

Kodakanal Observatory.

BULLETIN No XI

WIDENLD LINES IN SUNSPOT SPECTRA

No 877 (Gr 5895)

LAT -11

LONG 41

CLASS—I IIa IVb IIb IVa

Date—1906 July 2 3

W	l	gth	M	N	ml	f
			W d	g	Ob	t
4862 0 9			7		1	
4864 919			9		1	
4875 871			8		1	
4885 64			6		2	
4965 107					1	
5001 165			7		1	
5009 829			6		2	
5013 479			7		1	
5016 840			7		1	
5028 0 2			7		1	
5045 582			7		2	
5053 056			6		1	
5083 174			7		2	
5085 741			5		1	
5087 239			6		1	
5120 592			4		1	
5134 697			4		1	
5138 270			6		2	
5138 890			7		1	
5138 890			4		1	
514 652			7		2	
5150 268			6		2	
5158 828			4		1	
5180 419			4		1	
5188 074			4		1	
5219 27			6		2	
5225 695			6		1	
5426 474			8		2	
5480 572			7		2	
5490 267			7		2	
5490 805			6		1	
5627 859			6		2	
5671 071			7		2	
567 047			8		2	

W	l	gth	M	N	mb	f
			W d	g	Ob	t
5709 797			6		1	
5727 873					1	
5731 437					1	
5 77 288			8		2	
5748 645			9		1	
Ob			-SS	d GN		

No 880 (Gr 5898)

LAT + 21

LONG 7

CLASS—IVa IVb

Date—1906 June 30 July 2 3 4 7 10

W	l	gth	M	N	mb	f
			W d	g	Ob	t
4801 919			8		4	
4868 451			5		1	
4870 829			6		1	
4875 871			7		2	
4885 264			6		3	
4965 107					3	
5001 165			7		2	
5009 829			6			
5016 840			4		1	
5028 0 2			6		3	
5025 749			4		2	
5048 761			5		1	
5045 582			7		6	
5053 056			5		1	
5083 174			7			
5071 666			6		1	
5085 241					1	
5087 239			6		2	
5117 071			4		1	
118 112			4		1	
5120 592			4		2	

No 899 (Gr 5923)
 Lat + 4
 Long 104
 Class—IIa IIIa IIIb
 Date—1906 July 24 26

W	M	W D	S	Op	N	mb	f
1	4	4	4	4	4	4	4
1	5	5	5	5	5	5	5
1	6	6	6	6	6	6	6
1	7	7	7	7	7	7	7
1	8	8	8	8	8	8	8
1	9	9	9	9	9	9	9
1	10	10	10	10	10	10	10
1	11	11	11	11	11	11	11
1	12	12	12	12	12	12	12
1	13	13	13	13	13	13	13
1	14	14	14	14	14	14	14
1	15	15	15	15	15	15	15
1	16	16	16	16	16	16	16
1	17	17	17	17	17	17	17
1	18	18	18	18	18	18	18
1	19	19	19	19	19	19	19
1	20	20	20	20	20	20	20
1	21	21	21	21	21	21	21
1	22	22	22	22	22	22	22
1	23	23	23	23	23	23	23
1	24	24	24	24	24	24	24
1	25	25	25	25	25	25	25
1	26	26	26	26	26	26	26
1	27	27	27	27	27	27	27
1	28	28	28	28	28	28	28
1	29	29	29	29	29	29	29
1	30	30	30	30	30	30	30

No 892A (Gr 5912)
 Lat + 18
 Long 200
 Class—IVb IIIa IIIb IVa
 Date—1906 July 12 13

W	M	W D	S	Op	N	mb	f
1	7	7	7	7	7	7	7
1	8	8	8	8	8	8	8
1	9	9	9	9	9	9	9
1	10	10	10	10	10	10	10
1	11	11	11	11	11	11	11
1	12	12	12	12	12	12	12
1	13	13	13	13	13	13	13
1	14	14	14	14	14	14	14
1	15	15	15	15	15	15	15
1	16	16	16	16	16	16	16
1	17	17	17	17	17	17	17
1	18	18	18	18	18	18	18
1	19	19	19	19	19	19	19
1	20	20	20	20	20	20	20
1	21	21	21	21	21	21	21
1	22	22	22	22	22	22	22
1	23	23	23	23	23	23	23
1	24	24	24	24	24	24	24
1	25	25	25	25	25	25	25
1	26	26	26	26	26	26	26
1	27	27	27	27	27	27	27
1	28	28	28	28	28	28	28
1	29	29	29	29	29	29	29
1	30	30	30	30	30	30	30

