4590	33	.26
116	- 32.6	154.3	4595	14	.12
117	- 33.1	154.8	4596	19	.16
118	- 34.5	156.2	4600	20	.17
119	- 36.2	157.9	4604	35	.28
120	- 36.9	158.6	4608	21	.18

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Aldebaran

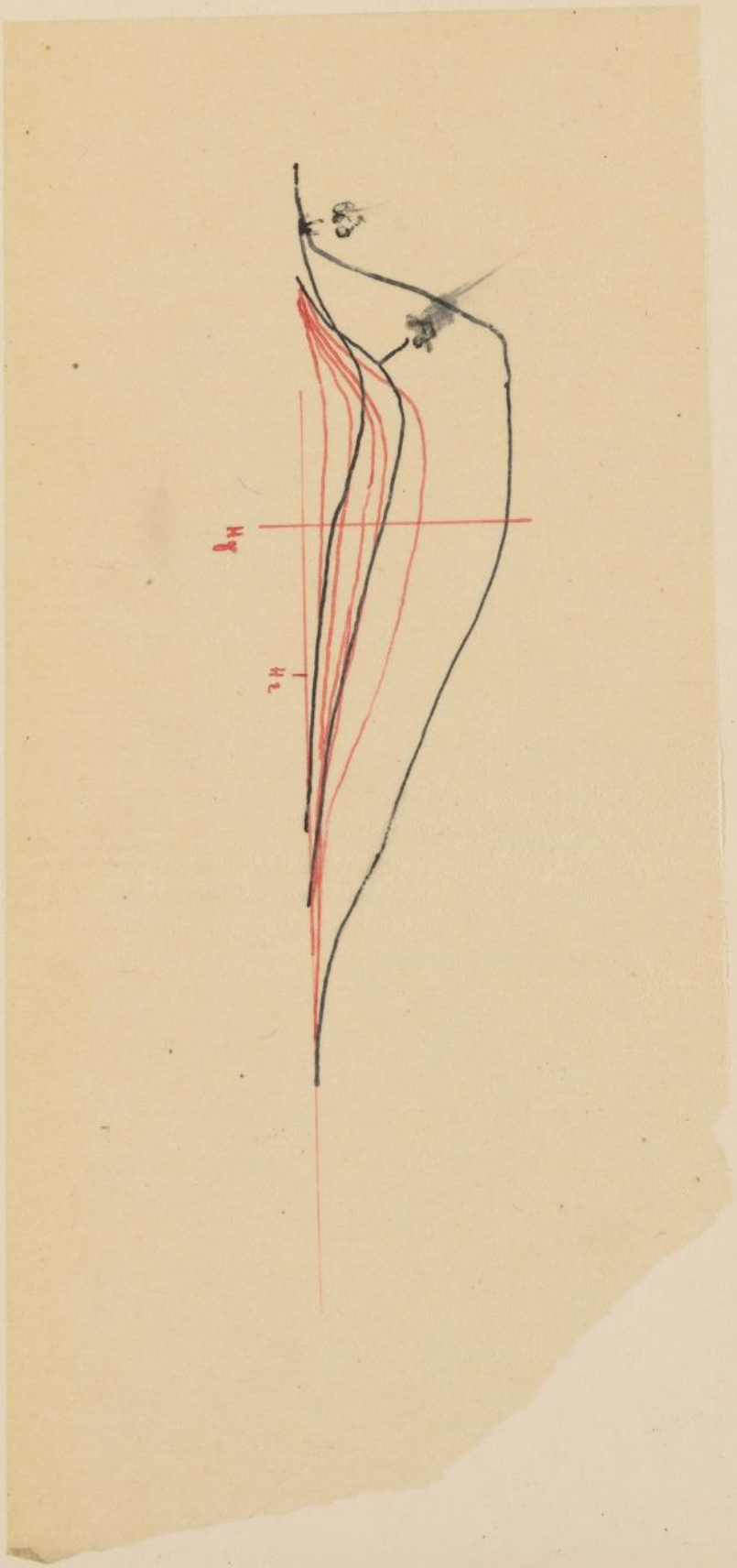
			Mean Δm	dl	
121	-38.4	160.1	18	.15	4608
122	-39.0	160.7	32	.26	4611
123	-40.8	162.5	14	.12	4613
124	-42.9	164.6	38	.30	4619
125	-43.5	165.2	24	.20	4626
126	-44.1	165.8	38	.30	4629
127					
128					
129					
130					

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