1924phae.proj.1092P

KG
11366
091

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In what follows:

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a from solar spectrum . D 19303
b " α Cygni " C 5929
c " α Lyrae " C 192

} lines of equal intensity

f indicates a wide + fuzzy line

When several dispersions used the values reduced by a special curve and the reduced values inserted in brackets in red, above the entry. These values used in getting the mean

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Spectrum of θ Carinae — X 9184 · 3 prism * — Bo

No. of line	λ	Element	a	Intensity b	c	est 5=12	Ia	Ib
1	3835·5	H	262	95		5·0 f	8	2·0
2	3889·1	H	275	–+		1·0 f	1	-
2a	3933·8	Ca	~~20~~	-		6·0 f	-	-
3	3970·2	H	262	-		1·2 f	-	-
3a	3994·9	N	-	-		5·0 f 0·0	-	-
4	4009·5	He	295	-		1·1 f	-	-
5	4026·0		247	-		0·7	1	-
5a	4026·4	He	-	-		0·4	-	-
5b	4069·4	O	-	-		0·0	-	-
5c	4072·0 4075·0	O O	-	-		0·0	-	-
- 6	4089·2	Si IV	265a	68		0·4	8	0·8
7	4103·8	H	263	-		4·0	3	-
- 7a	4116·2	Si	246	-		0·6	1	-
7b	4120·5	He	249	-		0·6	1	-
8	4144·0	He	228	-		1·0	2	-
8a			-	-		0·1		-
9			-	-		0·1		-
10	4340·7	H	172+	84	11	0·1	15	2·0
* 11			217	70		1·0	1	0·3
* 12	4387·8	He	202	80	14	·5	4	1·0
13	4415·1 4417·5		209	68		1·3	1	0·8
14	4471·8	He	234	84	13	·1	14	2·0
14a	4481·4	Mg	237a			·1	-	-
15				-		·1	-	-
16				-		·1	-	-
17	4553·4	Si		-		·3	-	-
18	4568·6	Si		-		·2	-	-
19	4576·5	Si		-		·1	-	-
20	4591·6	O		-		·1	-	-

* good from Hγ to blue

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1924phae.proj.10092

θ Canum, plate x9184 contd.

Bo

No	λ	Elt	a	b	e	Int Std=12.	la	lb
21	4598·2		–			0·1	–	–
22	4611·1		–			·01	–	–
23	4630·6		–			·01	–	–
24 a	4641·1		244	81		0·2	–	0·9
24 b						0·2		
25	4649·2 ~~4641·1~~	O	268	80		0·9	tr	1·0
26	~~4649·2~~	O	255	68		0·3	2	0·8
27	c		2 –	–		0·3		
28	4661·7	O	–	–		·02		
29	4675·3	O	–	–		0·1		
30	4685·4	Ca?	266	80	10	1·0	–	1·0
31	4697·9		268	–		0·2	tr	
32	4705·0	O	269	–		0·2	tr	
33	4712·8	He	266	80	10	1·0	–	1·0
34	4861·5	H	172+	90	9	4·0	15	1·5
35	4922·1	He	218	61	10	1·2	7	1·6
36	4999·4		226	85		0·2f	1	0·3
37	5015·7	He	232	80		0·6f	1	1·0
38	5413·9	He	264	81		0·5	tr	0·9

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θ Carinae × 8407 3 prism * contd.

B0

No.	λ	Elt	a	b	c	Est SH=12	1a	1b
1			–	–		4·0		
1			–	96		4·0		·4·0?
1a			227	–		1·6	–	
2			–	94		4·0		4·0
2a			–	–		1·0		
2b			–	–		0·2		
3			–	94		3·0		4·0
3a			–	–		0·6		
4			203	87		0·8	1	0·7
5			218	84		1·3	7	2·0
5a			–	–		0·5		
5b			–	–		0·6		
5c			–	–		0·6		
6			232	87		0·8	1	0·7
6a			242			0·2	1	
7			234+	84		3·0	14+	2·0
7a			201	–		0·2	1	–
7b			212	80		0·9	3	1·0
8			256	68		1·0	3	0·8
8a			269	–		0·3	tr	
9			269	–		0·4	tr	
10			234	84		2·0	14	2·0
10a			–	–		0·2		
11			–	–		0·2		
* 12			239	55		1·0	3	1·0
13				–		0·3		
13a				–		0·2		
14				8 ~~55~~		1·2		1·2
14a				–		0·4		
15				–		0·0		
16				–		0·2		
17				–		0·3		
18				–		0·2		
19				–		–		

* good from Hγ to red.

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1924phae.proj.10902

θ Corviae × 8407.

No.	λ	Elt	a	b	c	Est	Ia	Ib
24						12. 0·4		–
25	4641·1					0·6		–
26	4649·2					0·5		–
29	4675·3					0·4		–
30	4685·4			23		0·7		0·4
33	4712·8	He		23		0·6		0·4
34	4861·5	H		63		1·4		1·6
35	4922·1	He		80		1·0		1·0

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1924phae..proj.10921P

Bo 5

θ Carinae × 4036 1 prism
std = 14
Q = 4
Red to 2 M std

No.	λ	b	Est	Ib		
a	3750·2 H	93	2·0	1·2		1·5
b	3770·8 H	94	2·0	4·0		
c	3798·1 H	94	2·0	4·0		
d	3819·2	93	~~2·0~~ 1·5	1·2	1·9	1·5
1	3835·5	96	2·0	4·0		
2	3889·1	94	2·0	4·0		
2a	3933·8	-	-			
3	3970·2	84	2·0	2·0		
3a	3994·9	76	0·4	0·3	0·5	0·4
4	4009·5	77	0·6	0·5	0·8	0·7
5	4026·0	80	1·2	1·0	1·5	1·3
6	4089·2	85	0·2	0·3	0·3	0·4
7	4101·8	84	1·5	2·0	1·9	
7b	4120·5	86	0·4	0·4	0·5	0·5
8	4144·0	87	0·8	0·7	1·0	0·9
10	4340·7	80	1·3	1·0	1·7	1·3
12	4387·8	~~70~~ 68	0·8	0·8	1·0	1·0
14	4471·8	55	1·0	1·0	1·2	1·2
30	4685·4	-	0·2			0·2
33	4712·8	-	0·1			0·1
34	4861·5	80	1·4	1·0	1·8	1·3
35	4922·1	87	0·8	0·7	1·0	0·9
25		-	0·3		0·4	
26		-	0·3		0·4	
30		-	0·3		0·4	
33		-	0·3		0·4	
34		↓ 76 80	1·4	1·3	1·8	1·6
35		↓	0·9	1·0	1·1	1·2

θ Carinae × 6487 1 prism
Std = 14
Q = 5
Red to 2 M std.

No.	λ	b	Est	Ib		
a		96	4·0	4·0		
b		96	4·0	4·0		
c		96	4·0	4·0		
d		84	3·0	2·0		
1		94	4·0	4·0		
1a		-	1·2		1·5	
2		94	3·0	4·0		
2a		93	1·2	1·2	1·5	1·5
3		94	2·5	4·0		
3a		76	0·4	0·3	0·5	0·4
4		81	0·7	0·9	0·9	1·1
5		80	1·1	1·0	1·4	1·3
5a		82	0·4	0·5	0·5	0·6
5b		-	0·2		0·2	
5c		-	0·2		0·2	
6		88a	0·5	0·5	0·6	0·6
7		84	1·5	2·0	1·9	
7a		-	0·2		0·2	
7b		71	0·6	0·1	0·8	
8		80	0·8	1·0	1·0	1·2
8a		-	0·2		0·2	
9		-	0·2		0·2	
10		6↓	1·2	1·6	1·5	1·0
11		-	0·2		0·2	
12		68	0·9	0·8	1·1	1·0
13		7a	0·3	0·3	0·4	0·4
13a		-	0·1		0·1	
14		-	1·0		1·2	
14a		-	0·2		0·2	
17		-	0·2		0·2	
24		-	0·2		0·2	

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1924phae.proj.109pp

θ Carinae, intensities of lines. Std = No. 12 Bo

~~4738~~ Helium
4387

	No.	1	1b	2	2b	3	3b	4	Mean	4b	Mean
	a						1·5				1·5
	b										
	c										
	d			4·0	·	1·9	1·5				
3835·5	1			4·0	4·0	2·0	4·0	4·0		4·0	3·5
	1a			1·6				1·5			1·5
3889·1	2			4·0	4·0	2·0	4·0	3·0		4·0	3·3
3933·8	2a			1·0				1·5		1·5	1·3
3970·2	3			3·0	4·0	2·0	2·0	2·5		4·0	2·9
3994·9	3a			0·6		0·5	0·4	0·5		0·4	0·5
4009·5	4			0·8	0·7	0·8	0·7	0·9		1·1	0·7
4026·0	5			1·3	2·0	1·5	1·3	1·4		1·3	1·5
4026·4	5a			0·5				0·5		0·6	0·5
4069·4	5b			0·6				0·2			0·4
4072·0 4075·0	5c			0·6				0·2			0·4
4089·2	6			0·8	0·7	0·3	0·4	0·6		0·6	0·5
4101·8	7			3·0	2·0	1·9		1·9			2·2
4116·2	7a			0·2		~~0·5~~		0·2			0·2
4120·5	7b			0·9	1·0	0·5	0·5	0·8			0·7
4144·0	8			1·0	0·8	1·0	0·9	1·0		1·2	1·0
	8a			0·3				0·2			0·2
	9			0·4				0·2			0·3
4340·7	10			2·0	2·0	1·7	1·3	1·5		2·0	1·7
	11	0·1	0·3	0·2				0·2			0·2
4387·8	12	1·0	1·0	1·0	1·0	1·0	1·0	1·1		1·0	1·0
4415·1 4417·5	13	0·5	0·8				·	0·4		0·4	0·5
4471·8	14	1·3	2·0	1·2	1·2	1·2	1·2	1·2			1·3
4481·4	14a	0·1						0·2		0·2	0·2
4514·5	15	0·1									0·1
4531·4	16	0·1									0·1

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	No.	1	1b	2	2b	3	3b	4	4b	mean
4553·4	17	0·3		0·3				0·2	0·2	0·2
4568·6	18	0·2		0·2						0·2
4576·5	19	0·1								0·1
4591·6	20	0·1								0·1
4598·2	21	0·1								0·1
	22	0·1								0·1
	23	0·1								0·1
	24a	0·2	0·9	0·4				0·2	0·2	0·2
	24b	0·2								0·2
4641·1	25	0·9	1·0	(0·6)				0·4		
4649·2	26	0·3	0·8	(0·5)				0·4		
	27	0·3								0·3
4661·7	28	0·2								0·2
4675·3	29	0·1		(0·4)						
4685·4	30	1·0	1·0	(0·7)	(0·4)	0·2		0·4		
4697·9	31	0·2								0·2
4705·0	32	0·2								0·2
4712·8	33	1·0	1·0	(0·6)	(0·4)	0·1		0·4		
4861·5	34	4·0	1·5	(1·6)	(1·6)	1·3	1·8	1·8	1·6	1·9
4922·1	35	1·2	1·6	(1·0)	(1·0)	0·9	1·0	1·1	1·2	1·1
~~5045·7~~	36	0·2	0·3							0·2
5045·7	37	0·6	1·0							0·8
5743·9	38	0·5	0·9							0·7

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1924phae.proj.1092p

β Crucis Plate no. X 9665 2 mins Q=5

B1

No.	Est Std=56	b	Ib
1	3·0	94	4·0
2	3·0	94	4·0
3	3·0	94	4·0
4	3·0	94	4·0
5	4·0	94	4·0
6	4·0	94	4·0
7	4·0	94	4·0
8	3·0	93	1·2
9	4·0	96	4·0
10	3·5	94	4·0
11	0·3 d	-	
12	0·3 d	-	
13	0·4 d	-	
14	0·3 d	-	
15	0·4	-	
16	0·5	78	0·5
17	1·6 1·4	84	2·0
18	0·2	-	
19	0·1	-	
20	0·7	82	0·5
21	1·1	80	1·0
22	0·1	-	
23	0·1	-	
24	0·1	-	
25	0·6 0·6	48 49	0·3 0·3
26	0·7	67	0·3
27	0·5	67	0·3
28	0·6	67	0·3
29	0·1? 0·6	69	0·3
30	0·5	~~69~~ 56	0·5

No.	Est. Std=56	b	Ib
31	2·0	-	
32	0·4	-	
33	0·5	68	0·8
34	0·8	-	
35	0·3	-	
36	0·8	68	0·8
37	0·4	67	0·3
38 a,b <	0·3, 0·3) 0·5	74, 74 70	(8·7 8·2 0·3
39	0·4	68	0·8
40	0·3	70	
41	0·3	68	0·8
42	0·3	-	
43	(0·3	-	
44	0·3)	-	
45	0·3	-	
46	1·6	79	1·3
47	0·4	88a	0·5
48		-	
49	0·8	88	0·9
50		-	
51	(0·4 0·4	-	
52		-	
53		-	
54		-	
55		-	
56	1·0	52	1·0

All the lines appear to be double owing to the focus

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β Crucis × 9186 2 prisms Q = 5.

B1

No.	Est. (Std = 56)	h	I h
46	1·4	84	2·0
47	0·1	–	
48	0·2	–	
49	0·8	80	1·0
50	0·1	–	
51	0·7d	80	1·0
52	0·2	–	
53	0·2	–	
54	0·2	–	
55	0·2	–	
	0·2		
56	1·0	52	1·0
57	0·3	–	0·5
58		–	
59	0·3	–	0·8
60		–	
61	0·7	68	0·8
62	0·2.		0·3
63	0·7	68	
	0·5	67	0·3
64	0·5	48	0·3
	0·5	49	
65	0·2	–	
66	0·2	–	
67	0·5	–	
68		48	0·3
		49	0·3
69	1·0	52	1·0
70	0·5	64	0·3
71	0·5	68	0·8
72	0·4	–	
73	0·4	–	
74	0·3	–	
75	0·6	81	0·9

No.	Est. (Std = 56)	h	I h
76	0·1	–	
77	0·1	–	
78	0·2	–	
79	1·6	84	2·0
79 a, b	0·2, 0·2		
80	1·0	80	1·0
81	0·4		
82	0·3		
83	0·8	87	0·7
84	0·7	81	0·9
85	0·3	–	
86	0·3	–	
87	0·1	–	
88	0·1	–	
89	0·2	–	
90	0·4	69	0·3
91	0·3	–	
92	0·4	69	0·3
93	1·0	52	1·0
94			

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1924phae.proj.10902p

β Crucis X 3975 1 prism Q=5

B1

	No.	std = 46 Int	b	Ib
↑	1	4·0	84	2·0
	2	4·0	84	2·0
	3	4·0	84	2·0
	4	4·0	84	2·0
	5	4·0	84	2·0
	6	4·0	84	2·0
	7	4·0	84	2·0
toma	8	2·0	80	1·0
	9	4·0	84	2·0
↓	10	3·0	80	1·0
	17	1·2	41	0·4
	20	0·3	-	
	21	0·9	70	0·3
	25	0·5	-	
	29	0·4	-	
	31	1·1	68	0·8
	34	0·6	63	0·3
	36	0·6	65	0·4
*	46	1·0	~~65~~ 68	0·8
	49	0·7	67	0·3
	51	0·6	67	0·3
	56	0·8	69	0·3
	69	0·6	70	0·3
	79	1·2	80	1·0
	80	0·6	70	0·3

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1924phae.proj.10927

β Crucis. Intensities flames. Std = No. 56. 4471 Heumin

B1

No.	λ	Elt.	1	1b	2	2b	3	3b	mean
1		Hξ ~~3·0~~	3·0	4·0	—	—	4·0	(2·0)	
2		Hν	3·0	4·0	—	—	4·0	(2·0)	
3		Hμ	3·0	4·0	—	—	4·0	(2·0)	
4		Hλ	3·0	4·0	—	—	4·0	(2·0)	
5		Hκ	4·0	4·0	—	—	4·0	(2·0)	
6		Hι	4·0	4·0	—	—	4·0	(2·0)	
7		Hθ	4·0	4·0	—	—	4·0	(2·0)	
8	3819·2	He	3·0	12	—	—	2·0	(1·0)	
9		Hη	4·0	4·0	—	—	4·0	(2·0)	
10		Hζ	3·5	4·0	—	—	3·0	(1·0)	
11			0·3d	—	—	—	—	—	0·3
12			0·3d	—	—	—	—	—	0·3
13			0·4d	—	—	—	—	—	0·4
14			0·4d	—	—	—	—	—	0·4
15			0·4	—	—	—	—	—	0·4
16			0·5	—	—	—	—	—	0·5
17	3970·2 3973·51	Hε	{1·6 1·4	0·5	—	—	1·6 1·2	(0·4)	1·6 1·4
18	3982·8	O	0·2	—	—	—	—	—	0·2
19	3994·9	N	0·1	—	—	—	—	—	0·1
20	4009·5	He	0·7	0·5	—	—	0·4 0·3	—	0·5
21	4026·4	He	1·1	1·0	—	—	1·3 0·9	(0·3)	1·1
22	4036·0		0·1	—	—	—	—	—	0·1
23	4042·2		0·1	—	—	—	—	—	0·1
24	4069·4	O	0·1	—	—	—	—	—	0·1
25	4072·0	O	{0·6 0·6	{0·3 0·3	—	—	0·7 0·5	—	0·6 0·5
26	4075·9	O	0·7	0·3	—	—	—	—	0·7
27	4084·9		0·5	0·3	—	—	—	—	0·45
28	4089·2	Si IV	0·6	0·3	—	—	—	—	0·6
29	4093·7	O	0·1 0·6	0·3	—	—	0·6 0·4	—	0·1 0·5
30	4096·9	O	0·5	0·5	—	—	—	—	0·5

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Intensities of lines in β Crucis

B1

No.	λ	Elt.	1	1b	2	2b	3	3b	Mean
31	4101·8	Hδ	2·0	–	·		1·5 1·1 (1·0)	0·8 (0·0)	1·7
32	4111·2		0·4	–			(0·4)		0·4
33	4116·2	Si IV	0·5	0·8					0·5
34	4120·5	He	0·8	–			0·8 0·6	0·3	0·8
35	4134·0		0·3	–					0·3
36	4144·0	He	0·8	0·8			0·8 (0·6)	(0·4)	0·8
37	4154·7		0·4	0·3					0·4
38	69·2 86·2 90 4254·1	O,O,O L	(0·3 0·3) 0·5	(0·2 0·2) 0·3					{0·3 0·2} 0·5
39	4267·4	C, S	0·4	0·8					0·4
40	4276·7		0·3	–					0·3
41	4285·1	S	0·3	0·8					0·3
42	4304·4		0·3	–					0·3
43	4318·0 4320·7		0·3	–					0·3
44	4327·3		0·3	–					0·3
45	4334·5		0·3						0·3
46	4340·7 4350·1	Hγ	1·6	1·3	1·4	2·0	1·4 (1·0)	(0·8)	1·4
47	4367·3	O	0·4	0·5	0·1	–			0·4
48	4373·2		–	–	0·2	–			0·2
49	4387·8	He	0·8	0·9	0·8	1·0	1·0 (0·7)	(0·3)	0·8
50	4395·7	O	–	–	0·1	–			0·1
51	4415·1 4417·5	O	(0·4 0·4)	–	0·7	1·0	0·8 (0·6)	(0·3)	0·6
52	4437·9	He	–	–	0·2	–			0·2
53	4440		–	–	0·2	–			0·2
54	4447·7	N	(0·4 0·4)	–	0·2	–			0·2
55	4453·2		–	–	(0·2 0·2)	–			{0·2 0·2}
56	4471	Mg	1·0	1·0	1·0	1·0			1·0
57	4481	Mg			0·3	0·5			0·3
58	4490·6				0·3	–			0·3
59	4531·4				0·7	0·8			0·7
60	4553·4	Si III			0·2	–			0·2

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B1

No.	λ	Ider.	1	1b	2	2b	3	3b	Mean
61	4568·6	Si III			0·7	0·8			0·7
62	4576·5	Si III			0·5	0·3			0·5
63	4591·6	O			0·5	0·3			0·5
64	4598·2				0·5 0·5	0·3 0·3			0·5 0·5
65	4603·7	O			0·2	–			0·2
66	4619·8				0·2	–			0·2
67	4630·6				0·5	–			0·5
68	4641·1	O				0·3 0·3			0·3 0·3
69	4649	O			1·0	1·0	0·8 0·6	0·3	0·9
70	4661·7	O			0·5	0·3			0·5
71	4675·3	O			0·5	0·8			0·5
72	4685·4				0·4	–			0·4
73	4697·9				0·4	–			0·4
74	4705·0	O			0·3	–			0·3
75	4712·8	He			0·6	0·9			0·6
76	–				0·1	–			0·1
77	–				0·1	–			0·1
78	–				0·2	–			0·2
79	4861·5	Hβ			1·6	2·0	1·6 1·2	1·0	1·6
80	4922·1	He			1·0	1·0	0·8 0·6	0·3	0·9
81	4941·6	O			0·4	–			0·4
82	4999·4				0·3	–			0·3
83	5015·7	He			0·8	0·7			0·8
84	5047·8	O			0·7	0·9			0·7
85	5197·8				0·3	–			0·3
86	5218·8				0·3	–			0·3
87	5413·6	He			0·1	–			0·1
88	5653·9				0·1	–			0·1
89	5677·7				0·2	–			0·2
90	5697·8				0·4	0·3			0·4
91	5721·7				0·3	–			0·3
92	5740·8				0·4	0·3			0·4
93	5875·9	He			1·0	1·0			1·0

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η Canis Majoris C 6358 2 prisms Q-4
C 1033 4 prisms Q-4

B5

No.		λ	Est std:q	b	Ib		Est. std:q	b n.p.	Ib	Mean
	1	Hη	3837	-						
	2	Hζ	3889.1	1.5	38	1.6				1.5
	3	He	3926.8	0.3	34	-	0.3			0.3
	4	Ca	3933.8	0.9	54	1.1	0.8			0.85
	5	He	3964.6	0.4	56	0.5	0.6			0.5
	6	He		1.7	39	1.6	1.6			1.65
	7	N	3995	0.3	42	0.4	0.3			0.3
	8	He	4010	0.5	56	0.5	0.5			0.5
*	9	He	4026.4	1.0	52	1.0	1.0			1.0
	11	He	4101.85	1.5	61	1.6	1.5			1.5
	12	He	4120.5	0.6	80	1.0	0.5			0.55
	13	Si	4128.5	0.7	80	1.0	0.6			0.65
	14	Si	4131.4	0.7	83	0.9	0.5			0.6
	15	He	4144.0	0.8	54	1.1	0.8			0.8
	15a						0.2			0.2
	16		4267.4?	0.7	68	0.8	0.8			0.75
	17	Hγ	4339	1.4	62	1.6	1.5			1.45
	18	He	4387	0.9	80	1.0	1.0			0.95
	19	He	4471.8	1.0	35	1.1	1.2			1.1
	20	Mg	4482	0.9	52	1.0	1.0			0.95
	20a			0.2	-	-	-			0.2
	21	Si	4553 4549.8	0.3	51	0.3	0.2			0.25
	21a		4619	0.1	-	-				0.1
	21b		4644	0.1	-	-				0.1
	22	He	4713.3	0.3	-	-	0.4			0.35
	23	Hβ	4861.5	1.0	80	1.0	1.0			1.0
	24	He	4925?	0.7	78	0.5	0.7			0.7

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1924phae.proj.10921

67 Ophiuchi C 13331 plus min Q=5 B8

	No.	λ	Eat. Std :15		b	Ib	mean
	1		Hζ	2·5	84	2·0	2·2
	2		Hε	2·5	84	2·0	2·2
	3		Hμ	2·5	84	2·0	2·2
	4		Hμ	2·5	84	2·0	2·2
	5		Hκ	2·5	84	2·0	2·2
	6		Hι	2·5	84	2·0	2·2
	7		~~Hε~~	0·5	67 very line 80	0·3	0·4
	8		Hθ	2·5	84	2·0	2·2
	9		He	0·9	80	1·0	0·95
	10	3835·6	Hη	2·5	84	2·0	2·2
	11	3853·0	Si II	0·4	88a	0·5	0·45
	12	3856·2	Si II	0·2	75	0·3	0·25
	13	3885·1	H 5	2·5	38	1·6	2·0
	13a	3919, 3920		0·3	75	0·3	0·3
	14	3933·8	Ca+	0·5	76	0·3	0·4
*	15	3964·9	He	1·0	80	1·0	1·0
	15a	3968·6	H	0·7		-	0·7
	16	3970	Hε	2·2	84	2·0	2·1
	17	3995·1	N	0·3	82 50		0·3
	18	4009·4	He	0·9	71 50		0·9
→	19	4026·3	He	1·0	71 51		1·0
	20	4101·8	Hδ	2·5	84	2·0	2·2
	21	4121	He	0·6	82	0·5	0·55
	22	4128 } 4131 }	Si	0·7	77	0·5	0·6
	23	4144	He	0·7	77	0·5	0·6
	24	4267		0·4	67	0·3	0·35
	25		Hγ	2·0	61	1·6	1·8
	26	4388·1	He	0·5	68	0·8	0·65
	27	4471·6	He	0·5	68	0·8	0·8
	28	4481·3	Mg	0·6	60	0·5	0·55
	28a	4549·8		0·1	-	-	0·1
	28b	4713·3					
	29	4861	Hβ	0·1	-	-	0·1
	30	4921·9		1·0	4	0·9	0·95
				0·4	31	0·3	0·35