No 884 (Gr 5903)
 Lat + 21
 Long 942
 Class—I IVb IIIa IVa IIIb
 Date—1906 July 11

W	M	W D	S	Op	N	mb	f
1	4	4	4	4	4	4	4
1	5	5	5	5	5	5	5
1	6	6	6	6	6	6	6
1	7	7	7	7	7	7	7
1	8	8	8	8	8	8	8
1	9	9	9	9	9	9	9
1	10	10	10	10	10	10	10
1	11	11	11	11	11	11	11
1	12	12	12	12	12	12	12
1	13	13	13	13	13	13	13
1	14	14	14	14	14	14	14
1	15	15	15	15	15	15	15
1	16	16	16	16	16	16	16
1	17	17	17	17	17	17	17
1	18	18	18	18	18	18	18
1	19	19	19	19	19	19	19
1	20	20	20	20	20	20	20
1	21	21	21	21	21	21	21
1	22	22	22	22	22	22	22
1	23	23	23	23	23	23	23
1	24	24	24	24	24	24	24
1	25	25	25	25	25	25	25
1	26	26	26	26	26	26	26
1	27	27	27	27	27	27	27
1	28	28	28	28	28	28	28
1	29	29	29	29	29	29	29
1	30	30	30	30	30	30	30

No 892A (Gr 5912)
 Lat + 18
 Long 200
 Class—IVb IIIa IIIb IVa
 Date—1906 July 12 13

W	M	W D	S	Op	N	mb	f
1	7	7	7	7	7	7	7
1	8	8	8	8	8	8	8
1	9	9	9	9	9	9	9
1	10	10	10	10	10	10	10
1	11	11	11	11	11	11	11
1	12	12	12	12	12	12	12
1	13	13	13	13	13	13	13
1	14	14	14	14	14	14	14
1	15	15	15	15	15	15	15
1	16	16	16	16	16	16	16
1	17	17	17	17	17	17	17
1	18	18	18	18	18	18	18
1	19	19	19	19	19	19	19
1	20	20	20	20	20	20	20
1	21	21	21	21	21	21	21
1	22	22	22	22	22	22	22
1	23	23	23	23	23	23	23
1	24	24	24	24	24	24	24
1	25	25	25	25	25	25	25
1	26	26	26	26	26	26	26
1	27	27	27	27	27	27	27
1	28	28	28	28	28	28	28
1	29	29	29	29	29	29	29
1	30	30	30	30	30	30	30

W l th	M W d g	N mb O t f
51 0 888	5	2
54 6 474	4	2
5460 2	4	1
5400 887	4	2
5627 8 9	4	2
5671 071		2
5672 047	5	2
737 288	C	
5743 64	C	2
Ob	-SS	

No 905 (Gr 5931)

LAT + 22

LONG 1

CLASS—IVb IVa

Date—1906 July 28 August 6

W l n th	M n W l g	N mb Ob t f
486 788	7	1
4868 898	7	1
4884 919	8	2
487 671	8	
4885 204	6	2
5001 165	6	
5009 8 9	7	1
504 582	8	2
5066 174	)	2
5130 543	8	1
5134 697	7	1
186 270	8	2
5138 690	8	1
5143 801	6	1
5147 652	7	2
5150 368	8	1
5219 875	6	2
5 25 095	6	2
5800 578	8	1
542C 474	8	2
5480 572	7	1
5490 887	7	1
5490 905	6	1
5627 859	6	2
5671 071	8	2
5672 047	8	2
5 87 88	8	2
5743 645	8	2
Ob	-SS	

No 907 (Gr 5933)

LAT - 16

LONG 25

CLASS—I IVb IVc

Date—1906 August 2

W l gth	M W d g	N mb Ob t f
4804 919	8	1
487 671	7	1
4885 264	6	1
5001 165	7	1
5009 829	7	1
5045 58	8	1
5066 174	9	1
5138 270	8	1
5138 690	7	1
5147 6 2	7	1
150 988	7	1
19 875	6	1
5428 474	10	1
5480 572	8	1
5490 387	7	1
5490 90	0	1
627 859	6	1
567 071	9	1
5672 01	9	1
5700 40	7	1
708 797	7	1
07 204	7	1
5727 873	6	1
781 137	6	1
5737 288	10	1
5743 64	J	1
Ol	-SS	