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O_2 Canis majoris × 8198 Q=4 2 prisms × 6255 Q=5 1 prism B5

	λ	Ident	Est std=33	Iv	Iv	Est std=37	Iv	Iv	mean
1		Hι	2·0f	–		2·0f (2·3)	84	2·0 (2·3)	2·2
2		Hθ	2·0f	–		2·0f (2·3)	84	2·0 (2·3)	2·2
3		‡	1·5f	–		1·2f (1·4)	80	1·0 (1·2)	1·35
4		Hη	2·2f	–		2·0f (2·3)	84	2·0 (2·3)	2·3
5	3889·1	Hζ	2·2f	–		1·8 (2·1)	38	1·6 (1·8)	2·0
6	3920·8	H	1·0f	80	1·0	0·9 (1·1)			1·0
7	3926·7	He	1·0f	80	1·0	0·9 (1·1)			1·0
8	3933·8	Ca+	1·2f	94?	(4·0)	1·0 (1·2)			1·2
9			●5f	~~68~~		●1 (0·2)			0·3
10	~~3964·9~~	~~He~~	abs. ~~0·2f~~	–		–			–
11	3964·9 ~~3968·6~~	He ~~Ca+~~	0·7	68	0·8	0·7 (0·9)			0·8
12	{3968·6 {3970·4	Hε	2·0	84	2·0	1·8 (2·1)	38	1·6 (1·8)	2·0
13	3995·1	N	0·7	80	1·0	0·8 (1·0)			0·9
14	4009·4	He	0·8	80	1·0	0·9 (1·1)			1·0
15	4026·3	He	1·2	8	1·2	1·2 (1·4)			1·3
16	? 4036·0		0·1	✗ –		–			0·1
17	4067·2	? Ni+	0·2	–		–			0·2
18	4076·3	O	0·2	–		–			0·2
19	4101·8	Hδ	1·8	61	1·6	1·6 (1·8)	8	1·2 (1·4)	1·7
20	? 4111·2		0·1	–					0·1
21	4121·0	He	0·8	55	1·0	0·6 (0·8)			0·9
22	4128·1	Si	0·4	58	0·8	0·2 (0·4)			0·5
23	4131·1	Si	0·4	59	0·8	0·2 (0·4)			0·5
24	4143·9	He	0·9	80	1·0	0·7 (0·9)			0·9
25	4267·5	C+	0·8	83	0·9	0·6 (0·8)			0·8
26	{4294 {4290		0·1	?		–			0·1
27	4303·3	Fe+	0·1	–		–			0·1
28	? {4318·0 {4320·7		0·1	–		–			0·1
29	? 4327·3		0·2	–		–			0·2
30	4340·7	Hγ	1·6	61	1·6	1·5 (1·7)			1·6

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B5

		λ	Elt	Est. Std = 33	b	Ib	Est	G	Ib	Mean
	31	4351·9	Fe +	0·2	–					0·2
	32			0·1	–					0·1
*	33	4388·1	He	1·0	52	1·0	(1·0) 0·8			1·0
	34			0·2 0·2	– –					0·2 0·2
	35	? 4437·9		0·3	–					0·3
	36	? 4440		0·3	–					0·3
	36a			0·2						0·2
	37	4471·6	He	1·3	8	1·2	(1·2) * 1·0	52	(1·2) 1·0	1·2
	38	4481·3	Mg	0·8	4	0·9	(1·0) 0·8			0·9
	39			0·3	–					0·3
	40	4553·4	Si	0·6	17	0·3	(0·5) 0·4			0·5
	41	4568·6	Si	0·4	–					0·4
	42	4576 ~~4568~~6	Si	0·2	–					0·2
	43	4591·6		0·3	–					0·3
	44	4598·2		0·3	–					0·3
	45	4630·6 4641·7		0·3	–					0·3
	46	↓		0·6	15	0·8	(0·6) 0·5			0·7
	47	4649		0·4	–					0·4
	48	4712·8		0·8	33	0·9	(0·8) 0·6			0·8
	49			0·4						0·4
	50	4861·5	Hβ	1·4	38	1·6	(1·6) 1·4	8	(1·4) 1·2	1·5
	51	4921·9	He	1·3	8	1·2	(1·4) 1·2	~~3~~	(1·1) 0·9	1·2

Except where marked † the estimates have weights proportional to the qualities of the plates

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β Orionis

B8

	λ	Elt	× 8104 / 7945 · 3 prisms Est (std=24)	b	Ib	× 7945 / 8104 · 3 prisms Est (std=19)	b	Ib	× 4532 · 1 prism Est (std=61)	b	Ib	Mean
1	3770	He	-	—	—					comp		-
2	3798·0	H9	-	—	-					imp		-
3	3819·7		-	—	—					possible		-
4	3835·6		3·0	90	1·5	3·0	90	1·5				2·2
5	3851 & 3853		0·4	—	—	0·4	77	0·5				0·4
6	3856·2		0·9	80	1·0	1·1	80	1·0				1·0
7	3862·7		0·9	80	1·0	1·1	80	1·0	↑			1·0
8	3873		-	—	—	0·2	-					0·2
8a	3879		-	—		0·3	-					0·3
9	3889	H5	3·0	96	? 4·0	2·0	84	2·0	2·0			3·0
10	~~3908~~ 3905 ?		0·3	-	-	0·1						0·2
11	3918		0·3	86	0·4	0·3	68	0·3				0·3
12	3921		0·3	86	0·4	0·3	69	0·3				0·3
13	3926·7		0·4	7-	—	0·4	70	0·3				0·4
14	3933·8		1·4	61	1·6	1·8	79	1·3	0·9			1·5
15	3964·9		0·9	52	1·0	1·2	82	0·5				0·9
16	3968·6		1·4	61	1·6	1·5	61	1·6	} 1·5			1·5
16a			~~1·8~~									
17	3970·2		~~1·8~~ 0·9	84	2·0	2·0	84	2·0				2·0
18	3995·1		0·9	68	0·8	* 0·8	~~84~~	~~2·0~~				0·8
18a	4003		-	-	-	no						-
19	4009·4		1·0	54	1·1	* 1·0	51	1·0				1·0
20	4026·4		1·3	78	1·3	1·3	80	1·2	0·4			1·3
21	4067·2		0·2	-	-	-						
22	4076·3		0·1?	-	-	-						
23	4101·8		2·0	73	1·5	1·8	73	1·5	1·1 ~~0·4~~			1·6
24	4121·0		* 1·0	52	1·0	0·9	81	0·9				0·95
24a	4128·1		1·2	8	1·2	1·2	55	1·0	} 0·4			1·2
25	4131·1		1·2	8	1·2	1·2	56	1·0				1·2
26	4143·9		1·1	80	1·0	0·9	80	1·0				1·0
27	4163·0	S	0·4	66	0·3	-	74	0·2				0·3
28	4173·5	S?	0·4	66	0·3	-	74	0·2				0·3
29	4179·0		0·3	66	0·3	-	74	0·2				0·3
30	4189		0·4	66	0·3	-	74	0·2				0·3

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	λ	Elt	8104 × 7945 · 3 prisms Est	b	Iv	7945 × 8104 · 3 prisms Est	b	Iv	X4532 1 prism Est	b	Iv	Mean
31	–		Std=24 66		0·3		74	0·2				0·3
34	4233		0·4	80	1·0	0·8	81	0·9	·0·1			0·9
35	4262 ?		1·0 1·1	88	0·9	0·9	80	1·0	··0·1			0·9
36	4292?		0·2	–		–	–		–			0·2
37	4302?		0·3	–		–	–		–			0·3
38	4339		1·4	84	2·0	1·8	84	2·0	1·1			1·8
39	4352		0·3	–		0·4	–		–			0·3
40	4389		1·2d?	82	0·5	1·2	80	1·0	0·1			0·9
41	4418		0·4f	–		0·4	–		–			0·4
44	4435		0·3f	–		0·3	–		–			0·3
47	4475		1·6	8	1·2	1·3	8	1·2	0·6			1·4
48	4482		1·6	8	1·2	1·3	8	1·2	0·6			1·4
51	–		0·1?	–		0·3	–	–	–			0·2
52	4546		0·3	–		0·3	–	–	–			0·3
53	4552			–								–
54	4556			–								–
55	4568			–								–
56	4579		0·4	–		0·3	–	–				0·3
57	4584		0·3	–		0·3	–	–				0·3
58	4629		0·2	–		0·3	–	–				0·2
59	4713		0·9	7 8	0·7	0·8	35	1·1				0·8
60			0·3	–		0·2	–	–				0·2
61	4861		2·0	84	2·0	1·8	61	1·6	*1·0			1·8
62	4922		1·0			1·4	80	1·0	0·5			1·1
63	5015		1·0			1·2	94	–	0·3			1·1
64			1·0			–	–	–				1·0
65			0·5			–	–	–				0·5
66			0·8	69	03	–	–	–				0·5
67			0·9	68	0·8	–	–	–				0·8
68	D 5896		1·0	55 70	1·0 ~~0·3~~	–	–	–				1·0
69	D 5876		0·9	55 ~~64~~	0·5 ~~0·3~~	–	–	–				0·7

The 1 prism readings are to be used in relating to other dispersions and do not appear in the means

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A.G.C. 12691 X 11934 image 2.
1 prism Q = 4.

B8

No.	λ	Elt.	Int. Est. Std = 15	b	Int. Est.	Ib.	Mean
1	3889	Hζ	1·8				1·8
2	3933	Ca+	1·2	84		2·0	1·6
	3970	Hε					
3	4029	He	1·6	8		1·2	1·4
4	4102	Hδ	1·0	88		0·9	0·9
5	4118	He	1·2	79		1·3	1·2
6	4128	Si	0·3				0·3
7	4131	Si	0·4 0·4				0·4 0·4
8	4144	He	0·4				0·4
9	4262		0·4				0·4
10	4339	Hγ	1·0	88		0·9	0·9
11	4387	He	0·6				0·6
12	4471	He	1·1	58		0·8	0·9
13	4481	Mg	1·0	58		0·8	0·9
14	4712·8	He	0·5				0·5
* 15	4861·5	Hβ	1·0	51 ~~58~~		1·0 ~~0·8~~	1·0
16	4922·1	He	0·5				0·5
17	5015·7	He	0·8				0·8

4 Lacertae p. 21.

B9

No.	λ	Elt.	Est.	b	Ib	Mean
31	3914		0·4?			0·4
32	3906		0·4?			0·4
33	3889		1·8	84	2·0	1·9
34	3863		0·6			0·6
35	3835		1·2			1·2

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4 Lacertae. C 6015 2 prisms
Q = 4.

No.	λ	Elt	Est (Std: 30)	G	IG	
1	4922	~~4922~~	0·6	17	0·3	0·4
2	4861	~~H~~β	1·6	8	1·2	1·4
3	4584		0·4			0·4
4			0·4			0·4
5	4481		1·0	33	0·9	0·9
6	4471		0·9	33	0·9	0·9
7	4418		0·3	-		0·3
8	4389		0·4	-		0·4.
9	4339		1·8	38	1·6	1·7
10	4262		0·6	-		0·6
11						
12			Cannot			
13			be seen			
14			clearly			
15						
16						
17						
18	4140	He				0·7
19	4131	Si	0·7			0·8
20	4128	Si	0·9	58	0·8	0·8
21	4118	He	0·9	59	0·8	0·3
22	4102		0·3			1·8
23			1·9	73	1·7	0·4
24			0·4			0·4
25	4024		0·4 0·8	80	1·0	0·9
26	4010					-
27	3995		0·6			0·6
28	3968		2·0	84	2·0	2·0
29	3938		0·4			0·4.
* 30	3933	Ca	1·0	80	1·0	1·0

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ε Canis Majoris.

B1

No	λ	Ident	Plate X 8940 2 prisms Q=5 Est std=76	b	Ib	C 6357 2 prisms Q=4 Est std	b	Ib	C 6488 2 prisms Q=4 Est std	b	Ib	Mean
1	3711·8 Hν		3·0									
2	3721·9 Hμ		3·0									
3	3734·2	Hλ	3·0									
4	3750·2	Hκ	3·0									
5	3770·8	Hι	3·0									
6	3798·1	Hθ	3·0									
7	3805·1		3·0									
8	3812·4		3·0									
9	3819·2		2·0									
10	3835·5		3·0									
11	3867		1·2									
12	3872		1·3									
13	3876		1·2									
14	3889·1	H5	2·0									
15	3912·2		1·2									
16	{3918 3920		1·3									
17	3926·8		1·5									
18	3933·8	(Ca) K	0·6									
19	3945		0·6									
20	3954		0·8									
21	3964·6		0·8									
22			1·7									
23	3970·2		1·0									
23a	3982		0·6w									
24	3994		0·7									
25	4009		1·0									
26	4026		1·3									
27	4036		0·2									
28	4042		0·2									
29	4069		0·6									
29a	4072		0·6									

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No	λ	Elt	Est	b	Ib	Est	b	Ib	Est	b	Ib	Remarks
~~29~~												
30	4075		0·6									
31	4084		0·4									
32	4089		0·6									
33	4101	H δ	1·9									
34	4111·2		0·3									
			0·2									
35	4116·2		1·1									
36	4120·5		0·3									
37	4128·1		0·3									
38	4131·4		0·1									
39	4134		1·1									
40	4144·0											
41			0·5									
42			0·3									
N.B. 43			0·3									
44			0·5									
45			0·2									
46			0·5									
47	4237·4		0·5									
48	4242·6		0·5									
48a	4248		0·1									
49	4254		0·7									
50	4267		0·9									
50a			0·1									
51	4276		0·5									
62	4285		0·5									
63	4291		0·2									
54	4295		0·2									
55	4304		0·3									
56	4318		0·2									
57	4320		0·4									

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ε Canis Majoris. Continued.

B1

No	λ	Ref	Est	b	Ib	Est	b	Ib	Est	b	Ib	mean
58	4327		0·4									
a b c	(4334·5)		0 1 0·2 0·2									
59	4340		1·6									
a	4346		0·2									
60	4350·1		0·7									
61	4361·0		0·3									
62	4367·3		0·6									
63	4373·2		0·5									
64	4387·8		1·2									
65	4395·7		0·2									
de												
66	4415		0·3									
67	4417		0·3									
68	4437		(0·2 0·2)									
69	4440		(0·3 0·1)									
70	4447		0·3									
71	4453		0·2									
72	4471		1·3									
73	4481		0·9									
74	4490		0·1									
75	4531		0·5									
76	4553		1·0	51								
77	4568		0·9									
78	4576		0·8									
79			0·6									
80			0·6									
81	oxygen		0·6									
82			0·6									
83			0·4									
84			0·4									
85	4630·6	a	0·4									
86	4630·6 4641	o	0·7									
87	4641 4649	o	0·4									
87a			0·7									

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No	λ	Elb	Est	b	Ib	Est	b	Ib	Est	b	Ib	Mean
88	4649	⊗ 0	0·9									
89	4661·7	0	0·7									
90	4675·3	0	0·7									
91	4685		0·1									
92	4697		0·3									
93	4705		0·3									
94	4712·8	He	1·0									
95	4812		0·4									
96	4819		0·4									
97			0·4									
98	4829		0·4									
99	4861·5		1·8									
100	4922·1		1·5									
101	4941·6		0·3									
102	d 4959·4		0·3 a									
103	4999·4		0·3									
104	5015·7		0·8									
105	5047·8		0·8									

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β Centauri

std = 49. X 8376. 2 pr. Q = 4.

B1

No in Σ CHa	λ	Est. int.		No.	λ	Est. int.		No.	λ	Est.		No.	λ	Est.
	2			40	38	4131	0·3	93	4705	0·4				
	3			40	39	4134	0·2	94	4713	0·8				
	4			40	40	4144	1·2	99	4861	1·8				
	5			40	41		0·7	100	4922	1·3				
	6			40	43		0·3	101	4941	0·4				
	9	3819		3·0	44		0·3	103		0·2				
	10	3835		4·0	45		0·4	105	5105> 5047	1·0				
>		3867												
	14	3889		3·0	46		0·4							
	15	3912		1·4	49	4252	1·0							
	16	3918 3933		1·4	50	4267	0·9							
	17	3926		1·4	51	4276	0·9							
	19	3945		1·0	52	4285	0·9							
	20	3954		1·0	56	4318	0·2							
	21	3964		0·8	57	4320	0·3							
	22	3970		3·0	58	4327	0·3							
×		~~3985~~		0·6	59	4340	1·8							
	24	3994		0·8	60	4350	0·8							
	25	4009		1·2	62	4367	0·6							
	26	4026		2·0	63	4373	0·6							
×		?4036		0·3	64	4387	1·2							
	29	4069		0·8	66	4415	1·1							
	29a	4072		0·8	72	4471	1·4							
	30	4075		0·9	73	4481	0·7							
	31	4084		0·6	76	4533	1·0							
	32	4089		0·8	77	4568	0·8							
	33	4101		1·7	78	4576	0·8							
	34	4111		0·4	86	4630	0·1							
	35	4116		0·4	87	4641	1·0							
	36	4120		1·2	88	4649	1·2							
	37	4128		0·3	92	4697	0·4							

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ε Canis Majoris X 6265 1 prism Q = 5

Oe5.

No.	λ	Elt	Int. Std 21	b	Ib	Mean
1	3750·2	HK	2·0	~~40~~ 38	1·6	1·8
2	37708	Hι	2·0	~~40~~ 38	1·6	1·8
3	3798·1	Hθ	3·0	~~40~~ 38	1·6	2·3
4	3819·2	He	1·5	80	1·0	1·25
5	3835·5	Hη	2·0	~~40~~ 38	1·6	1·8
6	3889·1	Hζ	1·8	~~40~~ 38	1·6	1·7
7	3924·0 3926·8		{0·2 {0·3	60	0·5	0·5
8	3933·8	Ca+	0·6	70	0·3	0·45
9	39702	Hε	1·6	79	1·3	1·45
10	4026·0 4026·4		1·1	55	1·0	1·05
10a	4059		—	-		
11	4069·4 4072·0		0·6	58	0·8	0·7
11a	4075·9		0·3	60	0·5	0·4
12	4089·2		0·9	83	0·9	0·9
13	4096·9		0·6	82	0·5	0·55
13a	4101·8		1·3	79	1·3	1·3
14	4116·2		0·5	77	0·5	0·5
14a	4120·5		0·2	76	0·3	0·25
15	4144·0		0·5 w.l.	67	0·3	0·4
16	4186·2		0·4	67	0·3	0·35
17	4200·7		0·7	68	0·8	0·75
18	4340·7		1·5	8	1·2	1·35
19	4367		0·2			0·2
20	4387		0·4	10	0·2	0·35
* 21	4471·8		1·0	51	1·0	1·0
21b	4481·4		—	-		—
21a	4514·5		0·2	—		0·2
22	4542·4		0·7	15	0·8	0·75
23	4633		0·9	~~25~~ 51	~~0·5~~ 1·0	0·95
24	4688		0·6	33	0·9	0·75
25	4712		0·5	58	0·2	0·35
26	4861		1·3	8	1·2	1·25
27			0·7	48	0·7	0·7

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29 Canis Majoris Plate x 6265 Q = 5
1 prism

Oc

No.	λ	Elt.	Est Std = 21 Q Cma	b	I b	Mean
1	—		—			
2	—		—			
3	—		—			
4	ϑ		2·0 f			2·0
5	3835·5		2·0 f			2·0
6	3889·1		3·0 A	61	1·6	2·3
7	39240 3926·8		{0·4 {0·4	68	{ 0·8	{0·4 0·4
8	3933·8		0·5	~~68~~ 76	0·3	0·45
9	3970·2		1·7	38	1·6	1·65
10	{4026·0		1·5	61	1·6	1·55
10a	{4026·4 4059		0·2			0·2
11	{4069·4 {4072·0		—			—
11a	4075·9		0·3			0·3
12	4089·2		0·6	70	0·3	0·45
13	4096·9		1·5	61	1·6	1·55
13a	4101·8		1·6	61	1·6	1·6
14	4116·2		0·3			0·3
14a	4120·5		0·3			0·3
15	4144·0		0·4			0·4
16	4186·2		—			
17	4200·7		0·7	68	0·8	0·75
18	4340·7		1·4	61	1·6	1·55
20	4387		0·6			0·6
21	4471·8		1·3	39	1·6	1·45
21b	4481·4		0·3			0·3
21a	4514·5		0·9	60	0·5	0·7
22	4542·4		0·6			0·6
22a	4633		0·2			0·2
23	4684		E 0·6 E 0·6			E 0·6 E 0·6
24	4712		E 1·3			E 1·3
25	4861		0·7	35		0·7
26						

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5 Puppis. Plate X 8230 X8245 (2nd) (no reference sheet)
2 prisms. Q = 5 Q = 4

No	λ	Ele	Sat std = 21 c Cola	Sat std = 15	Sat	Mean.
1		Hκ	—			
2		Hε	—			
3		Hδ	3·0f			3·0
4		Hη	2·5f			2·5
5	3860	He	0·8f			0·8
6	3889	HJ	2·0f	hazy		2·0
7	3924	He	1·5		1·3	1·4
8	3970	Hε	2·0		1·8	1·9
9	4026	He	1·3	1·3	1·1	1·2
10	4101	Hδ	~~1·5~~ 2·0	1·8	1·6	1·8
11	4200	He	1·2	1·1	1·1	1·1
12	4340	Hγ	1·8	1·8	1·3	1·6
13	4471		0·4	0·4	0·4	0·4
14	4481		0·4	0·3	0·3	0·3
15	4542	He	1·0	1·0	1·0	1·0
16	4591 ?		0·5	—	—	0·2
a	4598 ?		0·5	—	—	0·2
17	4620 ?	oxygen	0·5	—	—	0·2
a	4631 ?		0·5	—	—	0·2
18			E 0·5	—	-0·4	-0·5
19			E 0·5	-0·6	-0·4	-0·5
20			E 0·4	-0·4	-0·4	-0·4
21			E 1·8	-1·6	-1·6	-1·7
22	4861	Hβ	1·2	1·2	1·0	+1·1
23	5202·2	Sulphur?	0·7		0·6	+0·65
24	5414	He	1·0		0·8	+0·9

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ε Orionis

B0

No	λ	Elt	Est std = 40
1	4922		1·6
2	4861		2·0
3	4685		0·7
4	4675		0·2
5	4661		0·2
6	4651		1·6
7	4576		0·2
8	4566		0·2
9	4553		0·6
10	4481		0·7
11	4471		1·6
12	4417		0·7
13	4395		0·3
14	4387		1·1
15	4380		0·7
15a	4367		0·3
16	4350		1·0
17	4340		1·8
18	4318, 4320		0·8
19	4276		0·3
20	4267		0·8
21	4254		0·8
22	4189		0·3
23	4154		0·4
24	4144		1·2
25	4128, 31		0·3
26	4120		1·0
27	4116		1·3
28	4111		0·3
29	4101		1·8

No	λ	Elt	Est std = 40
30	4096		1·2
31	4089		1·6
32	4075		1·0
33	4072		0·7
34	4069		0·8
35	4026		1·6
36	4009		1·0
37	3995		0·5
a	3975		0·2
38	3970		0·7
39	3964		0·5
* 40	3933		1·0
41			0·4
42			0·4
43	3889		1·6

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B5

Pleiades. X 8158 2 prisms

Q = 5 hard to measure weight 3.

	No.	λ	Est. Std=4481	Est	b	Ib	mean
507 =608	1	Hε	3·0	30	95		3·0
	2	Hη	3·0		95		3·0
	3	Hζ	3·0		95		3·0
	4	3970 Hε	3·0		95		3·0
	5	4009	0·6		13	0·6	0·6
	6	4026	1·4	80	5	1·0 0·8	1·1
	7	4101·8 Hδ	3·0		–		3·0
	8	4120 4128 4131	0·6	28	3	0·2 1·2	0·7
	9	4144	0·8	28	2	0·4 1·2	0·8
	10	4340 Hγ	3·0		–		3·0
	11	4387	1·2	{20	15	0·7 0·8	0·9
	12	4471	1·2	29	5	1·2 0·8	1·1
*	13	4481	1·0	51	51	1·0	1·0
	14	Hβ	3·0		–		3·0

			std = 3
547 =610	1	Hβ	2·5
9 Tau	2	Hθ	2·5
	2a		0·4
*	3	4009 4026	1·0
	4	Hδ	2·5
	5	4120 28 31	0·6
	6	4144	0·6
	7	Hγ	2·5
	8	4367	0·5
	9	4471	1·2
	10	4481	0·9
	11	Hβ	2·5

No lines in b comparable to the Hydrogen lines

Measures from this plate almost useless

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Pleiades, continued

B5

	No.	λ		Obs.	Est	L	I L
					Std = 12		
16	1		H	Hη	3·0		
=613	2		H	Hϛ	3·0		
20 Tauri	3		H	Hε	3·0		
Maia	4	4009			0·4		
	5	4026			1·0		
	6	4101	H	Hδ	2·5		
	7	4120			0·6		
	8	4128, 31			0·8		
	9	4144			0·6		
	10	4340	H	Hγ	2·2		
	11	4387			0·9		
*	12	4471			1·0		
	13	4481			0·6		
	14	4861	H	Hβ	2·0		

522				S	Std = 12		
= 615	1		H	Hη	3·0		
	2		H	Hϛ	3·0		
	3		H	Hε	3·0		
	4	4009			0·4		
	5	4026			1·2		
	6		H	Hδ	3·0		
	7	4120, 28, 31			0·4		
	8	4144			0·6		
	9	4340	H	Hγ	2·8		
	10	4387			0·9		
	11	4471			1·0		
*	12	4481			0·9		
	13	4861	H	Hβ	2·5		

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Pleiades continued B 5/8

	No	λ	Elt	Est	b	Ib
				Std=19		
541	1	H	Hλ	3·0		
=618	2	H	HK	3·0		
η Tau	3	H	Hι	3·8		
	4	H	Hθ	3·0		
	5	3819		1·0		
	6	H	Hη	3·0		
	7	H	Hζ	2·8		
	8	3933 K		0·4 ~~0·7~~		
	9	3964		0·4 ~~1·2~~		
	10	H	Hε	2·6		
	11	4089		~~0·9~~ 0·7 1·2		
	12	4028		~~0·8~~		
	13	H	Hδ	2·6		
	14	4120, 28, 31		0·9		
	15	4144		0·8		
	16	H	Hγ	2·5		
	17	4387		0·9		
	18	4471		1·0		
*	19	4481		1·0		
	20	4861 H	Hβ	2·8 reversed		

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1924phae.proj.109sp

Pleiades continued B8

No	λ	Ele-	Sol- std = 13	b	Tb	Mean
557 =625 1		H_η	3·0			
2		H_J	3·0			
3		H_ι	3·0			
4	3994?	3·	0·4			
5	4009		0·4			
6	4026		0·9			
7		H_δ	2·8			
8	4120		0·5			
9	4128,31		0·4			
10	4144		0·4			
11	4340	H_γ	2·5			
12	4387		0·4			
* 13	4471		1·0			
14	4481		0·8			
15 ×	4712		−0·6?			
16	4861	H_β	2·5			

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1924phae.proj.10092P

β Lupi. × 8264 2 prisms NB This star a spectroscopic binary? B2

Q = 5.

No.	λ	Elt	Est SM = 27	b	I b	Mean
1			3·0			3·0
2			3·0			3·0
3			3·0			3·0
4			3·0			3·0
5	3798	Hθ	3·0			3·0
6			1·8			1·8
7	3835	Hη	2·5			2·5
8			0·5			0·5
9			0·3			0·3
10	3889	H_3	2·5			2·5
11	3926		0·4			0·4
12	39333 36		0·6			0·6
13	3945		0·8	29	1·2	1·0
a	3957		0·4			
14	3964		0·6			0·6
15	3970	He	0·8	51	1·0	0·9
16	3973		2·2	84?	2·0	2·1
a						0·5
17	3982		0·5			0·5
18	3994		0·5	43 ~~51~~	0·7 ~~0·4~~	0·75
19	4009		0·8 1·2	80	1·0	1·1
20	~~4026~~		1·4	62	1·6	1·5
21	4036		0·4			0·4
22	4042		0·4			0·4
23	4069 4072		0·3 0·3			0·3 0·3
24	4075		0·4			0·4
25	4089		0·3			0·3
26	4093		0·3			0·3
27	4101	Hδ	2·0	84	2·0	2·0
28	4111	O	0·4			0·4
a	4116					
29	4120		1·0	51	1·0	1·0
30	4144		1·2	8	12	1·2

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No	λ	Elt	Est Std = 29	b	Ib	Mean
31	4157		0·4			
32	4169		0·3			
33			0·4			
34			0·3			
35	4254		0·4			
36	4267		0·6	70	0·3	0·45
37	4276		0·5			
38	4285		0·4			
39	4291?		0·3			
40	4304		0·3			
41	4318,20,27		0·3			
42	4340		2·0	62	1·6	1·8
43	43501		2·0 0·3			
44	4367·3		0·4			
45	4373·2		0·4			
46	4387·8		1·2 0·3	79	1·3	1·25
47	43957		0·4			
48	4415 4417	O	0·3			
49	4437		0·4			
50	4447		0·3			
51	4453					
52	4471		1·2	79	1·3	1·25
53	4481		0·6			
54	4531		0·5			
	4553					
55	4568		0·3			
56	4576		0·4			
57	4630?		0·4			
58	4644?		0·4			
59	4641	d	0·5			
60	4649		0·6			
61	4661		0·5			
62	4675		0·4			
63	4712		0·8	88	0·9	0·85
64	4861		1·8	84	2·0	1·9
65	4922		1·0	79	1·3	1·15
(6			0·7			

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1924phae.proj.1092P

J Centauri × 8263 2 Persei Q·5 B2

from β Lupi

No	λ	Elt	Est Std: 29	b	I b	mean
1			–			3·0
2			3·0			3·0
3			3·0			3·0
4			3·0			8·0
5			4·0			4·0
6			2·0			2·0
7			4·0			4·0
8			04?			04?
9			03?			0·3?
10			3·0			3·0
11			0·4			0·4
12			06			0·6
13			08			0·8
a			0·4			0·4
14			0·5			0·5
15			0·7			07
16			2·5	90	-	2·5
17			–			
18			0·4			0·4
19			1·1	80	1·0	1·05
20			1·6	62	1·6	1·6
21			0·3			0·3
22			0·3			0·3
23			0·4			0·4
24			0·4			0·4
25			0·3			0·3
26			0·4			0·4
27			2·0	90	-	2·0
28			-			~~0·95~~
* 29			1·0	4	0·9	0·95
30			1·2	8	1·2	1·2
31			0·5			0·5

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1924phae.proj.1092p

No	λ	Elt	Estd-sq	b	Ir	mean
32			0·3			0·3
33			0·3			0·3
34			0·4 0·4			0·4 0·4
35			↓			↓
36			0·7			0·7
37			0·6			0·6
38			0·5			0·5
39			80			0·3
40			inf			0·3 0·3 0·3 0·3 0·3 0·3 0·3
41			0·3			
42			2·2	84	2·0	2·1
43			0·3			0·3
44			0·2?			0·2
45			0·2?			0·2
46			1·1	8	12	1·15
47			–			
48			0·3			0·3
49			–			
50			0·3			0·3
51			02?			0·2?
52			1·3	40	1·6	1·45
53			0·5			0·5
54			0·3			0·3
55			–			
56			0·3			0·3
57			0·3			0·3
58			0·3			0·3
59			0·3			0·3
60			0·3			0·3
61			0·2			0·2
62			0·2			0·2
63			0·7	83	0·9	0·7
64			2·2	84	2·0	2·2
65			1·1	8	1·2	1·1

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1924phae.proj.10927

α Carinae × 8260 2 prisms B3

Q = 5

No. (β Lupi)	λ	Est std 29 = 3.0
1		3.0
2		3.0
3		3.0
4		3.0
5		3.0
6		2.0
7		3.0
8		0.7?
9		0.7?
10		3.0
11		0.7
12		1.2
13		0.6
14		0.6
15		2.5
16		–
17		–
18		–
19		1.2
20		1.5
21		–
22		–
23		–
24		–
25		–
26		–
27		2.5
28		
* 29		1.0
29a		(0.4 0.4)
30		1.3

No.	λ	Est
31	–	–
32		–
33		0.4
34		–
35		–
36		0.9
37		
38		
39		
40		
42		2.2
46		1.2
50		0.3
51		–
52		1.3
53		0.8
54		
55		
56		
57		
58		
59		
60		
61		
62		
63		0.7
64		2.2
65		1.2
[67]		0.7

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1924phae.proj.1092p

3 Canis Majoris X 8203 2 prisms

B3

Q = 4.

No.	λ	Est std = 3		Mean Dec.	x	Est
β Lupi 10		4·0	4·0	4·0		
11		-	-			
12		0·4	04	0·4		
13		1·0	0·8	0·9		
a		0·4	0·4	0·4		
14		0·3	0·3	0·3		
15		3·0	3·0	3·0		
19		1·3	1·3	1·3		
20		1·7	1·7	1·7		
23		0·3	0·3	0·3		
27		2·5	2·8	2·65		
29		1·0	1·0	1·0		
29a		0·4 0·4 ~~1·3~~	0·4 0·4	0·4 0·4		
30		1·3	1·3	1·3		
36		09	08	0·85		
42		2·2	2·5	2·35		
46		1·6	1·3	1·45		
50		0·8	0·7	0·75		
52		1·3	1·5	1·4		
53		0·8	0·9	0·85		
63		0·9	0·8	0·85		
64		2·2	2·2	2·2		
65		1·0	1·1	1·05		

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1924phae.proj.10927

Plate X 5058 1 prism X 4400 Q = 5.

Oc.

AGC 22763

	No.	λ	Elt	Sat std = 22	Sat std = 22
(τ CMa)	11?	4069.4 4072.0		-1.0	
	13	4096.9	N+	-1.8	
		4101.8	H δ		
	14	4116.2	Si IV	-0.6	
		4186.3			
	16a	4200.7	He N+	-0.5	
	17	↓	↓	-0.5	
	21	4471.8	He	-0.7	
	21a	4574.5		-0.8	
*	22	4542.4	He	-1.0	
	23	4633		-2.5	
	24	4686	He ?	-4.0	
	25				
	26	4861	Hβ	-1.1	-1.0

AGC 22748 $\overline{\text{Sat}} = 18$

Oe

(τ CMa)	6	3889	H J Ca+	0.7
	7	3924 3926	He +	0.2
	8	3933	Ca +	0.8
	9	3970	H ε	1.1
	10	4026	He	1.0
	12	4085	Si IV	0.9
	a	4097	N+	0.5
	13	4102.05	H δ	1.1-?
	16?	4186.2? or 4200	He	0.4
*	18	4340	Hγ	1.0
	21	4471.8	He	0.8
	21a	4574		0.7
	22	4541	He	0.5
	23	4633		-1.1
	24	4686		-0.6
	25	4712		0.4
	26	—	Hβ	abs

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1924phae.proj.10902

B1

No.	λ	Elt.	Est Std = 8	Est Std = 8		mean
NGC 22812 (out)			0·8			
ζ Scorpii	2		1·2	1·2		1·2
numbering from (ζ Ara)	5		0·9	1·0		0·95
plate X 8264	6 or 7		0·3 1			0·3
	*8		1·0	1·0		1·0
	14		1·1	1·2		1·15
	15		0·4	0·8	0·7	0·65
	16		0·2	0·9		0·2
	17		0·6			0·6
	18		0·3	0·5		0·4
	20		0·2 0·2	0·6		0·25 0·25
	22		1·0	1·0		1·0
	24		0·9	1·0 0·3		0·95
	26		0·9	1·0		0·3 0·95
	27		0·9	1·0		0·95
	29		1·0	1·0		1·0
	30		0·9	0·6n		0·75
	41		0·7	0·3	0·4	0·45
	42		0·7	0·3	0·5	0·5
	43		0·9	0·8		0·85
	44		0·9	0·8		0·85
	51		0·7 −0·7			0·7 −0·7
	52		0·6			0·6

Oe

NGC 22843				Std : 8
(ζ Ara)	6	3889·1	H 5	0·9 1·1
*	9	3970·2	H ε	~~0·9~~
*	10	4026	He	1·0
	12	4085	-	-
	13	4097	N 4	1·3
	13a	4102	H δ	1·3 −0·8
	17	4200	He	~~0·9~~ 0·3

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1924phae.proj.1092P

(c CHa) No.	λ	Ider	Est
18	4340	Hγ	0·9
21	4471	He	1·0
21a22	4524, 4542		0·5 0·6
23	4633		-0·9
23a	-		-0·9
24	4686		-1·1
26	4861	Hβ	-0·9

X 4065 1 prism Q=5

AGC 15 305 Arbitrary standard est by eye. Oa

1	3970·2	Hε	-0·2
2	4102	Hδ	-0·3
3	4340	Hγ	-0·3
4	4471	He	-0·3
5	4633		-0·0
6	4686		-0·9

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1924phae.proj.10902

ABC 20965

− Circini Plate ×9566 1 prism Q=4
Plate ×9579 1 prism Q=4

Oe5

	No.	λ	Elt.	Est std = 15	Est std = 15	
	1	3835.5	Hη	2.5	–	2.5
	2	3889.1	HJ	3.0	–	3.0
	3	3926	He	~~0.6~~	–	0.6
	4	3970	Hε	2.5	3.0	2.75
	5			0.3	–	0.3
	6	4026	He?	1.4	1.4	1.4
	7			0.9	0.3 nearer dist	0.9
	8			~~0.8~~ 0.4	~~2.5~~	0.4
	9	4102	Hδ	1.8	↓	2.1
	10	4200	He?	0.6	1.0	0.8
	11	4340	Hγ	1.7	2.2	2.0
	12			0.3	–	0.3
	13	4471		1.1	1.3	1.2
	14			0.3	–	0.3
*	15	4542	He?	1.0	1.0	1.0
	16			0.8	0.9	0.85
	17			0.9	0.9	0.9
	18	4861	Hβ	1.1	1.1	1.1

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1924phae.proj.1092P

δ, Scorpii × 8264 2 prisms
B_0 Q = 5 very faint B_1

No	No β Sup	λ	Elt	Eqt std = 26	
1	14	3964·6		0·6	another plate with additional
2	16	3970 ~~3973~~		1·2	
3		3975·2		0·8	
4		3982·8		0·5	
5	18	3994·9		1·0	
6		—		0·3	
7	19	4009		0·4	
8	20	4026		1·0	
a		4036·0		0·3	
9		4042·0		0·7	
10	23	4064		0·4	
		4072		0·4	?
11	24	4075		0·4	
		4084!			
12	25	4088		0·4	
13	26	4098		0·4	
14	27	4101·8		1·1	
15	29	4120·5		0·6	
16		4128		0·6	-?
		4131		0·4	
a 17	30	4144		0·9	-?
18	35	4254		0·6	
19		4267?		0·5	
20		4276?		0·5	
21		4285?		0·5	
22	42	4340		1·1	
23		4350		0·3	-?
24		4367		1·0	-?
✱	25	4373		0·6	
✱	26	4387		1·0	
27		4415		0·9	
		4417			
28				0·3	
29	52	4471		1·1	
30	63	4481		0·7	

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1924phae.proj.10950

No.	No β Lupi	λ	Set	Est, std : 26
31		4490??		0·3
32	54	4531		1·0
33	55	4568		0·9
34	56	4576		0·8
35				0·3
36				0·3
37				0·3
38				0·4
39				0·4
40		4611		0·6
41		4619		0·6
42	58	~~4630~~		1·0
43	59	4641		1·0
44	60	4649		1·0
45		4661		0·5
46		4675		0·8
47		4685		0·4
48		4697		0·3
49		4705		0·3
50		4712		0·3
51	64	4861	Hβ	1·0 and —
52				
53				
54				
55				
56	~~65~~			

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1924phae.proj.1092p

Plate X4044. (0 for stars) Plate X4709

(ICHa) No.	λ	Elt.	Est. std=10a of 14626	Est	Mean	
AGC 14626				(9) + 0·8	+ 0·8	Oc
* 10a	4059		− 1·0	− 1·0	− 1·0	
13	4097	N+	− 0·5 very hazy	−0·4 −0·3 −0·6 −0·5	+? +?	
13a	4102	Hδ				
18	4340	Hγ	− 0·8	− 0·9	− 0·85	
21	4471	He	− 0·4 h	− 0·4	− 0·4	
21a	4514		− 0·6 h	− 0·5	− 0·55	
22	4541		− 0·4 h	− 0·3	− 0·35	
23	4638		− 2·0	− 2·0	− 2·0	
24	4686		− 3·0	− 3·0	− 3·0	
26	4861	Hβ	− 0·9	− 0·9	− 0·9	
				8) + 0·6	+ 0·6	
AGC 14684			10a of 14626	9) + 0·7	+ 0·7	Oc
* 10a	4059		− 1·2	− 1·2	− 1·2	
13	4097		− 0·4 very hazy	− 0·3 − 0·3 − 0·3	−	
13a	4102					
18	4340		− 0·4	− 0·4	− 0·4	
23	4638		(0·4, 0·2, 0·5) − 1·5	−0·3 −0·2 −0·3	− 1·55	
24	4686		− 3·0	− 1·6 − 3·0	− 3·0	
26	4861		− 1·0	− 0·9	− 0·95	

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1924phae.proj.10930

48

Plate X 11473. 1 prism Q=5

B5

α 226 -60·6
A.G.C.15652
(Circ 11934)
p.20

Int = 4

	No.	λ	Elt	Est. std = 12	Est.
	a	~~3889~~		4·0 f	
	b			4·0 f	
	c			4·0 f	
	1	3889		3·0 f	
	2	3933		0·5 f?	
	3	3970		2·5 f	
	3a	4009		0·6	
	4	4029		0·9	
	5	4102		2·2	
	6	4118		0·4	
	7	4128		} 0·6	
	7a	4131			
	8	4144		0·8	
	9	4262		0·4	
	10	4339		2·0	
	11	4387		0·9	
*	12	4471		1·0	1·0
	13	4481		0·4	
	15	4861	Hβ	1·8	
	16	4922·1	He	0·7	
	17	5015	He	0·5	

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1924phae.proj.1092P

II 31·1 −60 44
AGC 15842

Plate 11473 continued

Aop

	No.	λ	Elt	Est std = 4471	
Int = 3	1	3889	HJ	3·0	AGC 15862
	2	3933		0·9	
	3	3970	Hε	2·5	
	5	4102	Hδ	2·2	
	7	4128		0·6	
	7a	4131			
	8	4144		0·4	
	8a			0·4	
	8b			0·4	
	8c			0·4	
	9	4262		− ?	
	10	4339	Hγ	2·0	
	11	4387		0·6	
	12	4471		0·6	
	13	4481		0·8	
	~~14~~			0·5	
				0·5	
				0·5	
				0·5	
				0·5	
				0·4	
				0·4	
				0·4	
				0·4	
	15	4861	Hβ	1·8	

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1924phae.proj.10920

Plate X11473 continued.

B3

(from 11934) AGC 15862 Int = 4

	No	λ	Ref	Est Std = 12.
	b		H	3·0
	c		H	3·0
	1	3889	H	3·0
	2	3933		0·9 d?
	3	3970	Hε	2·8
	3a	4009		0·6
	4	4026½		1·0
	5	4102	Hδ	2·5
	6	4118		0·4
	7	4128		0·5
	7a	4131		
	8	4144		0·8
	9	4262		0·3
	10	4339	Hγ	2·2
	11	4387		0·9
*	12	4471	He	1·0
	13	4481	Mg	0·4
	14	4712	He	0·3
	15	4861	H	1·8
	16	4922	He	0·5
	17	5015	He	out

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1924phae.proj.1092P

(843.1 -45 32)
AGC 11917

Plate X 12380 1 hour Q = 4
X 4515 1 hour Q = 5

B5

(from 11934) No		λ	Ext	Ext 1 std = 4	Ext 2
Int = 3	1	3889		2.5 f	2.0
	2	3933		1.0 f	0.8
	3	3970	Hε	2.0 f	1.8
	3b	3995		0.6	0.5
	3a	4009		0.5	0.4
*	4	4026		1.0	1.0
	5	4102	Hδ	1.8	1.7
	6	4118		0.5	0.4
	7	4128		0.3	0.4
	7a	4131		0.3	
	8	4144		0.6	0.6
	10	4339		1.8	1.7
	11	4387		0.9	0.6
	12	4471		1.0	0.9
	13	4481		0.5	0.7
	13a			0.3	0.4
	14	4712		0.4	0.6
	15	4861		1.2	1.6

(842.6 -43 40)
AGC 11900
α Velorum

			std = 2	
	1	3889	2.5	3.0
Int = 5 *	2	3933	1.0	1.0
	3	3970	2.2	2.5
	5	4102	2.0	2.2
	10	4339	1.8	2.0
	12	4471	0.4	0.4
	13	4481	<0.3	0.3
	15	4861	1.7	2.0

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1924phae.proj.10092p

(8 47.1 -46 10)
AGC 12035
Int = 4

Plate x12380 continued
x4515.

+ Vel

B0

No	λ	Elt	Est std: 12	line in
1	3889	Hζ	2·5	2·5
3	3970	Hε	2·5	2·5
3a	4009		0·6	0·5
4	4029		1·0	1·2
— 4a	4069?		0·3	
— 4b	4072?		0·6	0·8
— 4c	4075?		0·4	
— 4d	4089		0·6	0·8
5	4102	Hδ	2·0	< 0·3 2·0
6	4118		~~0·6~~ 0·5	0·6
6a	4120		0·6	0·7
7	4128		—	0·3
7a	4131		—	
8	4144		0·7	0·7
8a			0·3	
b			0·4	
c			0·4	
d			0·4	
9	4262		0·5	
9a			0·5	
— i			0·3	
— ii			0·3	
— iii			0·3	
— iv			0·3	
— v			0·3	
— vi			0·3	
— vii			0·3	
10	4339	Hγ	1·8	1·9
10a			0·4	
— b			0·5	0·6
— c			0·4	

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1924phae..proj.1090P

	No	λ	Elt	Est	
	11	4387		07	0·6
	11a			04	
	11b			0·3	
	11c			0·3	
*	12	4471		1·0	1·0
	13	4481		0·4	0·4
	13a			{0·4 0·4	
	13b			0·9 0·4,0·4	0·9
	14	4712		0·5	
	15	4861	Hβ	1·8	1·6
	17	5015		0·8	

Plate x4515

AGC 11786

B5

	No	λ	Elt	Est
	1	3889		Std 4 / 2·0
	2	3933		1·0
	3	3970		2·0
	3a	4009		0·5
*	4	4029		1·0
	5	4102		1·8
	6	4118		0·6
	6a	4120		0·6
	7	4128		} 0·6
	7a	4131		0·5
	8	4144		↙
	9	4262		0·3
	10	4339		1·7
	11	4387		0·5
	12	4471		0·6
	13	4481		0·6
	14	4712		0·4
	15	4861		1·4

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1924phae.proj.10922

54 Plate X 8638 2 prisms Q = 4.

AGC 1917 B5 No	λ	Est	Est	B5
(from Blurb)			Std = 52	
Int = 2				
20			2·0	
27			2·0	
29				
30				
36				
42			1·7	
46			0·9	
* 52			1·0	
54			0·7	
56			0·5	
63			1·0	
AGC 11900				
a Velorum				A0
7			4·0	
Int. 4 10			4·0	
13				
16			3·5	
27			3·5	
29				
29a				
29b				
30				
36				
37				
.				
.				
.				
.				
.				
42			3·0	

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1924phae.proj.109.pp

No.	λ	est	Sat
43			
44			
45			
46			
47			
a, b, c			
48			
49			
50			
51			
52			
54			
55			
56			
57			
58			
64			30

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1924MNAE..proj..1092P

NGC 12035. | No | λ | Est | Est | + Vel Bo

	No	λ	Est	Est
	β Lupi			std = 46
Int = 3.	16			2·5
	19			0·6
	20			1·1
	23			0 8
	24			0·6
	25			0·4
	26			0·9
	27			2·0
	28a			0·5
	29			0·9
	29a			0·2
	29b			0·2
	30			1·0
	31			0·4
	35			0·5
	36			0·5
	37			0·5
	42			1·8
	43			0·4
	44			0·4
*	46			1·0
	48			0·6
	52			1·1
	53			0·4
	54			0·5
	56			0·4
	60			1·1
	62?			0·8
	63			0·6
	64			13

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1924phae.proj.1092p

Plate × 4766 ν_1 Centauri 13.554, −45° 7'

Q = 5 1 prism B3

B3

No	λ	Elt	Est Std = 8
a	3734	H λ	4·0
b	3750	H κ	4·0
c	3770	H ι	4·0
d	3798	H θ	4·0
e	3819		2·0
f	3835	H η	4·0
1	3889	H ζ	3·5
1a	3926?		0·4
2	3933		0·5
3	3970	H ε	3·0
3a	4009		0·9
4	4029		1·2
5	4102	H δ	2·0
6	4116		0·7
7	4128		0·3
7a	4131		
* 8	4144		1·0
9	4262		0·3
10	4339	H γ	1·8
11	4387		1·0
12	4471		1·1
13	4481		< 0·3
15	4861	H β	1·7
16	4922		1·0