No 908 (Gr 5935)

LAT + 18

LONG 200

CLASS—IVa

Date—1906 August 12

W l gth	M W l g	N mb Ob t f
4985 107	4	1
5009 829		1
5043 781	4	1
504 582	4	1
5066 174	4	1
5138 890	5	1
5147 852	5	1
5150 368	5	1

W l th	M an W d g	Numb f Ob t
5219 875	6	1
5428 471	4	1
5460 572	5	1
5490 387	4	1
5627 859	6	1
5671 071	5	1
5672 047	5	1
572 878	4	1
5731 437	5	1
5737 288	6	1
Ob	-G N	

No 924 (Gr 5946)

LAT + 22

LONG 355

CLASS—IVa IVb IVc

Date—1906 August 29 30 September 2

W l th	M n W d	N mb f Ob t
4864 919	9	2
4875 071	7	1
4965 107	5	1
5001 165		1
5009 829	6	3
5028 052	8	2
504 532	6	3
5066 174	6	3
5184 697		1
5186 270	8	2
5147 652	7	3
5150 863	7	3
5219 875	6	1
5428 471	0	3
5460 572	5	3
5490 387	6	
5 38 025	5	1
5627 859	6	3
5671 071	6	3
5672 047	6	3
5708 797	7	1
5707 204	7	1
5727 878	5	1
5731 437	5	1
5737 288	7	3
5743 645	8	2
Ob	-S S d G N	

No 926A (Gr 5950)

LAT - 7

LONG 24

CLASS—IIIa V IVc

Date—1906 August 31

W l th	M n W d g	N mb f Ob t
4861 919	8	1
4875 071	0	1
5001 165	0	1
009 629	6	1
5028 0 2	7	1
5043 761	8	1
5045 582	8	1
5066 174	8	1
186 270	7	1
5147 652	9	1
5150 863	9	1
5300 78	7	1
5426 474	8	1
5460 572	7	1
490 367	6	1
5627 859	6	1
56 1 071	7	1
672 047	7	1
737 288	8	1
743 645	8	1
Ob	-S 9	

No 931 (Gr 5956)

LAT + 4

LONG 273

CLASS—IVa IVc IIIb I

Date—1906 September 1 3

W l th	M W d g	N mb f Ob t
4905 107	4	1
5009 8 9	4	2
5043 761	4	1
5045 582	4	1
5066 174	4	2
5147 652	6	2
5150 863	6	2
5156 828	4	1
5219 875	6	2
5426 4 4	5	2
5460 5 2	4	*

W l gth	M W d n g	N mb Ob t f
5588 0 5		1
627 859	(
5071 071	4	2
5072 047	4	2
7 878	5	1
781 437		1

Ob -G \

No 932 (Gr 5958)

LAT - 11

LONG 267

CLASS—I IIa IVa

Date—1906 September 4 6

W l gth	M W d g	N mb Ob t f
4864 019	6	2
4875 071	5	1
4885 261	5	1
4928 511		1
5001 165	6	
5023 0	6	
045 582	7	
5006 174	8	2
196 270	7	
5147 052	7	2
5150 368	6	2
480 5 2	8	1
490 387	8	1
5827 8 9	4	1
071 071	5	1
5872 017	5	1
5737 88	6	1
743 64	6	1

Ob -S S

No 934

B th spots observed t gethe

(Gr 5960)

LAT + 18

LONG 218

CLASS—IVa IVb I IIIb I

Date—1906 September 10

W l gth	M W d n g	N mb Ob t f
4864 019	6	1
4875 671	5	1
5001 165	5	1
5045 582	(	1
066 174	7	1

2

W l gth	M W d	N mb Ob v t f
5147 652	7	1
5150 368	6	1
490 387	4	1
627 859	8	1
5071 071	1	1
56 2 047	4	1
5708 797	3	1
5707 204	2	1
5727 288	4	1
5748 04	4	1

Ob v -S S

No 936 (Gr 5961)