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1924phae.proj.10922

Plate ×4338 δ Scorpii? 1 prism Q=5
×5708 1 prism Q=5

B0

No. (11934)	λ	Elt.	Est 1 std 12	Est 2 std=12	Mean
Int=4 c			4·0	3·5	3·85
d			4·0	4·0	4·0
e			2·0	2·0	2·0
f			4·0	4·0	4·0
1	3889		3·0	3·0	3·0
2	3933		0·6	0·5	0·55
3	3970		3·0	2·8	2·9
3a	4009		0·6	0·7	0·65
4	4029		1·1	1·1	1·1
4a	4069		0·6	0·8	0·7
4b	4072		0·3	0·3	0·3
4c	4075?		0·6	0·7	0·65
5	4102		2·0	2·5	2·25
6	4118		0·8	0·8	0·8
7, 7a	4128, 31		0·3	0·3	0·3
8	4144		0·9	0·8	0·85
8a	[illegible]		0·4	0·4	0·4
9	4254? 4262		0·4	0·3	0·35
10	4339		1·8	0·3 0·3 2·0	0·3 0·2 1·9
11 a b	4387		0·9	0·3 0·4 0·8	0·3 0·4 0·85
11a	~~4415~~ 4417		0·4	0·4	0·4
* 12	4471		1·0	1·0	1·0
13	4481		0·3	0·3	0·3
13a	4641 4649?		0·4	0·4 0·4	
14	4712		0·8	>0·9	0·85
14a			0·5	0·6 0·6	
15	4861		1·8	1·8	1·8
16	4992		1·0	0·9	0·95

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1924phae.proj.1092P

τ Scorpii 16.30. -28.0 X7612. 2 prisms
Q = 4

B0

(β Lupi) No	λ	Elt	Est ~~Est~~
Int: 3			Std 46
5			4·0
6			3·5
7			4·0
10			3·5
11			0·4
12			0·5
13			0·6
16			3·0
19			0·8
20			1·3
23			0·8
24			0·4
26			0·8
27			2·5
28a			0·3
28			0·8
30			0·9
35			0·6
36			0·5
37			0·4
42			2·0
* 46			1·0
48			0·4
52			1·1
58			0·4
59			0·6
60			0·9
62a	4686		0·8
63			0·7
64			2·0
65			1·0

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1924phae.proj.109pp

τ Scorpii X4362 Imain Q = 5

(1934) B0 (B1

W = 3

	No	λ	Elt	est
				std 12
	1	3889		3·0
	2	3933		0·5
	3	3970		3·0
	3b	3995		0·4
	3a	4009		07
	4	4029		1·2
	4a			0·7
	4b	4089		0·5
	5	4102		2·0
	6	4118		07
	8	4144		08
	8a			0·4
	10	4339		2·0
	10a	4350?		0·4
	10b	4367?		0·4
	11	4387		0·9
	11a	4415? 4417?		0·4
*	12	4471		1·0
	13a	4649		0·7
	13b	4686		0·7
	13c			–
	14	4712		0·4
	15	4861		2·0
	16	4922		1·0

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1924phae.proj.10922

α Pyxidis — X 8269 2 prisms Q = 4 Int: 3 BL
X 8250 2 prisms Q = 4 Int: 3

(β Lupi) No	λ	Elt	Est ①	Est ②	Mean		No	①	②	Mean
10			4·0	4·0	4·0		43	0·7	0·7	0·7
11			0·5	0·6	0·55		44	0·4	0·4	0·4
12			1·4	1·2	1·3		45	0·4	0·4	0·4
13			1·0	0·8	0·9		46	1·2	1·2	1·2
14			1·0	0·8	0·9		47	0·3	0·3	0·3
15			4·0	4·0	4·0		48	0·7	0·4	0·4
18			0·6	0·7	0·65		49	–	↙	
19			1·1	1·1	1·1		50	0·4	0·4	0·4
20			1·4	1·3	1·35		51	0·4	0·4	0·4
23			0·5	0·4	0·45		52	1·2	1·2	1·2
a			0·5	0·4	0·45		53	0·6	0·7	0·65
24			0·6	0·4	0·5	*	54	1·0	1·0	1·0
25			0·3	0·3	0·3		55	0·9	1·0	0·95
27			3·0	2·5	2·75		56	0·8	0·8	0·8
28			0·7	0·4	0·55		12 of int	0·4		
29			1·2	1·1	1·15					
a, b			0·3	0·3	0·3					
30			1·2	1·2	1·2		57	0·5	0·4	0·45
31			0·4	0·5	0·45		58	0·4	↙ 1·0	↙
32			0·3	0·4	0·35		59	0·5	↙ 1·0	0·75
33			0·3	0·4	0·35		60	0·8	↙ 0·5	0·9
(34) 35			0·6	0·4 0·6	0·4 0·6		61	0·4	↙	0·45
36			0·9	1·0	0·95		62	0·4	0·4	0·4
37			0·5	0·6	0·55		63	0·7	0·9	0·8
38			0·4	0·4	0·4		64	2·5	2·0	2·25
39			0·3	0·4	0·35		65	1·1	1·2	1·15
40			0·5	0·4	0·45					
41			0·3	0·3	0·3					
a			0·3	0·3	0·3					
42			2·5	2·2	2·35					

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D Arae Plate x 8651 2 prisms Q = 5 Int = 4

B1

(β Lupi) No	λ	Ecl-	Lat Std = 54
10			3·0
a			0·8
11			0·9
12			1·1
13			1·0
a			0·8
14			0·8
15			2·5
17			0·9
18			1·0
19			1·2
20			1·5
a			07
b			0·7
23			04
a			0·4
24			07
25			04
26			0·6
27			2·0
28			0·6
a			0·3
29			1·1
~~bb~~			0'4 0·4
30			1·1
31			0·4
32			0·3
33			0·3
a			0·5
b			0·6

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1924phae.proj.1092p

θ Area continued

B1

34		0·6
35		0·8
36		0·8
37		0·7
38		0·7
39		0·7
40		0·6
41		0·4
a		0·4
42		2·0
43		0·7
44		0·7
45		0·6
46		1·1 0·4
47		↓
48		0·9
		0·4 0·5
49		
50		0·5
51		0·3 0·5
52		1·1
53		0·7
a		0·6
* 54		1·0
55		0·9
56		0·8
	6 of int 0·5	
57		0·6
58		1·0
59		1·1
60		1·0

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1924phae.proj.1092P

θ Aræ continued.

No	λ	Elt	Est
61			0·7
62			0·7
	5 of int. 0·4		
63			0·9
64			2·0
65			1·3

α Columbae X 8875 2 prisms Q = 4 I = 4 B5

lines wide Std=52

(β Lupi)

10	5·0
16	4·5
19	0·6
20	1·2
29	0·5
~~30~~	{0·4
26	{0·4
30	0·8
46	0·9
52	1·0
53	0·9
64	Hβ 4·5 - 1·0

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1924phae.proj.1092P

ε Centauri

Plate × 6440 1 hr Q = 3 I = 4
× 4215 1 hr Q = 5 I = 4
× 4125 × 6439

B1

(11934) No	λ	Elt	Eat std 12	Eat std	Eat std	Mean
a			2·5	2·5	2·5	2·5
b			3·0	3·0	3·0	3·0
c			1·3	1·5	1·4	1·4
d			3·0	3·0	3·0	3·0
1			2·5	2·5	2·5	2·5
2			1·0	0·8	1·1	1·0
3			2·2	2·2	2·2	2·2
3b			0·4	0·4	0·4	0·4
3a			0·7	0·8	0·7	0·7
4a			1·1	1·2	1·2	1·2
5			2·0 0·4	0·3 0·3	0·3 0·3	0·3 0·3 2·0
6			0·6	2·0 0·7	2·0 0·8	0·7
8			0·8	0·8	0·9	0·8
10			1·7	1·8	1·8	1·8
11			0·6	0·9	0·9	0·8
11a			0·4	0·4	0·4	0·4
* 12			1·0	1·0	1·0	1·0
13			–	1·8	1·8	1·8
15			1·8	0·9	1·0	0·95

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1924phae.proj.1099p

ω_1 Scorpii Plate X5929 1 prism Q = 4 I = 4
Plate X4832 1 prism Q = 5 I = 3

B2

(1934)	No	λ	Err	Est ①	Est ②	Mean
				12	12	
	a			3·0	3·0	3·0
	b			3·0	3·0	3·0
	c			1·2	1·3	1·25
	d			2·8	3·0	2·9
3889	1			1·8	3·0	
3933	2			0·7	0·8	0·75
3970	3			1·7	2·8	
	3b			0·4	0·4	0·4
	3a			0·7	0·7	0·7
4026	4			1·1	1·2	1·15
	4a			0·4	0·3 0·3	0·25 0·25
	5			1·6	2·5	
	6			0·8	0·7	0·75
	7a+			0·4	0·3	0·35
ft lines 4144	8			0·9	0·8	0·85
	10			1·6	2·2	
	10a			0·4	0·4	0·4
4387	11			0·9	0·9	0·9
4471 *	12			1·0	1·0	1·0
	15			1·5	2·0	
4922	16			1·0	0·8	0·9

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1924phae.proj.1092P

σ Lupi × 4804 1 prism Q = 5 Int = 3

(1934) No λ Est Est std = 11. B2

	No	λ	Est	Est std = 11.
	1			3·0
	2			0·7
	3			2·5
	3b			0·3
	3a			0·9
	4			1·2
	4a			0·3
	5			2·0
	6			0·8
	8			1·0
	10			1·8
	11			0·9
*	12			1·0
	14			0·4
	15			1·7
	16			0·9

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1924phac.proj.1092p

68

d Carinae ×6191 1 hrs in Q = 4 I = 4
excellent spectrum

B2

β Lupi
~~(Hq 34)~~

No	λ	Elt	Est, std 20 ~~3a~~
10			2·5
11			0·4
12			0·6
13			0·5
14			0·4
15			2·2
18			0·4
19			0·7
20			1·0
23			0·4
24			0·4
~~27~~			2·0
29			0·8
a+h			0·4
30			0·8
42			1·8 ~~2·0~~
45			0·4
46			0·7
48			0·4
52			0·7
59			0·4
60			0·4
64			1·7
65			0·9

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1924phae..proj..1092P

α Lupi ×5861 1 prism Q = 5 I = 3 excellent spectrum

B2

No	λ	Elt	Sat std = 46
(β Lupi) 5			3·0
6			2·0
7			2·5
~~8~~ 9			0·7
10			2·2
11			0·4
12			0·7
13			0·4
15			2·0
18			0·4
19			0·8
20			1·2
23			0·4
~~2~~4			0·4
~~2~~5 7			1·8
~~2~~8			0·3
29			1·0
29a Th			0·3
30			1·0
36			0·6
37			0·4
38			0·4
42			1·8
43			0·4
* 46			1·0
48			0·4
52			1·0
59			0·4
60			0·4
64			1·8
65			0·9

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1924phae.proj.10092

70

α Pyxidis ×6268 1 prism Q = 4 I = 3

B2

excellent

(β Lupi) No.	λ	Est	Est Std 29 = ~~2330~~	λ	Est	Est	std 29.
5			3·0	62			0·4
6			1·2	63			0·5
7			~~3·0~~ 0·7	64			1·6
10			3·0	65			1·0
15			2·5				
18			0·5				
19			1·0				
20			1·3				
23			0·5				
24			0·4				
27			1·7				
* 29			1·0				
a+h			0·3				
* ~~29~~ 30			1·0				

measure λ again

42		1·6
46		1·1
48		0·7
52		1·2
53		0·4
55		0·6
56		0·5
57		0·4
59		0·5
60		0·5

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1924phae.proj.1092P

θ Aurigae* C 6083 2 nusimo Q=3 I=4 Apec

(α Cyg)	No	λ	Elt	Est
	88			0·8
	87a			0·2
	87			0·7
	86			0·4
	85			0·4
	63			0·4
	59			0·8
	58			0·8
	29			0·5
	28			0·4
	72			2·0
	61			1·8
	39			1·8
	8			1·7

*N.B. in all the C Holes where D=2 the Std was taken direct from the α Cyg spectrum used in identifecation of the lines

φ Draconis C 6087 Q=5 I=2 AO

(α Cyg)				
	84			5·0
	78			1·0
	72			4·0
	68			0·7
	61			3·5
	60			0·5
	59			1·0
	58			1·0
	55			0·6
	54			0·7
	–			0·7
	39			3·0
	29			0·8
	15			0·7

8 30

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1924phae.proj.1092p

72

θ Aurigae C 6457 Q=5 D=2 I=4

(α Cyg)	No	λ	Elt	Tot
	94			5·0
	90			4·5
	89a			0·6
	88a			0·4
	88			08
	87a			0·4
	87			07
	86a			0·7
	86			0·6
	84			3·5
	81			0·5
	80			0·3
	78			0·5
	72			3·0
	70			0·4
	69			0·4
	68			0·4
	66			0·3
	65			0·4
	63			0·6
	61			2·8
	59			0·9
	58			0·9
	55			0·8
	54			0·7
	52			0·5
	40			0·4
	39			2·5
	35			0·5
	29			0·5

Ao

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26	0·3
25	0·4
24	0·3
21	0·7
20	0 7
15	0·5
14	0·3
13	0·3
8	2·5
5	0·5

12 Canum Venaticorum C 6516 Q=5 D=2 I=4

(Hyg.) 90	3·0 Ao
88	1·0
87	0·9
84	2·8
81	0·4
80	0·3
78	0 5
72	2·5
70	0·4
69	0·4
68	0·4
64	0·4
63	0·5
61	2·0
60a	0 4
60	0 4
59	1·0
58	1·0

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12 Canum Venaticorum continued

57	0·7
55	0·8
54	0·7
53b	0·5
53a	0·7
52	0·8
44	0·3
43	0·4
42	0·3
41a	0·3
40	0·4
39	2·0
36	0·4
35	0·6
29	0·6
28	0·4
26	0·4
25	0·4
24	0·4
15	0·4
14	0·4
13	0·3
8	1·8
5	0·4

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θ Aurigae C 6314 Q=4 I=4 D=2

(αCyg)	No.	λ	Est	Est	No.	Est	Est	Ao
	93			0·8	39		2·0	
	90			4·0	36		0 9	
	89a			0·5	35		1·0	
	88a			0·4	30		0 7	
	88			0·7	29		0 7	
	87a			0·4	21		0·6	
	87			0·7	20		0·6	
	86a			0·7	15		0 4	
	86			0·5	14		0 4	
	85			0·4	13		0 4	
	84			3·5	8		1·8	
	81			0·4	5		0·5	
	80			0·3	4		0·4	
	78			0·4				
	72			2·5				
	70			0·3				
	69			0·3				
	68			0·3				
	65			0 4				
	64			0·9				
	63			1·0				
	61			2·2				
	60			0·3				
	59			1·0				
	58			1·0				
	55			0·8				
	54			0·7				
	52			0·6				
	43			0·5				
	42			0·3				
	41			0·5				

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θ Aurigae C6628 D=2 Q=5 I=3

(αCyg)	No	λ	Elt	Est	λ	Elt	Est		
	5			0·4	52		0·8	81	0·7
	8			3·0	(42)		0·8 w	(9)	0·4
	10			0·4	(41)		0·9 w	84	3·0
	(6q)			0·4	(40)		1·2 w	85	0·5
	12?			0·6	(39)		1·2 w	86	0·5
	13			0·4	(38)		1·0 w	87	0·6
	15			0·6	54		1·0	87a	0·6
	16			0·3	55		1·1	88	0·7
	17			0·4	56		0·3	90	3·0
	18			0·3	57		0·4	94	3·0
	19			~~0·6~~ 0·7	58		1·0		
	20			0·8	59		1·0		
	21			0·6	60		0·4		
	24			0·3	60a		0·5		
	25			0·3	61		3·0		
	26			0·3	63		1·1		
	27			0·3	64		1·1		
	28			0·4	(~~65~~)		0·7		
	29			0·8	(24)		0·7		
	32			0·4	(20)		0·7 w		
*	33			0·4 0·5	68		0·7 w		
*				0·4	69		0·6		
	34			0·3	70		0·6		
	35			0·6	(17)		0·6		
	36			0·4	72		3·0		
	37			0·4	(15)		0·4		
	38			0·3	77		0·3		
	39			~~3·0~~	78		0·7		
	40			0·4	79?		0·3		
	46			0·4 w	80		0·3		
	48			0·4 w					

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Std 12067.

X 11148 Q = 4 I = 2 D = 1

AGC 1984² (Image 8.)

Ao

No.	λ	Int
3		2·5
5		2·5
6		0·6
7		0·6
13 ~~14~~		0·7
14 ~~15~~		2·2
17, 18		1·2
23		0·4
37		2·2
40		0·4
41		0·5
50		0·5
51		0·6w
52		0·5
54		2·2

Plate X 11179. D = 1 Q = 4 ~~I~~ =

Ao

A.G.C. 17913. I = 3.

3	2·5	all H = 2·5
13 ~~14~~	0·8	
15	0·7?	
16, 17	1·3	
20	0·4	
22	0·6	
23	0·6	
51	0·5	
52	0·6	

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1924phae.proj.10927

78

Plate 11266. D = 1 Q = 4

A.G.C. 20509 I = 3

Ao

(12067)

No.	λ	Sat - Std = 4a		
1		3·0	31	0·4
2		3·0	34	0·4
2a		0·9	37	2·2
2b		0·8	39	0·6
3		3·0	40	0·5
4		0·4	41	0·5
* 4a		1·0	42	0·5
4b		0·4	50	0·5
4c		0·3	51	0·6
5		2·5	52	0·6
6		0·8	53	0·7
7		0·7	54	2·2
7a		0·7		
12?		0·8		
13		0·8		
14		2·5		
15		0·7		
16		0·5		
17		1·2		
20		0·5		
21		0·5		
22		0·5		
23		0·6		
24		0·6		
25		0·4		
26		0·4		
27		0·4		
28		0·4		
30		0·4		

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AGC 26741. AGC 27165

×12497 SFd pl.

D=1 Q=3 I=3 D=1 Q=4 I=3

Ao

No.	λ	Est	Est	No.	λ	Est	Est
1		–	3·5	31		0·3	0·6
2		–	3·5	32		a	0·3
3		3·5	3·5	33		–	0·3
4		–	0·6	34		–	0·3
5		3·0	3·2	35		–	0·3
6		0·6	0·6	36		–	0·3
7		0·7	0·7	37		2·5	2·5
8		–	0·6	38		–	0·4
9		–	0·6	38a		0·3	–
10		–	0·5	39		0·4	0·7
11		–	0·4 0·4	40		–	0·3
12		–	0·7	41			0·5
13		–	0·7	42			0·5
14		2·5	2·8	43			0·4
15		0·8	0·7	44			0·5
16, 17		0·9	1·0 *	45			0·4
18a		0·4	0·5	46			0·3
19			0·6	47		0·5	0·6
20		0·9	0·9	48		0·5	0·5
21		0·5	0·5	48a			0·4
22		0·4	0·5	48b			0·4
23		0·4	0·5	49			0·3
24		0·4	0·8	50		0·4	0·4 0·4
25		0·5	0·8	51		0·6	0·4 0·4
		0·3	0·6				
26		0·4	0·6d	52		0·6	0·6
27		0·3	0·5	53		0·4	0·5
28		0·3	0·4	54		2·5	2·5
29		0·3	0·7				
30		0·3	0·7				

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1924phae.proj.10922

80

Platex 12399
AGC 17597 D = 1 Q = 3 I = 3

(2067)

No.	λ	Est.	No.	λ	Est.
3		2·5	51		0·6
5		2·5	52		0·7
12		0·4	53		0·6
13		0·6	54		2·5
15		2·5			
16		06			
17,18		1·3			
186		0·3			
19		0·4			
20		06			
21		0·3			
22		0·3 0·3			
23		0·3			
24		0·3			
25		0·4			
96		0·4			
27		0·5			
28		02			
29		0·4			
30		0·4			
31		0·4			
32		0·4			
33		0·4			
34		0·4			
35		0·3			
36		0·3			
37		2·5			
47		0·5			
48a		0·5			
50		0·5			

A0

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1924phae.proj.10927

X 12070. D = 1 Q = 5 I = 3

AGC 26741

Ao

No.	λ	Est
1		4·0
2		4·0
5		3·5
6		0·3
7		0·3
11		0·3
12		0·3
13		0·8
15		2·8
16		0·9
16		0·4
17, 18		0·8
18a		0·3
18b		0·4
19		0·4
20		0·8
21		0·6
22		0·3
23		0·3
24		0·3
25		0·6
26		0·4
27		0·4
29		0·4
30		0·4
31		0·4
32		0·3
34		0·4
35		0·4

No.	λ	Est.
37		2·5
38a		0·6
39		0·8
40		0·3
47		0·5
48		0·4
49		0·3
50		0·4
51		0·8
52		0·8
53		0·8
54		2·5

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1924phae.proj.1092p

X 12047. Q = 4 D = 1
AGC 20484. I = 2 AO

No.	λ.	Est.
3		3·5
5		3·0
14		2·8
17,18		0·9
23		0·5
24		0·5
26		0·4
27		0·4
33?		0·4
34?		0·4
37		2·5
39		0·5
47		0·4
48		0·4
50		0·4 0·4
54		2·5

X 11966 Q=4 D=1
AGC 19955. I=3

5		2·5	(all H)
7		0·6	
12		0·4	
13		0·5	
16		0·6	
17,18		0·9	
20		0·6	
34?		0·3	
35		0·3	
39		0·3	

X 11677 Q=4 D=1
I=3. AGC 19362 AO

No.	λ.	Est.
3		2·5
5		2·5
12		0·6
13		0·6
14		2·5
15		0·8
17,18		0·8
18a		0·4
18b		0·6
22		0·4
23		0·4
24		0·4
27		0·6
31		0·6
33		0·6
35		0·6
37		2·5
39		0·6
41		0·4
42		0·4
43		0·4
54		2·5

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X 11566. Q = 4 D = 1 I = 4

A0

~~ABC~~ 18227

No	λ	Est
1		3·0
2		3·0
3		3·0
5		2·8
5a		0·8
12		0·5
13		0·5
14		2·5
16		0·4
17 18		0·9
18		0·4
18b		0·7
19		0·7
20		0·6
31		0·6
39		0·6
54		2·2

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C 1984 Q = 5 D = 1 I = 4

Asp

α Cygni

(own std 21)

No.	λ	Est	C5929 No.
1	Hλ	2·5	
2	3750 Hκ	2·5	
3	3759	0·9	
4	3771 Hι	2·5	
5	3782	0·4	
6	3798 ~~3798~~ Hθ	2·5	
7	~~3816~~ 3816?	0·3	
8	~~3821~~ 3826	0·9	
9	~~3819~~ 3829	0·8	
10	~~3826~~ 3832	0·8	
11	3835 Hη	2·5	
12	3850	0·4	
13	3854	0·4	
14	~~3862~~ 3856	0·9	
15	~~3856~~ 3863	0·9	
16	3866	0·6	85
17	3878	0·5	84
18	3889 Hζ	2·2	
19	3901	0·9	
20	3906	0·9	
* 21a	3914	1·0 / 0·3	
22	3934 K	1·2	
23	3936	0·5	
24	3945?	0·4	
25	~~3970~~ ~~4102~~ Hε ~~Hδ~~	2·5	
26	4003	0·4	
27	4012	0·4	
28	4024	0·5	
29	4040	0·4	
30	4045	0·4	

No.	λ	Est	C5929 No.
31	4053	0·4	
32	4058	0·3	
33	4064	0·3	
34	~~4102~~ ~~4341~~ Hδ Hγ	2·2	
35	4110?	0·4	
36	4122	0·4	
37	4128, 31	1·0	
38	4144	0·3	
39	4163	0·3	
40	4172	0·7	
41	4177	0·7	
42	4202?	0·3	
43	4234	0·6	
44	4275?	0·5	
45	4300? 4303	0·6	
46	4308	0·6	
47	4315?	0·3	
48	4341 Hγ	2·2	
49	4352	0·7	
50	4385	0·8	
51	4395	0·4	
52	4417	0·7	
53	4455?	0·3	
54	4451?	0·5	
55	4464?	0·5	
56	4469 4471	0·5	
57	4481	0·8	
58	4489	0·8	
59	4501	0·7	
60	4508 4515	0·6	

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No.	λ.	Est.	C5929 No
61	4524	06	
62	4550	0·6	
63	4556	06	
64	4584, 86 ~~4619~~	0·6	15
65	~~4584, 80~~ 4619	0·6	16 17
66		0·4	
67		0·3	
68	4848, 24 4861 Hβ	0·4 0·4 2·0	
69		0·9	
70	1	0·6?	

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η Leonis. C 1771 Q=4 D=1 I=4

(αλγγ) 11984

No.	λ	Est.
1	Hλ	2·5
2	Hκ	2·5
3		0·9
4	Hι	2·5
5		0·6
6	Hθ	2·5
7		0·3
8		0 8
9		0·8
10		0·6
11	Hη	2·5
12		–
13		0·3
14		07
15		0·7
16		0·4
17		0·3
18	Hϑ	2·5
19		0·2?
20		0·4
21		0·4
* 22	K	1·0
23		0·4
24		0·2?
25	Hε	2·2
26		–
27		0·5
28		0·2
29		0·7
30		–

No.	λ	Est.
31		–
32		–
33		–
34	Hδ	2·0
35		0·2
36		0·2
37		07
38		07
39		–
40		0·6
41		0·6
42		–
43		0·5
44		–
45		0·3
46		–
47		–
48	Hγ	2·0
49		0·3
50		0·6
51		0·3
52		0·6
53		
54		
55		
56		06
57		0·4
58		
59		05
60		0·5

(4481)

A0

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No	λ	Est
61		0·5
62		0·5
63		
64		
65		
66		
67		
68	Hβ	2·0
69		
70.		

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1924phae.proj.109pp

88 σ Cygni D=1 Q=5 I3 C1957. A0

(Std = αCyg 1984)

No	λ	Est	No	λ	Est	No	λ	Est
1	Hλ	3·0	31			61		0·5
2	Hκ	3·0	32			62		0·3
3		0·9	33			63		0·3
4	Hι	3·0	34	Hδ	2·2	64		0·2?
5		0·6	35		0·3	65		0·2?
6	Hθ	2·8	36		0·3	66		—
7		—	37		0·9	67		-
8		0·7	38		0·5 ~~0·9~~	68	Hβ	2·0
9		0·7	39		0·0-	69		0·4
10		0·4	40		0·5	70		—
11	Hη	2·8	41		0·5			
12		—	42		—			
13		-	43		0·7			
14		0·9	44		-			
15		0·9	45		0·4			
16		—	46		0·4			
17		-	47		—			
18	Hζ	2·5	48	Hγ	2·2			
19		—	49		—			
20		—	50		0·7			
21		-	51		-			
* 22	K	1·0	52		0·4			
23		—	53		—			
24		-	54		-			
25	Hε	2·2	55		-			
26		0·4	56		-			
27		0·4	57	4481	0·7			
28		0·4	58		0·8			
29		0·7	(59a		0·4 0·6			
30			(60		0·5			

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Hr. 1. μ Sagittarii × 9034 Q = 3 I = 3 (very good Hale) should say Q = 4 or least.
D = 2

B8

Std	No.	λ	Int
β Lup	10		2·5
	13		2·0
	16		2·5
	19		0·4
	20		1·3
	27		2·2
	28		0·4
	29		0·5
	29a		0·9
	29b		0·9
	30		0·6
	36		0·5
	42		1·8
	46		0·9
	52		1·0
	53		1·2
	54		0·4
	55		0·4
	63		0·4
	64		1·8
	65		1·0

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χ Eridani λ 8137 D = 2 Q = 4 I = 3 B9

very difficult, lines very hazy

No.	λ.	Int
7		3·5
11		4·0
16		3·5
20		0·8
27		3·0
29a dv		0·8
42		3·0
46		0·4
52		0·7
53		1·0
64		2·8

γ Gruis λ 9989 D = 2 Q = 5 I = 3 B8

Hydrogen very hazy

No.	λ.	Int.	
11		4·0	
16		3·5	
20		1·1	
27		3·0	
29		0·4	
a dv		0·8	
30		0·4	
42		2·8	
46		0·8	apptly double
52		1·0	
53		1·0	very sharp
64		2·8	
65		0·5	

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α Pavonis × 9984 D = 2k Q = 5 I = 3' slightly hazy

B3

No.	λ.	Int.
4		3·5
5		4·0
6		2·5
7		4·0
10		3·5
13		0·9
15		3·0
19		1·0
20		1·3
27		2·8
29		0·9
a		0·4
~~dv~~ 30		1·2
36		0·7
42		2·5
46		1·0
50		0·3
52		1·0
53		0·4
63		0·7
64		2·2
65		1·0

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1924phae.proj.1092p

D=2

α Telescopii X 9298 Q = 4 I = 4

H.B

Hydrogen lines.

B3

No.	λ	Int.
1		3·5
2		3·5
3		3·5
4		3·5
5		3·5
6		2·0
7		3·0
10		3·0
12		0·7
13		0·9
15		0·7
16		2·5
19		1·2
20		1·7
27		2·5
29		0·8
a11		0·4
30		1·0
36		0·5
42		2·0
46		1·0
52		1·1
53		0·5
63		0·5
64		1·8
65		0·9

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1924phae.proj.1092P

α Pavonis X9961 D=2 Q=4 I=4

isochromatic very good. H hazy. . .

B3

No.	λ.	Intr
1		3·5
2		3·5
3		3·5
4		3·5
5		3·5
6		2·0
7		3·5
10		3·0
12		0·4
13		0·7
16		2·8
19		1·3
20		1·8
27		2·5
29		0·9
36		0·3
30		1·2
36		0·9
42		~~1·6~~ 2·5
46		1·2
50		0·4
51		0·3
52		1·3
53		0·5
63		0·5
64		2·6
65		0·9

There appear to be slight real differences in intensity, due to sharpness, between lines of 9961 and 9984.

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1924phae.proj.1093p

α Telescopii . X 9145 D=2 Q=4 I=4 very good.

B3

No.	λ.	est Int.
5		4·0
6		2·0
7		3·5
10		3·5
11		0·4
12		0·5
13		0·7
15		0·6
16		3·0
18		0·3
19		1·0
20		1·4
27		3·0
29		1·0
ath		0·4
30		1·2
36		0·9
42		2·8
46		1·2
50		0·5
52		1·2
53		0·6
63		0·6
64		2·5
65		1·0

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1924phae.proj.1092P

D=2

γ Grus. X 7821. Q=4 I = 3 Hazy + difficult

B8

No.	λ.	Int.
10		3·5
13		0·8?
16		3·5
27		3·2
29		0·4
a+h		0·6
30		0·5
36		0·4
42		3·0
46		1·1 double? reversed? See HA 28
52		1·0
53		1·1 sharp
64		3·0

φ Sagittarii. X 7676 D=2 Q=5 I=4 Hazy + diff

B8

No.	λ.	Int.
5		4·0
6		2·0
7		3·8
10		3·5
13		0·8
16		3·0
19		0·4
20		1·0
27		2·5
29		0·4
a+h		0·4 0·4
30		0·4
42		2·2
46		1·1 double. reversed!
52		0·9
53		0·9 sharp
64		2·0
65		0·4

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1924phae.proj.1090p

D=2

γ Gruis. X7625. Q=4 I=3 H and D Iff.

Scale slightly diffr. Violet in frame B8

No.	λ.	Est.	Int.
1		3·0	
2		3·0	
3		3·0	
4		3·0	
5		3·0	
6		1·2	
7		3·0	
10		2·8	
13		0·8	
16		2·5	
20		1·0	
27		2·5	
29		0·4	
ath		0·4	0·4
30		0·4	
42		2·2	
46		0·9	double, hazy
52		0·9	
53		1·0	
63		0·3	
64		2·2	

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1924phae.proj.1092p

δ_1 Telescopii × 7580 D=2 Q=5 I 2

No.	λ.	Est.	
16		3·5	very faint and uncertain
20		1·2	B8
27		3·5	
30		0·7	
42		3·5	
46		0·5	
52		1·0	
53		1·0	
64		3·2	

δ_2 Telescopii × 7580 D=2 Q=5 I=2 faint and uncertain.

No.	λ.	Est.	
16		3·0	B5
19		0·8	
20		1·2	
27		3·0	
29. 29a		0·5	0·6
30		1·1	
36		0·8	
42		3·0	
46		1·0	
52		1·1	
53		0·9	
63		0·5	

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1924mae.proj.109pp

98 Feb. 2. D=2

J Sagittarii × 7833 Q=5 I=4 H broad wings

A2

Sid Sgr. No. 72.	No.	λ.	Est.	No.	λ.	Est
	4 5		5·0	32		0·8
	6		0·8	33		0·4
	7		0·8	34		0·8
	8a		0·8	35		0·5
	8		0·9	36		0·4 ; wide
			2·5	37		0·4 } hazy
	9		0·7	38		0·9
	10		0·6	39		0·9
	11		0·6	40		0·4
	12		0·6	41		0·7
	13		4·0	42		0·7
	14		0·4	43		0·7
	15		0·7	44		0·4
	16		0·7	45		0·7
	17		0·6	46		1·1
	18		0·6	47		0·8
	19		0·5	48		0·3
	a		0·5	49		0·8
	20		0·4	50		0·8
	21		0·9	50a		0·4
	22		0·4	51		0·8
	23		0·4 0·4	52		0·7
	24		0·6	53		0·4
	25		0·6	54		0·6
	26		0·8	55		0·7
	27		0·8	56		0·3
	28		3·0 2·5	57		0·6
	29		0·4	58		0·6
	30		0·4	59		0·8
	31		0·6	60		0·8

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1924phae.proj.1092P

No.	λ.	Est.	No.	λ.	Est
61		0·5	91		0·6
62		0·7	92		0·7
63		2·5	93		0·5
64		0·8	94		0·4
65		0·4	95		0·4
66		0·5	96		0·4
67		0·7	97		0·4
68		1·0	98		0·4
69		0·7	99		0·5
70		0·6	100		2·5
71		0·6	101		0·8
* 72		1·0	102		0·6
73		0·4, w	103		0·8 ?
74		0·4 + H			
75		0·9			
76		0·3			
77		0·8			
78		1·2			
79		0·4			
80		0·4			
81		0·4			
82		0·4			
83		0·4			
84		0·4			
85		0·4			
86		0·3			
87		1·0			
88		0·5			
89		0·5			
90		0·3 0·3			

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1924phae.proj.1092P

100

α Pictoris X 8310 D=2 Q=4 I=3 all Lines wide and hazy

A5

Std J Sqr.	No.	λ.	Int.	No.	λ.	Int.
	~~13~~ 8		3·0	49		0·6
	13		4·0	50		0·6
	14a		0 8?	51		0·8
	15		1·0	52		} 1·0
	16		1·0	53		
	17		0·8	54		0·8
	18		0·8	55		0·8
	19		1·2	57		} 1·0
	20		1·1	58		
	22		0·7	59		0·7
	23		0·7	60		1·0
	24		0·6	61		0·4
	25		0·6	62		0·8
	27		0·8	63		3·5
	27a		0·4	64		0·9
	28		3·5 ~~4·0~~	65		0·4
	28a		0·6	66		1·0
	29		0·5	67		1·0
	31		} 0·7	68		1·3
	32			69		0·5
	~~34~~		0·7	70		0·5 } W & H
	36		0·7	71		0·5
	38		0·8	72		1·2
	39		0·8	73		0·4
	40		0·7	74		0·7
	42		} 1·3	75		1·0
	43			76		0·5
	45		0·9	77		0·9
	46		1·2	78		1·3
	47		0·7	79		0·6
	48		0·6			

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1924plate . proj . 1052P

No.	λ	Int.	No.	λ.	Int.
80		0·5			
81					
82		not			
83		resolved,			
84		lines			
85		wide			
87		1·0			
88		0·9			
89					
90		0·7			
91		0·7			
92		1·0			
93		0·9			
94		0·7			
95		0·7			
96		0·7			
97		0·7			
98		1·0			
a		0·6			
b		0·6			
c		0·6			
99		0·7			
100		2·5			
a		0·6			
101		1·0			

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1924phae.proj.1092P

τ_3 Eridani X 8027 D = 2 Q = 4 I = 3 lines clear

A3

Sqr.	No.	λ	Est.	No.	λ	Est.
	4		4·5	46		1·3
	18		2·5	47		0·8
	9		0·6	48		0·6
	10		0·6	49		0·6
	13		4·0	50		0·6
	15		0·7	51		0·9
	16		0·9	52		{1·0
	17		0·6 d	53		
	18		0·6	54		0·5
	19		0·8 d	55		1·0
	21		1·0	56		0·3
I·1	22		0·7	57		{1·0
	23		0·7	58		
	24		0·6	59		0·7
	25		0·5	60		1·0
	26		0·7	61		0·6
	27		0·8	62		0·7
	28		2·5	63		2·5
	31		0·6	64		0·9
	32		0·6	65		0·3
	34		0·8	66		0·5
	35		0·3	67		0·6
	36		0·7	68		1·2
	38		0·8	69		0·5
	39		0·6	70		0·5
	41		0·7	71		0·4
	42		0·6	72		1·0
	43		0·6	73		0·4
	44		0·5	74		0·4
	45		0·6	75		0·9

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1924phae.proj.1093P

No	λ	Est
76		0·5
77		0·8
78		1·3
79		0·5
80		0·6
81		0·4
82		0·4
83		0·4
84		0·4
85		0·4
86		0·3
87		0·9
88		{0·9
89		
90		0·6
91		0·6
92		0·7
93		0·6
94		0·4
95		0·4
96		0·4
97		0·4
98		0·6
100		2·5
101		0·8

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1924phae.proj.1092P

β Pavonis × 7860 D=2 Q=4 I = 4 Lines clear but not sharp A5

Sgr	No	λ	Est	No.	λ.	Est. many seem double.
	4		3·5	36		0·3
	8		2·6 2·0	36a		0·3
	10		0·8	37		0·3
	11		0·7	37a		0·3
	13		~~3·5~~ 3·2	38		1·0
	14		0·5	39		1·0
	15		0·8 d	40		0·3
	16		0·8 d	41		0·4
	17		0·4	42		0·4
			0·4	43		0·4
	18		0·4	45		0·~~5~~4
			0·4	46		1·1
	19		0·4	47		0·8
		?	0·4	49		0·6
			0·4	50		0·5
	20		0·83	51		0·8
	21		0·8	52		0·6
	22		0·3	53		0·5
	23		0·3	54		0·5
	24		0·5	56		0·3
	25		0·5	57		1·0
	26		0·6	58		
	27		0·8	59		0·4
	28		2·4 3·5	60		0·8
	29		0·3	61		0·6
	30		0·3	62		0·7
	31		0·3	63		2·4
	32		0·4	64		0·8
	33		0·3	65		0·6
	34		0·7	66		0·6
	35		0·5			

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1924phae..proj..1092P

No.	λ.	Est.
67		0·7
68		1·0
69		0·6
70		0·6
71		–
72		1·0
73		0·4
74		0·4
75		1·0
76		0·4
77		0·9
78		1·0
79		0·5
80		0·3
81		0·4
82		0·4
83		0·3
84		0·3
85		0·5
86		0·3
87		0·9
88		0·9
89		
90		0·3
91		0·3
92		0·5
a		0·4
93		0·3
94		0·3
95		0·2?
98		0·3
(100		2·2

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1924phae.proj.10922

Bq

λ Centauri X7506 D=2 Q=4 I=4
wide and hazy

Syn Con.	No	λ	Int.
	1		3·5
	4		3·5
	8		1·4
	13		2·8
	28		2·6
	63		2·4
	68		0·5
	77		0·5
	78		0·9
	87		0·4
	100		2·4

λ Centauri X 8486 D=2 Q=4 I=4 good Bq

1	3·5	77 v (?)	0·5
4	3·0	78	1·0
8	1·4	79	0·5
13	3·0	87	0·6
18	0·6	88	0·4
28	2·7	93	0·4
30	0·4	94	0·4
31	0·6	95	0·4
32		100	2·5
33	0·4		
38	0·3		
39	0·3		
45	0·3		
46	0·5		
52	0·3		
53	0·3		
63	2·4		
68	0·8		

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1924phae..proj..1092P

ν Fornacis × 8037 D = 2 Q = 4 I = 2

Difficult, very faint

Ao

Sept. Jan.	No.	λ.	Int.
	4		3·5
	8		0·4
	13		3·0
	26		0·3
	27		0·4
	28		2·8
	29		0·3
	30		0·3
	31		1·0
	32		1·0
	38 39		0·5 0·5
	42		0·7
	43		
(48) ?	47		0·8 near but appy a little different!
(49) ?	48		0·4
	57		0·5
	58		
	63		2·6
	77		0·8
	78		0·8
	87		0·5
	93		0·4
	100		2·4

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1924phae.proj.10922

108

α Piscis Austrini. X 9925 D=2 Q=4 I=3 wide H wings A3

Isochromatic Very good.

No.	λ	Est.	No.	λ.	Est	No.	λ.	Est.
8		2·8	40		04	69		0·9
9		0·7	41		0·8	70		0·7
10		04	41a		0·3	71		0·4
11		0·4 0·9	42		0·8	72		1·2
12		0·7	43		0·5	74		0·5
13		40?	44		0·5	75		1·0
15		1·0	45		0·8	76		0·3
16		1·0	46		1·3	77		0·7
17		0·4.0·4.0·4	47		0·8	78		1·3
18		1·0	48a		0·4	79		0·7
19		1·3 W	48b		0·4	80		0·8
20		0·4 1·1	49		0·8	81		0·7
21			50		0·8	82		0·7
22		0·6	51		1·2	83		0·7 d.!
23		0·6	52		0·8	84		0·7
24		0·9	53		0·5	85		0·7
25		0·8	~~53a~~ 54		0·6	86		0·5
26		0·9	~~54~~ 55		1·0	87		1·0 ~~0·7~~
27		0·1	56		0·5	88		0·9
27a		0·6	57		1·4	89		0·6
28		3·2 wisp	~~58~~			90		0·7
29		0·6	59		0·8	91		0·7
30		0·6	60		1·1	92		0·9
31		0·9	61		0·5	93		1·0
32		0·9	62		1·0	94		0·6
33		0·3	63		3·0 W	95		0·6
34		1·0	64		0·9	96		0·7
35		0·7	65		0·3 0·3	97		0·7
36		0·7 0·5	66		0·7	98		0·8
37		0·7 0·4	67		0·9			
38		1·2	68		1·2			
39		1·2	68a		0·3	[104]		1·2

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1924phae.proj.10927

Intensity of λ 3905. 2 Prism plates

Plate No.	Star		Est.	Quality of image	I.
X 7572	α Cen	dG0	1·2	5	4
X 9925	α PAr	(d)A2	0·4	2	3
X7801	α Car	cF0	0·8	4	4
X7507	β Cor	G5	out	(4)	3
X7841	J Cap	cG5	out	(3)	3
X7493	α Sco	cMa	out	(5)	3
X7486	α Sco	cMa	out	(5)	3
X7491	θ Cen	K0	1·0?	1	1
X8379	α JAr	K2	out	(5)	4
X7559	β TAr	F0	0·6 f	1	2
X8218	α Tau	K5	out	(5)	3
X8274	ξ CMi	cF8	1·3 d	5	4
X7573	α Cen	dG0	1·2	5	4
X7595	ι Car	F0	0·8	5	4
X 8494	β JAr	F0	0·8	3	4
X 8028	β Lep	G0	1·1?	1	2
X9954	α Indi	K0	seen	0	2
X7567	α Cir	F0	0·5	3	4
X 8935	β Lep	G0	1·1	5	4
X 8775	α Ind	K0	seen	0	2
X 8211	ρ Pup	cF5	1·0	4	4
X7562	α Cen	dG0	1·2	5	4
X7576	γ Cru	M0	out	(5)	4
X 9995	α PAr	A2	0·6	3	3
X 8190	α For	F8	0·9	4	2
X 8197	γ Lep	F8	0·8d	2	4
X 10035	α Reti	G5	out	4	3
X 8165	τ_6 Eri	F8	0·5	3	4
X9965	β Hyd	G0	seen	0	3
X 8098	α CMi	cF8	not strong 1·2	4	4

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1924phae.proj.10927

Plate No.	Star		Est	Quality	I
X 9987	β Pav	A3	0·4	3	3
X 9200	γ Sgr	K0	seen prob strong	0	4
X 8943	β Hyd	G0	1·1	4	4
X 8661	β Pav	A5	0·6	3	4
X 8335	β Dor	F5	1·1	2	3
X 7719	β Hyd	G0	1·1	2	3
X 7604	δ Pav	G5	1·2	2	4
X 7665	β Pav	A5	0·6	4	4
X 7600	β Pav	A5	0·5	3	3
X 7834	π Sgr	F0	0·9	4	4
			3 Prism Plates.		
X 8109	α Aur	G0	1·4?	1?	4
X 7984	α Aur	G0	1·4	5	4
X 7907	α Aql	A5	1·1	1	4
X 8090	α Lyr	A0	0·8	1	4
D 5284	α Car	F0	1·5	5	4

NB Q refers to the quality of 3905 and cor. to the weight of the observation.
I refers to the continuous spectrum.

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1924phae.proj.10922

Std = γ Pavonis

Intensity of λ 3905. 1 Prism plates measured with electric illum.

	Plate	Star	Type	Intensity	Q	I
	x7081	γ Pav	F8	1·1	5	4
	x7309	K Ret	F5	0·9	3	4
	x7204	J Dor	F8	1·0	3	4
	x7151	J Tuc	F8	1·2	5	4
	x6961	J Tel	K0	1·0	3	3
	x6458	κ Car	-F	0·0	3	4
	x6332	ψ Vel	F5	0·8	5	4
	x9816	AGC 1174	G0	seen	1	3:2
	x13649	H.R. 176	G0	1·0	1	3
		H.R. 186	K2	out	0	3
	x9581	α Ind	K0	1·7	2	3
	x4733	χ Car	c F8	1·0	4	4
	x5017	β CAu	G5	0·7	3	4
	x6532	κ Pav	c F5	1·0	3	4
	x13712	HR 4337		0·4	1	3
	x6423	d Vel	G5	1·3	4	3
x	x4421	AGC 24107 (ι Sco)	c F5	1·2	4	4
	x11783	AGC 22588		0·6	3	3
	x13682	γ Vel	-	0·6?	1	2
	x4505	AGC 10225 (ξ Pup)	G0	0·8	1	4
	x5909	γ Sgr	K0	1·6 d, f	3	3
	x6275	δ C Ma	c F8 pec	1·2	~~4~~ 5	4
	x5778	ι Sco	c F5 pec	1·1	5	4
	x4065	γ Car	c F5	1·0	5	4
	x4500	~~π Sgr~~ β Dor	c F5	1·3	5	4
	x4423	π Sgr	c F0 2	1·0	5	4
x	x6259	~~ι~~ ζ Vel	~~A0~~ F5	1·0	5	4
	x4597	α Car	c F0	1·0	3	4 v.o.
	x6499	λ Cen	B9	0·0	3	4

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Intensity of 3905. Main Plates Daylight.

Plate	Star	Intensity 3905	Intensity 4215	Mean Int. 3905.	
X7081	γ Pav	1·2	0·8	1·15	F8
X13682	γ Vel	0·9	1·1	0·75	
X11783	AGC 22588	0·4?	1·0	0·5	
X11881	AGC 13159	out	1·1	–	-
X4421	ι, Sco	1·4 d	0·9	1·3	cF5
X6422	d Vel	1·4	1·1	1·35	G5
X13712	AGC 15204	0·4	-	0·4	-
X6532	K Pav	1·0	0·8	1·0	cF5
X12390	AGC 10762	out	0·5		-
X5017	β CAu	1·2	1·2	0·95	G5
X4733	X Car	1·3	1·0	1·15	cF8
X9581	α Ind	1·6	1·0	1·65	Ko
X13649	HR 176	0·9	0·4	0·95	Go
X6332	ψ Vel	0·8	0·4	0·8	F5
X6458	K Car	?	0·8	0·0?	-
X6961	J Tel	1·2	1·0	1·1	Ko
X7151	J Tuc	1·2	0·3	1·2	F8
X7204	ζ Dor	1·2	0·4	1·1	F8
X7309	K Reti	1·1	0·8	1·0	F5
X6259	G Vel	1·0	1·0	1·0	F5
X 4423	π Sgr	1·1	0·9	1·05	F2
X 4500	β Dor	1·3	0·9	1·3	c F5
X4065	γ Car	1·2	1·0 w	1·1	c F5
X5778	ι, Sco	1·3	1·2	1·2	c F5
X 6275	ε Cha	1·2 ~~1·4~~	0·9	1·2	c F8
X5909	γ Sgr	1·2	1·0	1·4	Ko
X4505	ξ Pup 10215	0·7	1·0	0·75	Go
X13756	d Cen	out	1·1		

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Intensity of λ 3905. Ilford plates.