LAT - 23

LONG 199

CLASS—I IIa IVb

Date—1906 September 9 11 12

W l gth	M W l g	N mb Ob t f
4864 019	7	1
487 071	(	1
4885 264	5	1
001 165	(	1
5009 829	6	3
043 761	6	1
5045 582	(	1
5053 0 8	6	1
000 174	6	1
5085 341		1
5087 283	0	1
5100 773		1
628		1
5186 270	7	1
5188 890	6	1
5148 901		1
5147 652		3
5150 368	6	3
5156 8 3	5	2
5160 419	5	1
5219 875	6	2
5899 075	4	2
5126 474	7	2
180 572	6	2
5490 387	6	3
5827 859	5	3
5871 071	6	3
5872 047	6	3

W l gth	M n g	N mb f
W d g	Ob t	
5 03 797	6	2
5707 204	7	1
5727 878	4	2
5781 487	4	2
5787 288	6	3
5743 645	7	1
Ob	-S S d G N	

No 943 (Gr 5965)

LAT + 9

LONG 146

CLASS—I IVb IIIa

Date—1906 September 14

W l gth	M n g	N mb f
W d g	Ob t	
4864 919	6	1
487 6 1	5	1
4928 511	5	1
5001 185	6	1
5009 820	4	1
5028 052	7	1
5045 82	7	1
5066 174	7	1
5126 70	6	1
5147 652	7	1
5150 368	7	1
5225 695	5	1
5400 367	4	1
5627 8 9	4	1
5671 071	4	1
5672 047	4	1
5703 797	6	1
5707 204	6	1
5727 288	5	1
5743 645	5	1
Ob	-S S	

No 944A (Gr 5968)

LAT + 7

LONG 96

CLASS—IVc IVa IVb IIIa I

Date—1906 September 13 16 17

W l gth	M n g	N mb f
W l g	Ob t	
4864 919	8	1
4875 671	7	1
4885 264	6	1
4928 511	6	1

W l h	M n g	N mb f
W d m g	Ob t n	
4865 107	4	1
5001 185	7	1
5009 820	6	3
50 3 052	6	2
5025 740	4	1
5045 532	6	3
5058 056	5	1
5066 174	6	2
5087 89	6	
5124 697	6	1
5126 270	7	1
5117 652	6	3
5150 368	7	3
5156 823	5	1
519 875	6	3
522 695	5	1
5426 474	6	3
5400 72	6	2
5400 367	6	3
56 859		3
671 071	5	3
5672 047	5	3
5700 403	5	1
5703 797	5	3
707 204	6	1
5727 873	5	2
5731 487		2
5737 288	6	2
5743 64	7	1
Ob	-S S nd G N	

No 944B (Gr 5968)

LAT + 7

LONG 96

CLASS—IVc IVa IVb IIIa I

Date—1906 September 15

W l th	M n g	N mb f
W d ng	Ob t	
406 107	4	1
5009 820	6	1
5045 58	4	1
5053 0 6	1	1
5066 174	4	1
5147 652	4	1
5150 363	4	1
5219 875	5	1
5426 474	6	1
5400 367	6	1
5627 853		1
5671 071	5	1
5672 047	5	1
5727 873	4	1
5731 437	4	1
Ob	-G N	

No 980 (Gr 6001)

LAT + 14

LONG 182

CLASS—I IIa IIb IIIa

Date—1906 November 4

W lngth	M n g	N mb t	f
5028 052		1	
5025 749	4	1	
060 174	5	1	
5138 890	5	1	
5148 901		1	
514 6 2	6	1	
5150 383	(	1	
5 19 875	6	1	
5 90 887	4	1	
562 859	5	1	
571 071		1	
5672 047	5	1	
570a 797	5	1	
5727 873		1	
5731 487	5	1	
5737 288	4	1	

Ob —GN

No 981 (Gr 6004)

LAT —10

LONG 61

CLASS—IVb IVa

Date—1906 November 10 18

W lngth	M n g	N mb t	f
4884 919	8	2	
4875 871	7	1	
4885 264	7	1	
4965 107	6	1	
4975 580	5	1	
5001 185	6	1	
5009 829	4	1	
5018 340		1	
5028 052	6	1	
5045 582	7	2	
5066 174	9	1	
5136 270	8	1	
5138 890	7	2	
5148 901	8	2	
5147 652	8	2	
5150 383	8	2	
5219 875	7	2	

W lngth	M n g	N mb t	f
225 695	7	1	
5300 929	6	1	
54 6 471	8	2	
5480 572	6	2	
5490 367		1	
5400 905	6	1	
6 7 859	7	2	
5671 071	8	2	
5672 047	8		
5707 201	7	1	
5727 873	8	1	
5731 487	8	1	
5737 288	8	2	
5743 645	8	2	