Plate	Star	Int. 3905	Int. 4215	R	I	Type
c 862	η Cas	1·4	0·2	5	4	F8
3095	γ Lep	0·7	0·3	3	3	F8
1904	10 UMa	0·8	0·4	3	3	F5
1773	β Vir	1·2	0·5	5	4	F8
1765	σ² UMa	1·2	?	1	4 dense bck	F8
1300	μ Vir	1·0	?	1	4	~~A0~~ F5
1363	η Her	1·3 d	0·8 A	5	4	K0
1406	16 Cyg	1·0	0·4			
1619	σ Leo	1·5	1·0	5	4	F0 comp
1663	Θ Per	1·2	0·4	4	5	G0
1666	σ UMa	1·3	1·0	4	5	G0
1681	μ Per	1·3	0·8	4	5	G0
2514	ζ Leo	0·9	0·7	3	5	F0
2646	ξ Sco	1·2	0·9	1	2	F8
1844	h UMa	0·9	0·2	3	3	d F0
2586	h UMa	0·9	0·4	4	4	d F0
+6 13668	α UMi	1·1	0·8	5	4	c F8
12731	α UMi	1·1	0·7	5	4	c F8
1446	η Aql	1·3	?1	4	4	c G0
1466	ζ Aur	1·2	6-0.		5	e F5
2018	γ Cyg	1·3				c F8
2508	γ Hya	1·1	1·2	5	4	G5
1696	σ Vir	1·2	1·0	3	4	G5
1686	HP 1272	0·7	—	3	4	F0
1686	30 Gem	1·0	0·8	3	3	K2
1646	η Peg	1·1	1·0	5	4	G0
1629	η Ris	1·2	1·1	1	2	G5
1616	ζ Per	1·0	1·0	5	4	G comp
1621	ε Tri	1·0 ~~0·6~~	0·6	5	5	F5
1786	10 Cam	0·9	1·0			G0

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	Plate	Star	Int. 3905	Int. 4215	Q	I	Type
c	2001	110 Her	0·8	0·4	3	4	~~F5~~ F5
	6908	ζ Ser	1·0	0·7	3	4	F8
	739	5 Gem	1·3 d	0·8?	5	4	c Go
	286	X' Ori	1·1	0·9	4	4	F8
	1328	α Aqr	1·2	0·5	4	5	c Go
	2396	ρ Cas	0·9	1·2	5	4	cF8
	2820	d Dra	1·3	0·8	5	4	c F8 pec
	6930	β Aqr	1·2	0·9	4	4	Go
	2521	δ Sep	1·1	0·8	3	3	Ko
	2597	α Hya	1·1	0·7	3	4	Fo
×	4535	β Pho	1·2		2	4	Ko
	4510	η Col	1·1		3	4	Ko
	4444	ε Pho	1·2		4	4	Ko
*	4019	α Cha	0·6		2	4	F5
	7240	δ Pho	1·3		5	3	Ko
*	13643	HR 332	0·9		4	4	Ko
	〃	HR 229	1·0		4	3	Ko
	13663	ξ Scl	0·6?		1	3	Ko
	5240	δ Pho	1·1		1	3	Ko
	13646	φ4 Cet	0·4		2	3	G5
	5167	μ Pho	0·9		2	3	Ko
	12803	AGC 32200	1·1		2	3	K?
	12792	γ3 Oct	1·2		1	3	Ko
	7316	κ Col	1·1		4	3	Ko
*	7326	τ Pup	1·4 d		5	4	Ko
	7305	γ Pic	1·2 d		3	4	Ko
	12652	NGC 32200	1·2 d		2	3	K?
*	7244	η Col	1·2		5	3	Ko
	7194	κ Col	1·2		1	3	Ko
*	7182	τ_2 Eri	1·2 d		4	4	Ko

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	Plate	Star	Int.	Q.	I	Type
* X	6152	κ Col	1·0	5	4	Ko
*	6139	g Eri	1·1	5	4	Ko
*	6158	β Ret	1·0	1	3	Ko
*	6142	η Col	1·2	5	4 st.	Ko
*	5707	ε_2 Eri	1·0	5	4	Ko
*	5400	g Eri	1·0	5	4	Ko
	5338	κ Col	1·1	3	4	Ko
*	5398	β Pho	1·1	5	3	Ko
*	13399	HR 4409	1·1	3	4	Ko
*	13329	HR 4050	1·1	3	4	~~K~~ G5
	13389	HR 1393	1·1	2	4	K5
	5499	ν Hyd	1·2	1	3	K2
	5008	η_2 Hyd	1·0 d	1	3	Ko
*	4473	χ Eri	1·3 d	5	4	G5
*	5705	X Eri	1·3 d	5	4	G5
	13660	− Scl	1·0	4	4	
* X	3875	α Ori	1·1 d	5	4	Ma
	3883	α Ori	0·8 d	5	5	Ma
	3982	γ Cru	0·9 d	4	4	Mb
	3987	α Boo	1·3 d	5	4	Ko
C	725	β And	0·9	2	3	Ma
	2177	β And	1·1	2	4	Ma
	10061	δ Vir	0·8	4	3	Ma
	1453	ρ Per	1·0	1	5	Mb
	733	α Her	0·8	5	4	Mb
	2228	β Peg	1·0	2	3	Ma

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Combined Intensity of λλ 4128, 4131. 1 prism.

Plate.	Quality	Density	Estimate.	Star
X5083 6_3 Aqr	2	2	0·6	6_3 Aqr
X 4929	3	2	0·8	γ PAu
X 11913 (1)	4	4	0·4	AGC 13282
X 11913 (4)	4	4	1·3	AGC 13171
X 4775	4	3	0·7	C, Cen
X 9018	4	2	0·8	4, Nor
X 9325	3	3	0·4	6 Ara
X 4799	4	3	0·5	3 CAu
X 11562 (1)	4	3	0·9	22582
(2)	4	3	0·7	22504
(3)	4	3	0·7	22561
X 4776 (1)	3	3	0·8 d	K dup
(2)	3	3	1·2	?
X 11826 (1)	4	3	0·7 d	26163
(2)	4	3	1·0	26136
X 5055	4	3	0·4	8 Sco
X 11520 (3)	4	4	0·7 d	19722
(5)	4	4	1·1	19842

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α Carinae. X 7801 D=2 Q=5 I=4

Spl.	No	λ	Int	No.	λ	Int	No.	λ.	Int.
	I		2·8						
	II		3·0						
	III		3·2						
	(XII)		~~2·2~~ 3·4						
	(XI)		~~3·6~~ 2·2						
	(V)		3·6						
	(XIII)		0·8 ?						
	VIII		1·5?						
	IV		3·2						
	(X)		1·6						
	IX		2·4						
	XII		1·0?						
	XIII		1·2?						
	1		3·0						

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A stars for Strontium

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1924phae.proj.10920

Feb. 29. Standards.

Plate	Star	Dispersion	
X 7081	γ Pav	1 (early)	
X 10354	β_1 Sgr	1 (late)	
X 7833	ζ Sgr	2	✓
C 15698	H.P. 2125	1	
C 5929	α Cyg	2	✓
C 5889	γ Cyg	2	✓

In what follows:

Table contains No. of plate, no. of image, position of star, $\Delta\lambda$ dispersion, Quality and intensity.

S denotes sharp
W " wide
d " double

Standardization of measures:

Plate of γ Cygni measured each day at beginning of measures:

1st day 10 – 30
2nd " 20 – 40
and so forth.

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1924phae.proj.10927

C 5889 Std & Cyg

March 1.	Est.	
10	8	
11	7	< wide
12	3	
13	12	
14	13d	
15	4	
16	10	
17	10	
18	8	
19	8	
20	5	
21	16	
22	4	
23	4	
24	8	
25	10	
26	10	
27	10	} very close
28	10	}
29	11	
30	10	

p. 120

N.B.

Feb 29 occurs only in Leap 1920, 24, 28 ...

Study for first year at HCO: 2/24

P.M.

1986

Phil Morrison

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1924phae.proj.10922

C 15698. 2. $12^h\ 22^m\ 2^s$ +24° 54:4 5·7
D = 1 Q = 5 I = 3

		Est	λ
	4	1·4	
	5	4	
	6	4	
	7	2·4	
	8	4	
	9	4	
	10	5	
	11	2·6	
	12	4	
	13	4	
	14	8	
	15	8	
	16	4	
	17	6	
*	18	10	
	19	9	
	20	8d	
	21	7 / 4s	
	22	10	
	23	5	
	24		
	25	1·6	
	26	6	
	27	7w	
	28	8w	
	29	7s	
a	30	4s / 7	
	31	9	
	32	6 } w	
	33	9	
	34	5 } w	

No.	Est.	λ
35	6	
36	10	
37	7d	
38	7	
39	7	
40	9	
41	6	
42	10 } w	
43	6 } w	
44	8	
45	1·5	
46	7	
47	5	
48	7	
49	7	
50	9	
51	8	
a 52	4 / 7	
53	7	
54	7 }	
55	6 }	
56	7s	
57	5	
58	5 } w	
59	-	
60	9	
61	10d	
62	4·4 ~~Esj~~	
63	8	
64	3	

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1924phae.proj.1092P

No.	Est.	λ
65	3	
66	8	
67	4	
68	8d	
69		
70	4	
71	5	
72	3?	
73	3?	
74	1·4	
75	6	

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1924phae.proj.1092p

C 16125.1. 23.59, -17 9 D7 hazy lines
D=1 Q=4 I=4

No.	Est. λ
5	2·2
7	1·0
11	2·2
25	2·1
28	4,4
36	4?
45	2·0
59	4?
74	2·0

C 16125. 2. D.C. 15 D=1 Q=4 I=2 hazy

5	2·4? v.f.
7	1·8
11	2·6
25	2·6
40	3
41	3
42	3
45	2·6
61	4
63	4
74	2·0

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1924phae.proj.1092P

C 16446. $8^h 31^m$. -7·6 5·7

D = 1 Q = 3 I = 2

No.	Est.	λ
1	2·2	
5	2·2	
7	4	
11	2·4	
23	8	
25	2·1	
26	7	
28	5	
31	5	
35	7 d	
36	·3	
45	2·1	
66	5	
68	5	
74	1·8	

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1924phae.proj.1092p

C 15198.1. $3^h 14^m.7$. +43.0.

D=1 Q=5 I=4

No.	Est.	λ.
1	2·8	
5	3·0	
7	1·4	
11	2·6	
16?	3?	
25	2·4	
28	5	
31	4 w	
45	2·4	
52	3 s	
57	4 s	
62	3 s	
74	2·4	

C.15198.2. $3^h 11^m.0$. +43.6. B8.

D=1 Q=5 I=4.

Hζ	2·4	
	3?	
Hε	2·4	
	4	
	7	
	3	
Hδ	2·2	
	3	
	3	
Hγ	2·0	
	5	
	4	
	4	
Hβ	1·8	

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1924phae.proj.10092P

C 15556. $10^h\ 37^m.7$. +46. 7. Sharp lines Ca deep

D = 1 Q = 5 I = 4

No.	Est. λ	No.	Est. λ
1	2·6	31	7 } w
2	8d	32	5 }
3	4	33	} 8 w
4	6	34	}
4a	6	35	3
5	1·7	36	9 s
6	7	37	4, 4
	a - - 7	38	6
7	5 }	39	4
	a - . 5 }		
8	2·1	40	8 w
9	4	41	5
	a - . 5d	42	9
10	6s	43	3?
	a - . 4	44	3
11	2·0	45	1·5
	<a 5	46	5
12	6	47	3?
13	5	48	5
14	9	49	5
15	8	50	7 s
16	4,	51	6 w
17	4	52	6 s
18	4	53	a = 3
19	10d		6
20	a 4 8	54	6 s
21	5, 5	55	6
22	5	56	7
23	8 s	57	-
24	5	58	—
25	1·5	59	—
26	5	60	-
27	5	61	9 w
28	6, 6		
29	7 s		
30	a - - - - 4 7		

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No	Est.	λ.
62	qw	
63	8W	
66	7	
71	4	
74	1·5	

J C 15558. 1. 11 55·8. +7 2 4·5

D = 1 Q = 5 I = 4

No.	Est.	λ
5	1·9	
8 6,7	1·5	7·7.
11	1·8	
14	4	
15	4	
19	4	
23	5	
34	4	
35	3	
40	5	
41	4	
42	5	
45	1·7	
46	5	
57	5	
74	1·7	

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1924phae.proj.10927

C 15035. 1. 1 12·7 +3 1 H wings

D = 1 Q = 4 I = 4

No.	~~Est.~~ ~~λ~~
5	2·3
6	4
8	1·5
11	2·0
14	7
15	7
18	5
19	6
23	5
25	2·0
28	7 w
29	4
31	4
35	4
36	6 s
40	6 w
43	6 w
44	5
48	3
49	3
50	5
52	7
57	7 s
61	5 w
74	1·9

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1924phae.proj.1092P

C16796.2. 12 17·0 +17 17. 68. Very narrow spectrum - Wings.
D=1 Q=4 I=4. Halve weight for width.

No.	Est.	λ
1	3·0	
5	2·8	
6	4	
8	9 d.	
11	2·3	
23	9 s	
25	2·0	
35	8	
45	2·0	
74	out	

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1924phae..proj.1092P

C 5889 std. γ Cygni

		Est	
March	3.		
	20	5	
	21	13	
	22	4	
	23	4	
	24	8	s
	25	9	s
	26	9	s
	27		
	28	9	w
	29	9	
	30	9	8d
	31	10	
	32	10	
	33	8	
	34	9	
	35	15	
	36	9	
	37	9	
	38	4	
*	39	10	
	40	4	

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1924phae.proj.1092p

C 16755.1. 6·2·3, -23 6
D = 1 Q = 4 I = 3

No.	Est.
5	2·4
8	1·5
11	2·1
25	2·1
45	2·1
57	4 s
74	2·0

C 16755.2. 6, 4·8 -22·4.
D = 1 Q = 4 I = 3 finer lines wide-double?

5	2·4
8	10
11	2·5
25	2·1
45	2·1
57	5
74	2·1 r?

C 16039.1. 4 0·9 +9·8 ?
D = 1 Q = 5 I 4

5	2·6	
8	4 d??	
11	2·6	
	7	4026
25	2·3	
45	2·1	
	6	4471
	6	4481
74	2·1	

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1924phae.proj.10927

68

© 16039.5. 45·7 +8 32·5. Lines very hazy many not measurable

D = 1 Q = 4. I = 3

8	1·7
11	2·4
12	4
13	4
14	4
15	4
16	3
17	3
18	4
19	5
25	2·4
28	6
36	3?
45	2·2
50	5
57	5
58	5

cut off

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1924phae.proj.1092P

C 16039. 3. 4 6·1 +8 53·8 . 47 . very good

D = 1 Q = 5 I = 4

6	7	37	7w
7	5	38	7
8	2·5	39	7
9	5	40	9
10	5	41	4:4
11	2·8	42, 43	cont.
12	6	44	10
14	7	45	12
15	8	46	8
17	4	47	6
18	9	48	6
19	9	49	6
20	6d	50	10
21	8s	51	7d
22	3?	57	7s
23	9s	58	7w
24	7	63	7s
25a	10	66	8s
26	5	67	5
27	5	68	6
28	8w	69	6
29	8s	70	7w
30	8w	71	7w
32	5,5	74	12
33	5	75	7
34	5		
35	8		
36	10		

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1924phae.proj.10927

C 15499. 1. 7. 12 −15 4

D = 1 Q = 4 I = 4

H wings conspr.
faint
~~fine~~ lines very fine + narrow

5	2·5
8	1·6
11	2·4
14	3
15	3
19	3
20	4
21?	3
22?	3
25	2·4
28	6 W
31	6 W
33	5 W
36	? very doubtful
40	4
43	3
45	2·3
52	4
57	5
62	4
74	2·2

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1924phae.proj.1092P

136

C 14978.1. 19 20 6 5·5 Very good

D = 1 Q = 5 I = 4

5	30	35	3
6	7	36	6
7	7	37	6
a	6	38	4 w
8	1·5	39	4 w
9	6	40	8 w
10	6	41	5 d
	5	42	8 w }
11	2·5	43	6 w }
14	7	44	4 w
15	8	45	2·2
16	4.4	46	4
17	6	47	3 s
18	7 w	48	3
19	5 s	49	3
20	3	50	7 s
Mar 4. 21	5 s	51	6 s
22	3	53	4 s
23	7 s	57	8 s
24	3	61	4.4
25	2·3	73	5 s
26	4	74	2·2
27	4 d	75	6 s
28	7 w		
29 }	3, 3, 3		
30 }			
31	7		
31a	7		
32	4 w		
33	4		
34	4		

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1924phae.proj.10927

Std 5889. γ Cygni

March 4.

30	10
31	10
32	10
33	9
34	9
35	16
36	10
37	10
38	3,
39	~~8~~ 10
40	~~10~~ 4
41	9
42	9
43	4
44	4
45	5
46	4
47	13
48	4
49	4
50	4

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1924phae.proj.1092P

C 15990. 2. 23 37.5 -15 6 hazy
D = 1 Q = 4 I = 3

No.	Est.
5	2.6
8	9
11	2.5
25	2.4
45	2.2
57	5
74	2.2

C 15990. 1. 23 35 -14 8
D = 1 Q = 3 I = 3

5	2.6	31	6 } w	50	7
6	7	32	5 } w	51	6
8	2.1	33 }	7	57	7
11	2.2	34 }		60	8 w
12	4	35	3	61	7 w
14	5	36	8	74	2.0
15	6	37	4		
19	8	38	3		
20	5	39	3		
21	5	40	5		
22	5	41	5		
23	2 ?	42	7		
24	3	43	5		
25	2.4	44	6		
26	5	45	2.2		
28	9 w	46 }	5		
29	6	47 }			
30	6	48 }	6		
		49 }			

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1924phae.proj.10929

C 15951 . 1. 2.17 -1 3 5·8 very good

D = 1 Q = 5 I = 4

No.	Est.
5	2·1
8	2·0
11	2·2
12, 13	6
14	5
15	5
16	3
17	3
18	9
19	7
20	6
21	4
22	—
23	7
24	5
25	2·0
26	3
27	3
29	7
30	7 w
31	8 w
33, 34	8
35	3
36	8
37	6
38	6
39	6
40	8
41	4, 4
42	9
43	4
44	3
45	2·0
46	5
48, 49	5
50	7 s
51	5 d
53	5 s
57	7 s
60	8 w
61	8 w
66	8 s
73	6 s
74	2·0

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1924phae.proj.1092P

C 15564.1. 10 2q +0 1

very good

D = 1 Q = 5 I = 4

5	2·2	
8	10	
11	2·1	
25	2·0	
27	5	4128, 4131
45	2·0	
57	7	
58	4	~~54~~
74	2·0	

C 16124. 1. 22 26. +32 1

D = 1 Q = 5 I = 4 very good

5	30	
8	10	
11	2·5	
(17)	4 A	
25	2·4	
45	2·2	
	4	4471 ?
57	#6	
74	2·1	

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1924phae.proj.1092P

C 15111.1. 359i +50 1

D = 1 Q = 5 I = 4

5	2·2
8	11
11	2·2
25	2·2
	4 4128, 31
31	4
33,4	4
45	2·2
57	4
74	2·0
(?) 18	6

C 15029.3. 2 19·0 +9 55·2. 7·0.

D = 1 Q = 3 I = 2

8	12
11	16
25	16
45	16
74	16

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1924phae.proj.10922

C 15480.1. 12 26.0 +25.1 Background dense wings to 11

D = 1 Q = 3 I 4

8	1.6 d.
11	2.5
18	8
19	8
21	4
23	10
25	2.4
	8 4128, 31
31	6
35	8
36	4
39	4
40	5
42	5
43	5
44	3
45	2.1
49	6
50	7
57	4
74	2.1

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1924phae.proj.1092P

C 15480. 2. H.P. 2118 5·5 Dense back-
D = 1 Q = 3 I = 4 ground.
many lines cannot
be measured

8	2·0
11	2·2
14	4
15	4
17	3
18	5
23	9
25	1·8
28	6w
34	3
35	8
40	5
42	6
45	1·8
46	4
60	8w
62	8w
74	1·6

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1924phae.proj.1092p

C 15428.1. 13 4·8 -5.0. — . lines clear

D = 1 Q = 5 I = 4

5	2·0
8	12
11	1·9
25	1·9
28	3
31	3
42, 43	3 G band
45	1·8
74	1·8

C 15245.1. 2 54 +20·9 — lines clear

D = 1 Q = 5 I = 4

5	2·1
8	12
11	2·0
23	3
25	1·8
28	3 ?
45	1·8
57	3 d
74	1·8

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1924phae.proj.1092P

C 15245.2. H.P. 466. 6·0 difficult

D = 1 Q = 4 I = 3

8	2·1
11	2·2
12, 13	5
14	6
15	6
17	4
18	8
19	7
20	4 w
23	6
24	3
25	1·6
28	5 w
35	3?
36	7
44	6
45	1·6
	hazy beyond Hγ
74	1·5

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1924phae.proj.1092P

C16516.1. 12.30. +23.2 . 4'8. lines clear

D= 1 Q=4 I=4

5	2·8
8	10
11	2·5
25	2·4
	3 4128,31
31	3
45	2·4
57	4 s
~~74~~	2·1

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1924phae.proj.1092P

March 5 Std C. 5889 γ Cygni

40	4
41	8
42	8
43	4
44	4
45	6
46	4
47	13
48	4
49	4
50	3
51	4 A
52	4 A
53	12 w
54	4 w
55	5
56	9
57	6
58	6
59	5 w
60	7 d

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1924phae.proj.10992

C 15157. 1. 5 543 -9 34

D = 1 Q = 4 I = 3

5	2·0	33	6 } w
6	~~I 8~~ b	34	6 }
7	8 w	35	5 s
8	1·8	36	8 s
9	6	37	7 w
10	6	38	6
10a	5	39	6
11	2·2	40	8 w
12	4	41	7
13	4	42	9 w
14	6	43	4
15	7	44	-
16	5	45	2·0
~~17~~ 18	7	46	6
19	9	47	4
20	7	48 ?	6
21	6 w	49	-
22	5 s	50	7 s
23	3 ?	ath	4 w
24	9	51	7 s
25	6	52	5
26	2·0	53	7 s
27	6	54	5
28	6 w	55	5
29	9 w	56	7 s
30	7 s	57 58	4
31	7 d	59 } 60 }	10 w
32	5, 5	61	9 w
	6		

5·2 Two spectra overlapping

62	4
~~62a~~	~~4~~
63	7
64a	4
65	6
~~66~~	~~8~~
67	7 w
	3
68	7 w
69	6 w
70	6 w
71	5
72	3
73	5
74	2·0
75	6

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1924phae.proj.1092P

C 15157.2. 5.52:1 -9 23 7·0
D = 1 Q = 2 I = 2

overlapping, almost entirely only a few lines measurable

8	2·2
11	2·2
14	6
15	6
18	9
19	6
23	9
31	6, 6
34	8
35	—
36	8
45	2·0
47	9
48	9
54	7
55	7
56	6 s
74	2·0

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1924phae.proj.10092p

C 15623·1. 10.20. +34 3 — very good
D=1 Q=5 I=4 Ca deep, no H wings

1	3·0 w (f)	27	6	54	7		
a	5 w (f)	28	9 w	55	7		
2	10 w (f)	29	8 s	56	8 s		
3	7	30	9 w	57	4		
4	6	31	10 s	58	4		
5	2·4	a	6 s	59	4 w		
a	8	32	6	60	8 w		
6	10	33	5	61	8 w		
7	6, 6	34	5	62	3 ~~8 w~~		
8	2·1	35	6 s	63	8 w		
9	5	36	10 s	64	5 s		
10	5 d	37	8 w	65	3		
a	5	38	8	66	7 8 s		
11	2·2	39	8	67	4		
12	4	40	9 w	68	7 w		
13	4	41	8	69	6 w		
14	9	42	10, 3, } G band	70	6 w		
15	9	43	5 }	71	5		
16	3, 3	44	6	72	4		
17	6	45	1·9	73	4		
18	12 d	46	7	74	1·8		
19	3 9 s	47	3	75	7, 7		
20	8 d	48	5				
21	7	49	5				
22	3 s	50	8 s				
23	9 s	a	3, 3				
24	6 s	51	7 s				
25	1·9	52	6 s				
26	6 w	53	7 s				

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1924phae.proj.10927

C 15623.2. 10 14·7. +34 38·3 6·0 H wing.
D = 1 Q = 4 I = 3 lines hazy only a few measurable

5	3·0	50a	5d
6	8w	51	7
8	1·9	56	6
11	2·6	60	6w
14	7	61	6w
15	7	63	4
18	8w	66	3
19	7	74	2·5
20	7		
23	6		
25	2·5		
28	9w		
29	5		
31	7w		
33,4	7w		
35	5		
36	7d		
37	5		
38	5		
39	5		
40	6		
41	4		
42	7		
43	3		
44	4		
45	2·4		
46	3		
49	5		
50	8d		

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1924phae.proj.10922

C 1542q.1. 14 13·6 -12 55. — hazy lines
D = 1 Q = 4 I = 4

5	2·0	39	5
a	q	40	6
6	q	41	4
7	qw	42	6
8	13	43	3
9	5	44	—
10	5	45	2·0
11	2·0	46	4
12,13	6w	56	4
14	7	62	6w
15	7	74	1·q
17	6		
18	8		
19	7		
20	4		
23	7		
24	5		
25	2·0		
26	4		
27	4w		
28	6a		
30	6w		
31	5		
32	5		
33,4	7w		
35	3		
36	5		
37	5		
38	5		

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1924phae.proj.10927

C15863.1. 16 22·4 −8·2 H wings

D = 1 Q = 5 I = 4

5	2·1	33,4	8 w
a	7	35	4
6	9	36	7
7	6,6	37	5
8	1·7	38	5
9	5	39	5
10	4|4 5	40	7
11	2·1	41	6
12	3	42	7,3
13	2	43	4
14	8	44	3
15	8	45	2·0
16	6	46	5? wing
17	6	48,9	4
18	9	50	7 s
19	8	51	5 s
20	5	56	7 s
21	6	57	5 s
22	2	60	9 w
23	9	62	9
24	3	66	3
25	2·1	74	1·9
26	3?		
27	4		
28	8 w		
29	7		
30	7 w		
31	4,4		
32	4		

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1924phae.proj.10992

C 17058. 2.20,104, +2 20.6 7.1 Faint, lines hazy
D = 1 Q = 3 I = 3

5	2.1
8	5
11	2.0
? 18	3
23	?
25	2.0
27	7
45	2.0
74	2.0

C 15151.1. 22 35.1 +63° 4'
D = 1 Q = 5 I = 4

5	2.1	38	4
7	3,3	39	4
8	1.6	40	5 w
11	2.2	41	3
14	4	42	5
15	4	45	2.1
16	4	46	6? wing
17	4	50	5 s
18	4	51	5 s
19	4	55	5 s
20	4	60	5 w
23	3?	62	5 w
25	2.0	74	1.9
27	5		
33,4	4		
36	4		
37	4		

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1924phae..proj.1099P

C 15600. 1. 10 48·2 +43 7 lines very fine
D = 1 Q = 5 I = 4

5	2·2
8	10
11	2·1
23	2?
25	2·0
27	3, 3 resolved.
45	1·9
51	3 s
52	3 s
56	3 s
57	3 s
74	1·8

C 16429. 1. 7 19 +49·4 4·5 lines hazy.
D = 1 Q = 4 I = 4

5	2·4
8	10
11	2·2
16	4
17	3
18	4
25	2·4
27	4
45	2·2
56	4
61	4
74	2·0

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1924phae.proj.10922

C 15608.1. 10 28 +41 0 Clear, background rather fogged. Wings

D=1 Q=4 I=3

5	2·1	45	1·8
6	5 w	46	5
7	5 w	48	4
8	1·9, deep	49	4
9	4:	50	4
10	4?	55	4 w
11	2·1	56	5 s
14	5	74	2·0
15	6		
18	6 w		
19	5		
23	5 s		
25	2·1		
26	4		
27	4		
28	6 w		
29	3 s		
30	3 w		
31	4 w		
33	5 w		
35	3		
36	5 s		
37	3		
38	3		
39	3		
40	4		
41	3		
42	6		
43	-		
	-		

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1924phae..proj.109P

C 15514. 1. 11 50·9 −16 6 H wing

D = 1 Q = 4 I = 3

5	2·6
8	8
11	2·6
25	2·2
45	2·3
50	4
(55)	4
56	5
74	2·1

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1924phae.proj.1092p

C14865.1. 13 43 +54·9 +5·5 very good intensities per?

D=1 Q=5 I=4

5	2·8	41	3w	
8	4 v. hazy	42, 43	4w	
11	2·6	45	2·6	
12, 13	4	48, 49	5	
14?	5 (to violet)	50	5d	
15	6	61	6	(r)
16	6	63	7	(r)
17	6	64	6	
18	6	64a	6	
a	6	65	5	
20	5w d?	66	7	
23	9d	68	5	
24	–	74	2·6	
25	2·6			
26	7			
27	6			
28	10 4128, 4131.			
29	8w			
30	5d (red)			
31	7			
32	5			
33	3			
34	3 (red)			
35	3d			
36	3d			
37	2			
38	2			
39	2			
40	2			

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1924phae.proj.10902

March 6 Std 5889 γ Cygni

50	4
51	4
52	5
53	6,6
54	4
55	4
56	9
57	7
58	7
59	4
60	4 8w
61	7
62	7
63	5
64	10
65	9
66	4
67	4
68	9
69	3
70	9

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1924phae.proj.109pp

C 15524:1. 12 36.9 +10 8 wisp

D = 1 Q = 4 I = 4.

5	2.2
8	9
11	2.1
25	2.0
45	2.0
56	3?
74	1.9

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1924phae.proj.1099P

C15546.1. 12 51·5 +66 0 Ca deep

D= 1 Q = 5 I = 4

5	2·0	31	8w
a	6	32	6
6	9w	33,4	8w
7	7.7	35	3
8	2·0 deep	36	8
9	4	37	7
10	5d	38	7
·	4	39	7
.	(3)	40	8
11	2·0	41	7w
12	3	42	8
13	3	43	4
14	7	44	—
15	7	45	1·8
16	5	46	3
17	6	48	4
18	10 d	49	4
19	9	50	6 s
20	7 w	51	6 s
21	6	53	5 s
22	3	56	6 s
23	7	61	10 w
24	5	62	10 w
25	1·9	63	9
26	4	66	6 s
27	4	74	1·8
28	7w		
29	6		
30	7w		

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1924phae.proj.109pp

C15163. 1. 17.17.5 −5 48.

D: 1 Q = 4 I = 3

5	1·8	38	4
6	7ω	39	4
7	7ω	40	7ω
8	2:1	41	5,5
11	2·2	42	6ω
14	6	43	4
15	6	44	–
16	4	45	1·8
17	5	50	9s
18	9	51	6
19	7	53	6
20	8d	56	7o
21	4	60	8ω
22	–	66	8ω
23	9 s	66	7s
24	6 s	74	1·8
25	1·9		
26	4		
27	6		
28	6ω		
29	7s		
30	3s		
31	7ω		
32	9ω }		
33	6ω }		
34	8ω		
35	6		
36	8		
37	5d		

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1924phae.proj.1099p

C16476.1. 13 2q +4 2 5·0 Clear lines background fogged

D: 1 Q = 5 I = 4

5	2·2	35	8
6	6s	36	9
7	6s	37	}
8	10d	38	} not
9	5s	39	} resolved
		40?	5w
10	5s	41	4
11	2·2	42	5w
15	8d	45	2·0
16	6,6	46	6w
17	6	48	4
18	6	49	4
19	6	50	8s
20	4,4	53	5s
21	5	56	6s
22	3	57	6s
23	11s	61	9w
24	—	63	10w
25	2·1	64a	9
26	9	65	4,4
27	7	66	9
28	10w	68	5
29	9	74	1·9
30	5		
31	9		
	10		
32	5w		
33	6		
34	6		

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1924phae.proj.109pp

here

✓ C1586 2.1. 18 23.5 -14.6 Hewings. lines hazy.

D = 1 Q = 5 I = 4

5	2·5
7	5 w
8	1·6
11	2·2
15	5.
16	4
17	4
18	4
19	4
20	4
25	2·1
28	7
29	4
31	7 w
33,4	5 w
36	4 s
37	4 s
40	4
41	2
42	4
43	3
45	2·0
50	6
51	6
56	6
60	6 w
61	6 w
62	3
63	5 w
74	2·0

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1924phae.proj.1092

C15862.2.18 21·5 −14 40·4 6·8 Hagen.

D = 1 Q = 4 I = 3

5	2·6	
11	2·6	
15	4	
16	4	
17	4	
23	6 d	
25	2·5	
29	9	4128, 4131
31	7 d	
35	5 d	
40	5	
45	2·2	
50	3?	
56	?	
66	3	
74	2·2	

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1924phae.proj.1092p

C16007.1. 19 57 +27 5 5·0 wings very good. lines clear Ca deep

D = 1 Q = 5 I = 4

5	2·1	33	4
a	8w	34	4
6	8w	35	4s
7	7, 7 w	36	8
8	1·8	37	5
9	5, (3,3),	38	5
10	5, 5	39	5
11	2·0	40	6
12	5	41	4
13	4	42	5
14	8	43	3s
15	8	44	–
16	6w	45	1·8
17	7	48	4
18	10d	49	4
19	8s	50	7s
20	5w	51	7s
21	6s	53	7s
22	3s 3s	56	7s
23	9s	60	5w
24	4	62	6w
25	1·8	63	5s
26	6w	06	5
27	4	72	3
28	6w	73	3
29	7s	74	2·0
30	6, 4w		
31	6, 6		
32	5		

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1924phae.proj.109pp

C 1559 3.1. 6 37 +59 6 Wings.

D = 1 Q = 5 I = 4

5 2·2
6 4ω
7 6, 6
8 ~~2·2~~ 1·6
11 2·2
25 2·3
27 5ω
45 2·2
56 4 1
57 3
66 3 1
74 2:0

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1924phae.proj.1092p

C 15548.2 15 2.2 +48 5 H wings

D = 1 Q = 5 I = 4

5	2·6
8	1·2
11	2·4
25	2·4
45	2·4
56	4 d
74	2·4

C 15548.3. 14 57 2 +47·7 Lines hazy

D = 1 Q = 4 I = 3

5	2·6
6	4
7	5
8	5
19	4
11	2·5
13	3
14	4
15	3
23	5 ω
25	2·5
27	11
32	5 ω
33	5 ω
45	2·4
60	6 ω
61	6 ω
63	6 ω
74	2·4

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1924phae.proj.109pp

March 7. C 5889 γ Cygni std very dark day

60 7
61 3
62 10
63 6
64 9
65 8
66 } 7d
67 } *
68 8
69 3
70 7w
71 3
72 4
73 5
74 6w
75 10
76 4
77 4
78 8
79 9
80 3

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1924phae.proj.1092p

C16221. 1. 4 m 8 +15 59. D.M. 637. 5·0

D = 1 Q = 4 I = 4

5	2·4	35	3
a	5	36	7
6	7	37	5
7	5, 5	38	5
8	19	39	5
9	4, 4	40	7
10	4, 4	41	5 ω
11	2·4	42	7 ω
14	7	43	5
15	7	44	4
16	5	45	2·0
17	5	46	4
18	10	48, 49	5 ω d
19	8		
20	5 ω	50	5 s
21	4	51	5 ω
22	3	52	5 s
23	8	54	3 s
24	4	56	5 s
25	2·2	60	8 ω
26	4	61	8 ω
28	9 ω	63	8 ω
29	7	66	5 s
30	7 ω	68	5 s
31	8 ω	73?	5 s
32	5	74	2·2
33, 34	8 ω		

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1924phae.proj.109pp

March 8. C 5889 γ Cygni std.

70	9w
71	3
72	5
73	4
74	4
75	11
76	6
77	5
78	9
79	—
80	10
81	3
82	11
83	10
84	7
85	7
86	10
87	7
88	7
89	7
90	7

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1924phae.proj.10992P

C 16221. 4. DM 720. 5.4 lines hazy prob. due to plate quality?

D = 1 Q = 4 I = 3

5	2·0	41	3
6	9ω	42	6ω
7	9ω	43	4ω
8	2·0 deep	45	4
9	4·4 hazy	46.5	1·9
10	4 hazy	48,9	4
11	2·1	50	4
12	4	54	6ω
13	4	56	6
14	5	60	8ω
15	5	61	7ω
16	4	66	4 0
17	4	68	6ω
18	8	70	6ω
19	6	71	6ω
20	5 ω	74	1·9
21	5 ω		
23	7		
25	1·9		
28	7ω		
29	5		
30	6ω		
31	8ω		
33	6ω		
35	3?		
36	8		
37	5		
38	5		
39	5		
40	6		

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1924phae.proj.1090P

C 16221. 5. DM 639

D = 1 Q = 4 I = 3

5	2·2?	35	4
6	7	36	8
7	6, 6	37	6 d
8	2·0	38	6 d
9	3, 3 d	39	7
10	3	40	7
11	2·2	41	3, 6
12	3 d?	42	9 w
13		43	–
14	6	44	4
15	7	45	2·1
16	~~5~~	46	3
17	4	47, 9	3 d
18	9	50	7 s
19	6	~~50~~ a	5 d
20	5 w	51	3
21	7	52	4 w
23	9 s	53	7 s
24	4	56	7 s
25	2·1	60	9 w
26	5	61	8 w
27	4	66	7 s
28	9 w	74	2·3
29	5 s		
30	5 w		
31	7 w		
32	5		
33	9 w		
34			

5·5 Lines far less hazy than C 16221. 4.

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1924phae.proj.10922

C 16221.6. D.M. 636. 6·0 Lines hazy

D = 1 Q = 4 I = 2

8	2·3	46	5ω
11	2·5	48,9	6ω
15	5	50	5s
16	5	51	5s
18	9	56	5s
19	7	60	5ω
20	5	61	5ω
23	6	66	4s
25	2·1	68	5ω
26	5	74	2·0
29	6		
a	3		
30	7ω		
31	7		
32	5		
33 } 34	6ω		
35	3		
36	8		
37	5		
38	5		
39	5		
40	6		
41	6d		
42	8ω		
43	4		
44	5		
45	2·0		

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1924phae.proj.109pp

C 16221.7. D.M. 645. 6·5 Very hard only a few lines measurable.

D = 1 Q = 3 I = 2

8	2·2
11	2·2
23	7
25	2·2
35	3?
36	8
45	1·7
50	5 s
56	6 s
66	5 s
74	1·7

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1924phae.proj.10922

All sp. on this plate rather narrow.

C 14824.1. DM ~~32c~~ +26°2344. 5·3
D = 1 Q = 4 I = 4

5	2·0
8	1·6
11	2·0
25	1·9
45	1·9
74	1·8

C 14824.2. DM +27° 2134. 5·2.
D = 1 Q = 4 I = 4

5	1·9
8	1·5
11	1·9
25	1·9
45	1·8
50	3?
52	??
74	1·7

C 14824.3. DM +28° 2115. 5·1
D = I Q = 4 I = 4
Violet end cut off

31	6ω	66	?
32	5ω	61	?
38	5ω	74	1·5
39	3		
40	5ω		
41, 42	5ω		
45	1·4		
50	6ω		
a	6ω		
51	5		

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1924phae.proj.10900

* C 14824. 4. DM +26° 2354. 6.0

D = 1 Q = 4 I = 4

5 2·1
8 ?
11 2·0
15 5
16 4
18a = 4
23 7
24 4
25 1·9
26 6
27 4
28 8 ω
30 5 ω
31 6 ω
45 1·9
66 4?
74 1·9

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1924phae.proj.109zp

C 14824.5. D.M. +26° 2353 7·2 lines
D = 1 Q = 4 I = 3 hazy

5	2·2
8	1·5
11	2·1
18	9
19	8
20	4w
21	4
23	7
24	3
25	1·8
28	6d?
29	6
30	6
31	5w
33,4	5w
36	3?
37	4
38	4
39	4
40	5
44	4
45	1·8
50	3
56	3
60	4w
61	4w
66	3
74	1·8

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1924phae.proj.10924

14824.6. DM 27° 2138 6·5

D = 1 Q = 4 I = 3

8	1·9	45	1·8
11	2·1	46	6
14	6	50	3?
15	6	52	3
17	4	60	3ω
18	4	61	3ω
19	8	63	3
20	7	74	1·8
23	8		
24	5		
25	1·9		
26	5		
27	5		
28	6		
29	5		
30	5		
31	7ω		
32	5		
33, 4	6ω		
35	3		
36	6		
37	5		
38	5		
39	5		
40	6		
41	4		
42	6 }		
43	4 }		
44	4		

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1924phae.proj.10927

C14824.7. DM 26° 2352. 6.5 only a few lines measble

D = 1 Q = 4 I = 3

5	2·2
8	1·6
11	2·1
18	7
19	7
23	7
25	1·9
31	6w
45	1·9
74	1·9

C14824.8. DM 26° 2345. 6.3.

D = 1 Q = 3 I = 3

5	1·9
8	2·1
11	2·2
18	5
19	5
23	5
24	4
25	1·8
28	5w
30	5w
36	3
40	3
42,3	w h
44	4
45	1·8

56	4
60	5w
74	1·8

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1924phae.proj.1090p

C 14824.9. DM 26° 2343. 7·0 Very hard

D = 1 Q 3 I = J

5	2·0
8	1·7
11	2·0
15	4
16	4
18	4
19	4
23	4?
25	1·9
45	1·8
74	1·8

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1924phae.proj.1092p

March 10. ϵ 5889 γ Cygni std.

80	11
81	3
82	11
83	10
84	7
85	7
86	10
87	8
88	6
89	6
90	6
91	9
92	8
93	4
94	4
95	10
96	10
97	3
98	11
99	3
100	5

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1924phae.proj.1092p

C 16033·2. DM +23° 3829. ~~46~~. wings hazy.

D = 1 Q = 3 I = 3.

5	2·5
8	9
11	2·6
25	2·4
27	4 d
45	2·4
56	5 d
74	2·2

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1924phae.proj.1092P

C 16033·2. 1. 19 49 +23·8. 4·6. B

D = 1 Q = 4 I = 4

5 2·5

8 9

11 2·2

pr17 5

25 2·1

27 5 d

45 2·0

3 (4471)

56 7 8 s

74 2·0

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1924phae.proj.1090p

C 15734.1. 17 7·2 +2·9 good; lines clear
D = 1 Q = 4 I = 4

5	2·4
8	3? v. h. perh. d.
11	2·4
25	2·2
27	11
33 a 34	6
45	2·1
66	4s
74	2·0

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1924phae.proj.1092P

C 1599 2.1. 19 23. +36.1 5.0
D: 1 Q: 5 I: 4

5 2.1
8 7
11 2.1
18 4
25 2.0
27 9
45 2.0
74 2.0

C 1599 2.2. 19 25.5 +35 55.6. 6.5 H wisp
D: 1 Q: 3 I: 2

5 2.6
8 10
11 2.6
25 2.6
27 5
45 2.6
74 2.6

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1924phae.proj.1009p

C 15235·1. 2.21 +67·0 Very good.

D = 1 Q = 5 I = 4

5	24	37	5
6	6	38	5
7	7	39	4
8	20	40	5
11	22	41	5s
	scratched	42	6w
14	4	43	6w
15	7s	44	5s
16	6, 6	45	20
17	6	46	6w
18	9	50	7s
20	6w	53	4s
21	4	56	7s
22	3	57	6s
23	12	60	5s
24	3	61	5s
25	20	66	8s
26	9w	73	5
27	6w	74	20
28	9w		
29	6		
30	5w 5w		
31	8		
	3		
32	5w		
33	5		
34	4		
35	9		
36	8		

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1924phae.proj.10922

15531.1. 13 29.1 +4 2 Lagg & red

D = 1 Q = 4 I = 4

5	2.1	35	45
6	4	36	5
7	9	39	5
8	10	45	2.0
11	2.1	50	61
12	4	56	4
13	4	74	2.0
14	4		
15	6		
16	5,5		
17	5		
18	8		
19	3		
20	5 ω		
21	5		
22	5		
23	9		
24	3		
25	2.1		
26	8		
27	5		
28	7 ω		
29	5 ω		
30	5 ω		
31	8		
a	4		
32	5		
33	5		
34	5		

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1924phae.proj.1000p

C 15947. 1. 20 33 +74·6 Very good.
D = 1 Q = 5 I = 4 lines clear

5	2·8	37	5, 5
7	7w	38	5
8	1·6 hazy	39	~~8~~
11	2·5	40	7
12, 13	4, 4	41	6w
14	—	42	7
15	8	45	6, 6, 2·1
16	8, 7	46	5w
17	5	48	4
18	8 4	49	4
19	4	50	5
20	5w	51	4
21	4	52	4
22	3	53	5
23	12	56	6
25	2·4	57	5
26	11	63	9w
27	5	64	9w
28	10	66	9w
29	6	71	8w
a	3	74	2·1
30	5		
31	11		
32	w		
33	6		
34	6		
35	10		
36	6		

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1924phae.proj.10920

C 1595 8. 1. 23 22 +0·7

D = 1 Q = 3 I = 3.

5	2·6
8	9w
11	2·6
15	4
16	4
18	3
23	6 s
25	2·4
28	7w
31	7w
35	3?
36	3?
45	2·2
74	2·1

bet. 45 and 74 ft but unmeas.

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1924phae.proj.1090P

C16340. 1. 13 2q +4.2 5.0

D = 1 Q = 3 I = 4

5 2.0
6 9
7 9
8 11w
11 1.9
15 6
17 5.5
18 7
19 5
20 4w
21 3
23 8
24 3
25 1.9
26 7
27 6
28 7
31 7
35 5
36 5
45 1.8
46 5
74 1.8

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1924phae.proj.1092p

C 14903. 17 30 +55·2 Two spectra superposed.
D = 1 Q = 5 I = 4

	D.C. 7634	D.C. 7634.3		7634	7633
5	1·9	2·1	38	7	5
6	8	5	39	7	5
7	8w	6	40	7	6
8	1·8 deep	1·8 deep	45	1·8	1·8
9	4 5	4 4	50	7s	4s
10	4	4	52	5s	4s
11	1·9	1·9 deep	53	5s	4s
12	3	6	56	6s	4s
13	3	5	66	5s	?
14	8	6	74	1·8	1·8
15	9	5			
16	5	4			
17	5	4			
18	10	7			
19	8	6			
20	5				
21	3				
22	?				
23	10	8			
24	5	4			
25	1·9	1·8			
26	5w				
27	7w				
28	7w				
30	8s				
35	5	-			
36	7	5			
37	7	5			

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1924phae.proj.1090P

C1543g.1. 14 44 −13 7

D = 1 Q = 3 I = 4

5 2-2

8 9

11 2-2

18 4

23 4

25 2·0

27 5

35 4

36 4

45 2·0

74 2·0

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1924phae.proj.1092P

C 16562. 1. 15 37 +13·2 5·5

D = 1 Q = 4 I = 4.

5	2·8
8	9
11	2·4
23	10
25	2·0
26	5
27	4
28	5
35	6
36	3
45	2·1
74	2·0

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1924phae.proj.1092P

C 1569 8.1 12 26 +25.7 very good

D = 1 Q = 5 I = 4

5	3.5
7	6
8	1.6
11	2.6
15	5 w
16	5 w
17	5
18	7
19	5
20	6 w
21	3
23	12
24	3
25	2.4
26	7
27	4
28	9 w
35	11
36	5
~~37~~	3
38	3
~~39~~	3.
40	4
45	2.0
50	5 s
53	4 s
56	7 s
66	5 s
74	2.0

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1924phae.proj.1092P

March 11. Std 5889 γ Cygni

90	6
91	9
92	8
93	4
94	4
95	8
96	10
97	3
98	3
99	11
100	6
101	3
102	9
103	8
104	-
105	12
106	6
107	5
108	5
109	7
110	-

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1924phae.proj.1092P

× 6514 α Circini

D = 1 Q = 5 I = 4

5	2·4
8	2·4
11	2·4
23	1·2
25	2·0
26	8 w
27	7 w
35	10
36	10
45	1·9
56	8
74	1·8

× 11161·4 14 15·5 −66 11 Sh. narrow

D = 1 Q = 3 I = 3

5	2·6?
8	9 w
11	2·1
23	5
25	2·1
26	6
27	7
35	3?
36	–
45	2·1
56	sw
74	sw

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1924phae.proj.10922

X 11201.1 13 11 -43·4 Hazy. background fogged

D = 1 Q = 3 I = 4

5	3·0
8	1·8
11	2·3
23	9
25	2·2
26	6
27	-
45	2·1
56	7
74	2·0
35	5
36	7

X 11249·5. 13 11·4 -43 27 6·1

D = 1 Q = 5 I = 4

5	2·8
8	1·8
11	2·1
23	10
25	1 9
26	6ω
27	3?
35	5
36	7
45	2·0
56	7
74	2·0

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1924phae.proj.1092P

X11243.5 . 14 15.5 -66 11 6.9 Very hazy and hard to measure

D = 1 Q = 3 I = 3

5	3.0
8	7w
11	3.0
23	6
26	5w
27	8w
25	2.8
35	5
36	5
45	2.6
56	5?
74	2.6

X11459.3. 15 1.1 -63 16 6.8

D = 1 Q = 4 I = 3

5	3.2
8	0
11	3.2
23	10
25	2.8
26	8w
27	7w
35	7
36	5
45	2.6
56	6
74	2.6

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1924phae.proj.1092p

X120581. 21 21 -43 0 6.

D= 1 Q= 4 I = 4

5 out

8 1·8 on edge of plate

11 2·3

23 ~~16~~ 10

25 2·0

26 7w

27 11w

35 5

36 9

45 2·0

56 7

74 2·0

X11910·2. 15 11 -63 16

D= 1 Q= 3 I = 3

5 3·2

8 –

11 3·2

23 9

26 8

267 9w

275 2·8

35 7

36 5

45 2·6

56 6

74 2·5

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1924phae.proj.1092P

X 11782.5 15 21.4 -16 56.2 7.0

D = 1 Q = 4 I = 4

5 26?
8 2.2
11 2.4
23 12
25 2.L
26 9ω
27 12 d
35 10
36 9
45 2.1
56 5
74 2.1

X 11687.1 14 44 -17.7 5.7

D = 1 Q = 3 I = 3

5 2.7
8 11 d?
11 2.6
23 9
25 2.1
26 7
27 7ω
35 7
36 5
45 2.1
56 6
74 2.1

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1924phae.proj.10902

March 24. Intensity of λ 4607. 1 prism plates

C Plate no.	star.	Q	I	Int.	Type
15424	α Ori	5	5	✱2	Ma
15423	α Ori	5	5	2	Ma
18253	α Ori	5	4	3	Ma
15180	$2^h 8^m$ +8°.4 Eicet	4	4	2	G5
17020	χ Peg.	4	3	?	Ma
15037	f Jan	5	4	2	K0
17100	$0^h 39$ −11.2	4	3	2	K0
15884	20 23.1 −18°.2	5	4	3	F0
15833	17 53.9 +77.0	5	4	2	F5
18242	μ Her	4	5	2?	G5
15417	α Ori	5	5	3?	Ma
15698.1	12 26.0 +25.7	5	4	4	A3p
15698.2	12 22.2 +24 54.4	5	3	3	F5
15579.1	15 10.7 +0.7	4	3	?	A3
15832.1	15 47.6 +78.1	4	5	0	A2
16124	22 26.0 +32.1	4	3	0	A0
15564	10 2.9 +0.1	5	4	0	A0
15951	2 17 −1.3	4	3	2	A5
15548.3	14 57.2 +47.7	5	3	4w	A0p
15734	14 7.2 +2.9	4	3	3w	A0p
15531	13 29.1 +4.2	4	4	4	A2p
15325	2 21.0 +67.0	5	4	4?	scratched A5p
15947	20 33 +74.6	5	4	6	~~A5p~~ A2p
15111	3 59.1 +50.1	5	4	0	A0
15990.1	23 35 −14.8	4	3	0	A5
14978	19 20 +65.5	4	3	?	A2
15035	1 12.7 +3.1	5	4	?	A2
15558	11 55.8 +7.2	5	4	0	A3
	13 29 +4.2	5	4	5	A2p

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	15556.1	10 37.7	+46.7	5	4	?	Fo
	16125.1	23 59	-17.9	5	4	0	Ao
	15866	19 52	-15.8	4	4	0	Ao
X	6851	θ_1 Mic		4	4	3 w	A2p
	6899	θ_1 Mic		4	4	4	A2p
	5735	θ_1 Mic		4	4	4	A2p
	5912	δ Nor		5	4	3	A3p
	9320	ι Pho		3	3	4	A2p
	5217	~~δ Nor~~ ι Pho		4	4	3	A2p
	5276	ι Pho		3	4	3	A2p
	4823	δ Nor		4	4	2	A3p
	4840	ω Oph		3	3	3	Fo
	4910	θ PsA		4	3	0	A2
	4927	η Cap		3	3	0	A3
	4947	ε Mic		3	3	1	Ao
	4951	η Pho		4	4	0	Ao
	4999	α Oph		5	4	1	A5
	4957	θ' Mic		4	4	4	A2p
	6514	α Cri		5	5	4	Fo
	6400	α Cri		5	4	4	Fo

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Intensity of λ 4607. 2 prisms.