Ob —KVS dSS

No 987 (Gr 6015)

LAT —24

LONG 291

CLASS—IVb IIc IIa IVe I

Date—1906 November 19 23

W lngth	M n g	N mb t	f
4881 919	8	2	
4875 871	7	1	
488 264	7	1	
4928 511	6	1	
4965 107		1	
5009 829	5	1	
5028 052	7	1	
5043 761		1	
5045 582	8	2	
5066 174	8	2	
5134 697	8	1	
5136 270	8	2	
5148 901	7	1	
5147 652	8	2	
51 0 863	6	2	
5219 875	8	2	
5225 695	6	1	
5426 474	6	2	
5637 859	7	2	
5671 071	7	2	
5672 047	7	2	
5727 873	9	1	
5731 487	8	1	
5737 288	7	2	
743 64	6	2	

Ob —KVS dSS

No 989A (Gr 6021)

LAT + 11

LONG 210

CLASS—IV_e IV_c II_c IV_b

Date—1906 November 26 30 December 3

W l gth	M w d	N mb t f
4862 029	6	1
4862 738	6	1
4864 919	8	3
487 071	7	2
488 264	6	2
4915 1 4	7	1
49 8 511	6	2
001 165	7	3
5009 829	6	3
50 3 052	7	1
5045 582	7	3
5066 174	9	3
5120 543	6	1
5124 697	7	1
5126 2 0	8	1
5128 690	7	1
5147 652	7	3
5150 363	7	3
5219 875	5	1
225 695	6	3
5300 578	7	1
4 6 474	7	3
5430 572	6	2
5490 367	6	3
632 859	6	2
5671 071		3
567 047	7	3
5708 797	6	1
5707 204	6	1
5 87 288	7	3
5743 64	7	3

Ob v -SS

No 989B (Gr 6021)

LAT + 11

LONG 210

CLASS IV_e IV_c II_c IV_b

Date—1906 December 3

W l gth	M w d	N mb t f
884 919	7	1
5001 165	6	1
5009 829	4	1
5045 58	7	1
5066 174	8	1

W l gth	M w d	N mb t f
130 543	6	1
5147 652	7	1
5150 363	6	1
522 695	6	
5300 578	7	1
5426 474	7	1
5490 367		1
671 071	7	1
567 047	6	
787 288	7	1
5743 645	7	1

Ob -SS

No 990 (Gr 6024)

LAT + 18

LONG 197

CLASS—IV_a IV_b

Date—1906 November 26 27 28 December 2

W l gth	M w l g	N b t f
4862 0 9	6	1
4864 919	8	4
4875 071	6	4
4885 264	6	3
491 411	7	1
4928 511	6	2
001 165	8	2
5009 829	6	4
0 30 2	8	1
5043 761	7	1
045 82	7	4
5066 174	9	4
5124 697	6	2
5126 270	6	
5128 690	6	1
5143 901	6	1
5147 652	8	4
5150 363	7	3
5219 875	5	2
5225 695	6	4
5300 578	7	1
54 6 174	8	4
460 572	6	2
5490 367	7	3
5490 905	7	1
5627 859	6	2
56 1 071	7	4
5672 047	7	4
5708 797	6	1
5707 204	6	1
5737 88	8	4
5743 45	8	4

Ob -SS

No 992 (Gr 6026)

LAT + 22

LONG 228

CLASS—I IIIb IIa IV

Date—1906 December 8

W l tl	M l g	N mb t f
4884 910	8	1
4875 871	7	1
4884 264	5	1
4928 11		1
4977 838	0	1
001 165	7	1
5009 829		1
502 052	7	1
5015 582	7	1
5066 174	8	1
5130 543	7	1
5136 2 0	7	1
5147 6 2	8	1
51 0 363	7	1
5219 875	5	1
5225 695	6	1
800 78	8	1
54 8 474	8	1
5480 572	6	1
5490 67	7	1
5627 859	5	1
5 71 071	7	1
567 047	7	1
5787 288	8	1
5743 645	8	1
Ob	-85	

No 1008 (Gr 6042)

LAT + 13

LONG 345

CLASS—I IIIb

Date—1906 December 22

W l gth	M n wd g	N mb t n f
4884 919	6	1
4875 871	5	1
4885 264	5	1
5001 165	5	1
5045 582	4	1
5066 174	7	1
5147 652	6	1
5225 695	6	1
5426 474	8	1