	Plate	Star	Q	I	Est	Type	
Std	C 6423	α Ori	5	4	4 d	Ma	✓
	6208	α Per	5	5	4	F5	✓
	5258	α Tau	5	4	7	K5	✓
	1241	α Boo	4	4	7d	Ko	✓
	6306	α Tau	5	4	9	K5	
	5254	γ And	4	4	10	K comp.	✓
	5527	α UMa	3	4	7	Ko	
	5920	ε Cyg	4	4	11	Ko	✓
	6034	α Tau	5	4	9	K5	✓
	5124	β Cet	3	5 (backgrd dark)	10	Ko	✓
	6563	α Boo	5	4	9	Ko	
	7502	β Aur	5	4	0	A0	
	6569	ε UMa	4	4	0	A pec	
	6566	α Ori	5	4	5	Ma	✓
	6546	γ Boo	4	4	2	F0	(4077:8)
	6545	υ Hya	3	4	8	K2	
	6511	ζ Aur	4	4	9	K comp	✓
	6509	γ And	3	4	9	K comp	✓
	6498	γ And	5	4	9	K comp	✓
	6359	α Leo	4	4	0	B8	
	6344	γ Gem	4	4	0	A0	
	6309	α CMi	4	4	2	F5	✓
	6256	β Gem	4	4	8	K0	✓
	5219	ζ UMa	4	4	3	A0	(4077:8)
	6190	α Aur	5	4	7	G0	✓
	6271	β Cas	5	4	7	F5	✓
	6654	δ CMa	5	4	11 w	F8	✓
	5207	α Per	5	4	2	F5	✓
	5894	α Cep	4	4	0	A5	

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6786	α Sco	5	3	9	Ma ✓
6049	α Aql	4	4	0	As
3897	α Her	3	4 brk dark	10	Mb

B8	A0	A5	F0	F5	(F8)	G0	K0	K2	K5	Ma
0	0	0	2*	4	IIw	7	7d	8	7	4d
	0	0		2			10*		9	5
	0			7			7		9	9
	3*			2			11			
							10			
							9			
							9*			
							9*			
							9*			
							8			

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Intensity of λ 4607. 2 prisms.

Plate No.	Star	Quality	Intensity	Est.	Type
X 7637	α Sco	5	4	8	Ma
7835	α Tuc	4	4	11	K2
8943	β Hyi	3	4	4	Go
7600	β Pav	5	4	0	A5
9200	γ Sgr	4	4	5	Ko
7841	ζ Cap	3	2	9	G5pec
8185	τ_6 Eri	5	3	7	F8
7623	α Sco	5	4	6	Ma
7486	α Sco	5	4	7 10	Ma
7987	α Tuc	4	4	9	K2
7559	β TrA	5	4	3?	Fo
9954	α Ind	4	3	7	Ko
8775	α Ind	4	4	6	Ko
7567	α Cir	3	4	6?	Fo
8197	γ Lep	4	4	0	F8
8190	α For	4	4	5	F8
10035	α Ret	4	2	10	G5
8645	κ Pav	5	4	9	F5
8476	ζ_2 Sco	5	4	9	K5
8874	τ_4 Eri	4	3	10	Mb
7562	α Cen	5	4	0?	Go
7801	α Car	5	4	7	Fo
7834	π Sgr	5	4	9	F2
8218	α Tau	4	4 bck dark	10	K5
8211	ρ Pup	5	4	8	F5
7576	γ Cru	5	4	8	Mb
7491	θ Cen	5	4	4	Ko
8274	δ CMa	5	4	11	F8
9180	γ Cru	5	4	9	Mb

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2 prisms

Intensities of λλ 4215, 4227.

	Plate	Star	Q	I	4227	4215	Type
C	6203	α Ari	5	4	2·0	1·5	Ko
	3273	υ Ori	5	4	1·6	1·1	
	1750	ε Leo	3	3	1·6	1·4	G pec
	4194	α Aur	5	4	1·6	1·2	Go
	191	α Aur	5	4	1·4	1·0	Go
	981	α Ari	5	4	2·0	1·5	Ko
	1744	β Lep	3	4	2·1	1·6	Go
	6494	α Boo	5	4	2·0	1·4	Ko
	6193	α Cet	3	4	2·4	1·4	Ma
	6303	β And	5	4	2·6	1·4	Ma
	5172	α Cet	5	4	2·5	1·4	Ma
	4587	α Her	3	3	2·5	1·7	Mb
	6423	α Ori	5	4	2·3	1·6	Ma
X	7486	α Sco	5	4	2·6	1·8	Ma
	7841	J Cap	3	3	1·9	1·8	G5 pec
	8661	β Pav	3	4	1·2	0·6	A5
	9987	β Pav	4	3	1·3	0·6	A5
	7623	α Sco	5	4	2·7	1·8	Ma
	9200	γ Sgr	3	4	2·3	1·4	Ko
	11	W Sgr	2	3	not clear		F5
	8185	τ_6 Eri	4	3	1·5	0·8	F8
	7600	β Pav	4	3	1·3	0·5	~~Ko~~ A5
	8943	β Hyi	3	4	2·0	1·2	Go
	7835	α Tuc	5	4	2·8	1·6	K2
	8337	ξ Pup	5	4	2·0	1·7	Go
	7665	β Pav	5	4	1·5	0·7	A5
	10035	α Ret	3	3	2·0	1·6	G5
	8190	α For	4	4	1·8	0·8	F8
	8197	γ Lep	5	4	1·6	0·8	F8

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	Plate	Star	Q	I	4227	4215	Type
	7567	α Cir	4	4	1·5	1·5	F0
	8775	α Ind	4	4	2·1	1·6	K0
	8494	β TrA	5	4	1·5	0·8	F0
	9954	α Ind	4	3	2·0	1·5	K0
? *	7595	υ Car	5	4	1·4	0·7	F0
	7559	β TrA	5	4	1·5	0·9	F0
	7987	α Tuc	5	4	2·7	1·7	K2
*	7801	α Car	5	4	1·5	0·6	F0
	7562	α Cen	4	4	1·7	1·0	G0
	10044	β CrA	3	2	2·0	1·8	G5
	7964	α Tau	4	4	2·4	2·0	K5
	8874	τ_4 Eri	3	2	3·0	1·1	M6
	8887	ν Cet	3	4	2·2	1·5	K5
	9003	λ Mus	4	3	1·6	0·6	A5
	8440	γ TrA	4	4	0	0	A0
*	8348	υ Car	5	4	1·5	0·7	F0
	8476	Sco	5	4	2·5	1·7	K5?
? *	8645	κ Pav	5	4	2·0	1·0	F5
	8274	δ Cha	5	4	1·7	1·4	cF8
	7491	θ Cen	5	4	1·9	1·6	K0
	7576	γ Cru	5	4	3·0	1·5	M6
	8211	ρ Pup	5	4	1·6	0·9	F8
	8218	α Tau	4	4	3·0	1·1	K5
	7834	π Sgr	5	4	1·8	1·0	F2
	8142	α For	4	4	1·7	0·8	F8
	8141	θ Eri	4	3	1·5	0·6	A2
	8589	α PsA	5	4	1·5	0·8	A2
	8569	τ Sgr	4	4	2·4	1·7	K0
	8568	η Sgr	4	4	3·0	1·7	M6
	8535	η Pav	4	4	2·4	1·9	K0

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	Plate	Star	Q	I	4227	4215	Type
X	8501	λ Sgr	5	4	2·0	1·6	K0
	8058	ι Gru	5	4	1·8	1·6	K0
	8055	α Hor	4	4	2·1	1·6	K0
	8047	δ Pho	4	4	2·0	1·6	K0
	8017	α Hyu	4	4	1·8 ω	07	F0
	7569	γ Sgr	5	4	1·8	1·6	K0
	7550	ε Sco	5	4	2·1	1·7	K0
	7542	α TrA	5	4	2·8	1·9	K2
	8607	η Sco	4	4	1·6	0·7	F2
	8614	ζ Ara	4	4	3·0	1·9	K5
	8635	α PcA	5	4	1·6	0·7	A2
	8634	β Ara	5	4	2·6	1·9	K2
	8646	ζ Cap	4	4	2·0	2·1	G5 pec
	8653	ν Oct	4	3	2·1	1·8	K0
*	8601	σ Sgr	4	4	1·9	1·6	K0
	8194	ε Car	5	4	2·0	1·6	K comp
	8192	β Col	4	4	2·1	1·7	K0
	8186	ε Lep	4	4	2·7	1·6	K5
	7572	α Cen	4	4	1·6	1·0	G0
*	7657	υ, Sco	5	4	1·6	1·5	F5
	7507	β Corv	4	4	1·8	1·6	G5
	8379	α TrA	3	4	3·0	1·8	K2
	7719	β Hyu	4	4	1·8	0·8	G0
*	8335	β Dor	4	4	1·8	1·0	F5
	7637	α Sco	4	4	2·2	1·7	Ma
	8654	ι Gru	4	4	2·1	2·0	K0
*	7813	α Car	4	4	1·6	0·6	F0
	8219	α Aur	5	4	1·8	1·4	G0
	7833	ζ Sgr	4	4	1·2	0·4	A2
	7585	ζ Cen	4	4	0·8	0·2	A0

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	Plate	Star	Q	I	4227	4215		
	8342	α Ret	4	4	1·8	1·6	G5	
	9965	β Hyi	4	4	2·0	1·2	G0	
	7604	δ Pav	4	4	2·1	1·6	G5	
	8935	β Lep	5	4	1·8	1·6	~~A2~~	G0
	8028	β Lep	5	4	2·0	1·7	~~A2~~	G0
	9995	α PsA	4	4	1·6	0·5	A2	
	7573	α Cen	5	4	1·6	0·8	G0	
? *	8296	ι Cen	4	4	1·4	0·4	A2	

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Std C15000 $K\Theta^2$ 1 Prism

April 2. Plate		Star	Q	I	4077	4215	4227	4607
C	17331	K Leo 1 9 19 +26.6	3	4	1"1	0:8	1.4	?
	17297	σ Hya	4	4	1.1	0.9	1.2	
	17280	K Leo 1 9 19 +26.6	3	4	0.7	0.8	1.5	0
	17266	σ Hya 8 34 +3.7	4	4	1.0	0.9	1.5	0.2
	17101.2	~~0 19 +58.4~~ 26 Cas 0 51 +58.6	3	4	1.1	0.9	1.1	0.0.
(KS)	17076.1	0 49 58.4	3	3	1.0	0.9	1.5	0
	.2	26 Cas 0 51 +58.6	3	3	1.0	0.9	1.4	0
	17013	4 53 +1.6	3	3	0.9	0.8	1.4	0.2?
	16997.1	0 49 +58.4	3	4	1.0	0.8	1.5	-
	.2	26 Cas 0 51 +58.6	3	3	0.7	0.5	1.2	-
	16963	34 Cep 23 14 +67.6	3	3	1.0	1.1	1.5	0.2?
	16956	41 Oph 17 12 -0.3	3	2	out	1.0	1.6	-
	16879	93 Her	4	4	0.9	0.9	1.3	0.2?
	16862	93 Her	4	4	1.2	1.0	1.4	-
	16860	λ Her	4	4	1.0	0.7	1.6	-
	16857	41 oph	3	4	0.9	0.7	1.4	?
	16828	ψ Boo	4	3	1.0	0.8	1.5	-
	15533.1	6 Ser 15 14.2 +2.2	3	3	1.0	-	0.8	-
	.3	15 13.7 +1 14.4	3	3	0.6	0.5	1.3	out
	15368	K Vir	4	4	0.7	0.7	1.6	0.2?
	3848	ξ Cyg	2	3	imp.	0.8	2.0?	?
	2563	α Ser	3	4	dw?	0.8	1.7	-
	1627	η Cet	4	vdk 4	1.1	1.0	1.7	-
	1448	γ And	4	4	1.0	1.0	1.7	0.3
	1378	β Oph	4	5	1.2	1.0	1.5	-

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XI.

Plate	Star	Q	I	4077	4215	4227	4607
17070	3 0.5 +39.2 (ω Per)	5	4	1.0	0.9	1.5	0.3
17065	2 42 +28.8 (39 Ari)	5	4	1.0	1.0	1.6	0.3
17024	119 +67.6 (ψ Cep)	5	4	1.1	1.0	1.6	0.2
16847.1	42 Tau	4	4	0.8	0.8	1.4	–
16846	16 40 +64.8 (18 Dra)	3	3	1.0	0.8 Cd.	1.4	out
16838	15 47 +36.0 (κ Cr B)	4	4	0.8	0.8	1.4	–
16830	15 48 +36.0 (κ Cr B)	4	4	0.9	0.9	1.4	0.3
16777	24² CBe	3	4	1.0	0.9	1.4	0.2?
16339.1	10 Leo min	5	4	1.0	1.0	1.3	0.3
.2	11 Leo min	5	4	0.8	0.5	1.4	–
.3	HP 1707	3	3	07	0.6	3.0	
15883	18 56.3 -5.9 (12 Aql)	3	4	1.2	1.1	1.8	0.3
15754	17 9 -26.4 (36 Oph)	✗3	3	out	0.2	1.7	–
15148:1	40 o² Eri	4	4	0.5	0.3	1.6	–
6920	γ Del	3	4	1.0	0.9	1.5	0.3
6909	γ Del	3	4	1.0	1.0	1.4	?
3901	γ Del	4	4	1.0	0.9	1.5	0.3
1845	46 Leo min	3	4	1.0	0.9	1.6	0.2
1869	σ Gem	3	3	0.8	0.8	1.3	0.2
840	γ Cep	5	4	0.8(d)	0.7	1.7	– b.o.
1677	46 Leo min	foc 4	5	0.9	1.0	1.7	b.o
1413	109 Her	3	3	out	0.9	1.6	0.3

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K 0

Plate	SFav	Q	I	4077	4215	4227	4607
17014	θ Lyr	5	4	1.0	1.0	1.4	0.3
16986.1	23 02 +24.9 56 Peg	5	4	1.0	0.9	1.6	0.3
16973.1	22 23 +4.2 35 Peg	4	4	0.7	0.7	1.5	–
16939	19 13 +38.0 θ Lyr	3	3	ovr	0.8	1'4	–
16825	A Boo.	5	4	1.1	1.1	1.5	0.3
16170	3 0,6 +19.4 δ Ari	5	4	1.1	1.1	1.5	0.3
16084	21 18 +19.4 ε Peg	5	4	1.1	1.0	1.6	0.3
16071	21 18 +19.4 ε Peg	5	4	1.0	1.0	1.6	?
16043.1	3 59 +21.8 37 Tau	5	4	1.1	1.1	1.6	?
16042.2	DM +21° 587	5	3	0.4	0	1.4	–
16023.1	3 0,6 +19.4 δ Ari	5	4	1.1	1.0	1.6	0.3
15513	λ Hya	4	4	0.9	0.9	1.4	–
15505	6 42 +2.6 18 Mon	3	3	0.9	0.9	1.4	0.2
2899	η Cyg	4	4	0.9	0.9	1.6	?
2800	70 Oph	3 bck	5	0.7	0.5	1.8	0.3
1852	δ 26 mon	4	4	1.0	1.1	1.5	0.2
1804	α Cra	3	4	0.7	0.7	1.6	?
1655	κ Per	5	4	1.1	1.2	1.5	0.3
1653	χ UMa	5 bck	4	0.9	0.9	1.7	0.0
1649	κ Per	4	5	1.2	1.3	1.6	0.0
1639	θ Cet	4	4	1.0	0.9	1.6	0.4
1392	ι Cep	4	4	1.0	0.9	1.6	?

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K3 and K4. Assumed supergiants

	Plate	Star	III	I	4077	4215	4227	4607	
C	16792	6 CMi	3	4	0.8	0.7	1.4	-	
	2964	γ Aql	4	4	1.0	0.9	2.0	?	
	844	β UMi	4	5	0.9d	0.2	2.0	0.0	
	2552	β UMi	5	4	0.9	0.6	2.2	?	
	2464	σ Per	1 on another plate	4	0.8	0.9	1.6	0.2	
	2323	υ Per	5	4	1.0	1.0	2.3	0.2	
	1302	γ Aql	4	4	1.1	1.0	2.3	0.2?	
	2213	ι Aur	5	4	1.0	1.0	1.8	0.2	
	1640	η Per	3	3	0.8	0.9	1.6	0.3	K
	1641	ε Gem	3 Vch	4	1.0	1.1	1.9	0.3	G5
	1831	ν UMa	3	5	0.8	0.8	1.8	-	K
	6931	ε Peg	4	4	1.0	1.0	1.6	-	K
							1.5		
	1328	α Aqr	4	5	1.6	1.6	1.5	-	G0
*	2396	ρ Cas	5	4	0.9?	0.5	1.3	0.9	F8

High Abs mag from Bottlinger Berlin-Babelsberg M. 4, 37

- ✓ α Cas
- ✓ η Per
- ✓ ι Aur
- (α Ori)
- ✓ 1 Lyr
- (46 Aur)
- ✓ ε Gem
- ✓ ν UMa
- β Dra ?
- ✓ θ Lyr
- ✓ γ Aql
- ξ Ayg
- ✓ ε Peg
- ✓ α Aqr
- ? ζ Cep
- ✓ 1 Lac
- 5 Lac ?
- ψ Aur ?
- ✓ ρ Cas ?

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Plate	Star	Q	I	4077	4215	4227	4607
2553	ν UMa	3	4	1.0	0.6	1.1 ✓	
2994	ν Her	4	4	1.0	0.6	1.0 ✓	
1451	η Aql	3	4		0.2	1.1 ✓	
1610	α Umi (Cph)	4	4	1.0	0.6	1.1 ✓	
2018	γ Cyg	5	4	1.0	0.4	0.9 ✓	
2243	α Lep	4 vck	4	0.8	0.4	0.6 ✓	
2621	- Cam	3	3	0.7	0.4	1.1	
2305	β Cas	4	4	0.9	0.4	0.8 ✓	
680	β Cas	5	4	1.0	—	— cut off	
1786	10 Cam	5 vck	4	1.2	0.8	1.2 —	
1300	η Vir	3	4	0.6	-	0.7	
1363	η Her	4	4	0.9	0.5	1.2 ✓	
1406	16 Cyg	4	4	1.0	-	1.2 ✓	
1619	σ Leo	4	4	1.2	0.7	0.9 ✓	
xc 1663	θ Per	4	5	0.8	0	0.9	
2586	ν UMa	4	4	0.8	0.3	0.8 ✓	
739	ζ Gem	5	4	1.2	smudged		
17063	δ Cap	5	4	1.3	0.5	1.2 ✓	
2001	110 Her	4	4	0.9	0.3	1.0 ✓	
697	ζ Gem	5	4	1.4	0.4	1.2 ✓	
1469	ζ Gem	5	5	1.3	0.4	1.1 ✓	
704	ζ Gem	5	3	1.4	0.5	1.3 ✓	
862	η Cas	4	4	0.6w	0	1.2 ✓	
16409	σ Gem	5	4	1.0	0	1.0	
16118	ε Cet	5	3	0.9	0.3	1.0	
15565	χ Leo	5	4	1.0	0.5	0.9	

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	Plate	Star	Q	I	4077	4215	4227	4607	
C	16809	Boo 3511 5110	Fo 3	4	0.8	0.4	0.8	–	
	16627	μ, Cyg	F5 3 #	4	0.8	0.5	1.0	–	
	16605	20 Oph	F5 3	4	1.0	0.5	1.1	?	
	16550	ω Dra	F2 4	4	1.0	0.6	1.1	-	
	16501	μ, Boo	Fo 3	5	1.0	0.5	0.8	–	
	15906	ω Dra	F2 5	4	0.9	0.5	1.1	-	
	15793	ψ Dra	F3 5	4	1.0	0.2	0.9	–	
	15595	20 Ve	F5 5	4	1.0	0.4	1.0	0.3	
	14909	γ Eql	Fo 5 fde	4	1.3	1.2	1.1	?	
	2944	ζ Aqr	F2 3	4	1.0	-	1.0	-	
	2919	θ Cyg	F2 3	4	0.8	0.5	1.0	–	
	1859	β Coronae	F2 3	4	0.9	–	–		(4128, 31 strong)
	2868	ε Cyg	F1 3	4	0.9	0.5	1.0		
	2854	π Sgr	F4 5	4	1.0	0.5	1.0		
	2837	π Sgr	F4 3 fde	4	1.0	0.4	1.0		
	2833	γ Cap	F5 4	4	1.2	0.7 w	0.7 w	–	
	1418	ι Peg	F5 4	5	0.5	0.2	0.8		
	1391	θ Cyg	F2 4	4	0.7	0.3	0.7		
	1336	β Del	F3 4 fde	4	1.0	0.6	1.0		
	1312	β Boo	Fo 3	5	?	0.7	1.6		
	3044	γ Cap	F5 4	4	1.2	0.9	0.9		

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Plate	Star	Q	I	4267		
6432	γ Ori	4	4	0.8		B2 ✓
6403	ε Ori	4	3	0.6	vd	B5
7605	κ Sco	4	4	0.7		B2 ✓
6380	γ Ori	4	5	(0.8)		B2 ✓
7596	ν Cen	4	4	0.9		B2 ✓
8769	~~α Eri~~ ~~φ Vel~~	3	4	07		B5 ✓
8402	φ Vel	3	3	0.9		B5 ✓
7592	δ Lup	4	3	0.9		B2 ✓
7707	μ Sco	5	3	1.0		B3 ✓
7709	μ Sco	5	3	0.9		B3 ✓
4326	ψ Per	3	3	0.6		B5 ✓
6678	δ Per	3	4	0.6		B5 ✓
6467	ε Ori	3	4	0.6		B5 ✓
4746	χ Dra	3	4	07		B5 ✓

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Intensity of λ 4071.

Plate	Star	Q	I	Est 4071	4077	Type		
X 8296	ι Cen	4	4	7	10	A2	.7	1.4
8055	α Hor	3	4	11	14	K0		1.3
8047	δ Pho	4	4	11	13	K0		1.2
8017	α Hyi	4	4	9	14	F0		1.6
7569	γ Sgr	4	4	12	16	K0		1.3
7550	ε Sco	4	4	14	15	K0		1.01
7542	α TrA	4	4	13	17	K2		1.3
8635	α PcA	4	4	8	11	A2		1.4
892	β Col	4	4	14	14	K0		1.0
8219	α Aur	4	4	9	13	G0		1.5
8342	α Ret	4	4	10	12	G5		1.2
8935	β Lep	4	4	11	14	G0	(-0.7)	1.3

λ 4215
λ ~~4077~~ 4071

6946.1	b Aqr	5	4	10	K5
.2		4	4	8	K5
4872	ω Lup	3	3	7	K5
4592	α_2 Cen	4	4	7	K5
5018	ω Sgr	3	3	5	G5
5098	η Gru	3	3	4	K0

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Plates moved. into "measured" region but still containing impt unmeasured features.

X4044	η Carinae	
X4709	η Carinae	
X11473	AGC 15747	Azp
X 11266	ABC 20429	M
	ABC 20444	K
X 11442		K

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Plates measured.

Star	Plate	Dispersion	Page
θ Car	X 9184, 8407 4036 6487	3,3,1,1	1-5
β Cru	X 9665, 9186 3975	2,2,1	8-13
η Cha	C 6358, 1033	2,4	14
67 Oph	C 1333	1	15

λ

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