W l gtl	M wd g	N mb t f
5480 387	6	1
5627 859		1
5671 071	7	1
5673 047	7	1
5708 787	7	1
5707 204	7	1
5737 288	8	1
5743 645	8	1
Ob	-b 8	

No 1010 (Gr 6046)

LAT - 17

LONG 321

CLASS—IVa IVb IVc

Dates—1906 December 14—24

W l g h	M wd g	N mb t f
4882 029	6	2
4862 783	6	2
4863 838	9	1
4861 019	8	5
487 071	6	3
488 64	4	2
4928 11	5	3
5001 16	6	5
5009 829	6	5
5023 052	6	3
5043 761	6	1
5045 582	6	6
5066 174	7	7
5085 341	4	2
5087 239	6	2
5130 543	7	3
5131 697	6	2
5138 270	7	5
5138 690	7	1
5140 553	6	1
5143 901	7	2
147 652	6	7
5150 863	6	4
5219 875	7	3
5224 471	6	2
5225 69	6	3
5228 546	5	1
5238 742	7	2
5239 137	5	2
5300 578	6	3
5394 889 } 918	6	1

W l gth	M n g	N mb t f
5426 4 4	8	6
5460 573	6	6
5480 867	6	5
5480 905	5	2
5627 859	6	6
5671 071	7	6
5672 047	7	6
5708 797	6	2
707 204	6	3
5727 878	6	4
5781 437	6	4
5787 288	8	6
5748 645	8	6
5868 676	6	1

Ob -SS dGN

No 1011 (Gr 6045)

LAT + 14

LONG 321

CLASS—IVa

Date—1906 December 22

W l gth	M w l g	N mb t f
4864 919		1
4875 671	5	1
4885 264	5	1
5001 165	7	1
5016 840	6	1
5023 052	7	1
5045 582	6	1
5066 174	8	1
5180 543	6	1
5186 270	7	1
5148 901	6	1
5147 652	7	1
5225 695	7	1
5300 578	5	1
5426 474	6	1
5490 367	5	1
56 7 859	5	1
5671 071	6	1
672 047	6	1
5708 797	7	1
5707 204	7	1
5737 288	7	1
5748 645	7	1

Ob -SS

No 1014 (Gr 6049)

LAT + 15

LONG 310

CLASS—I IIb

Date—1906 December 22

W l gth	M w d g	N mb t f
4864 919	7	1
4875 671		1
4885 264	5	1
5001 165	7	1
5016 840	6	1
5023 052	7	1
5045 582	6	1
5066 174	8	1
5180 543	6	1
186 270	7	1
5148 901	6	1
147 652	7	1
5225 695	7	1
5300 578	5	1
5426 474	6	1
5490 367		1
56 7 859	5	1
5671 071	6	1
672 047	6	1
5708 797	7	1
5707 204	7	1
5737 288	7	1
5748 645	7	1

Ob -SS

No 1016 (Gr 6053)

LAT + 18

LONG 226

CLASS—I IIIa IIc IIa IVb

Date—1906 December 24 25

W l gth	M w d ng	N mb t f
4905 107	5	2
5009 829	6	2
50 3 052	5	1
5025 749	4	1
5043 761	4	1
5045 582	6	
5053 0 6	6	1
5066 174	6	2
5085 341	4	2
5087 239	4	2
5147 652	5	2
5150 383	6	2

W l gth	M an g	N mb t f
158 828	4	1
5160 419	4	1
5168 074	4	1
5219 875	7	2
5224 471	5	1
5 88 74	6	1
5426 474	8	
5460 572	7	2
5490 887	6	
5490 305	5	1
5627 859	6	
5671 071	6	2
56 2 047	6	
5700 402	5	1
5709 797		1
5727 673	6	2
731 487	6	
5737 28	9	
5743 645	6	1

Ob -GN

W l gth.	M an mag	N mb t f na.
5143 901	5	7
5147 652	6	10
150 363	6	10
158 828		1
160 419	5	1
5188 200	5	1
219 87	8	10
5224 471	5	3
2 695	7	1
238 742	6	2
5260 640	5	1
5300 578	7	1
304 355	5	1
5426 474	8	10
5460 572	7	10
490 817	6	7
5490 905	5	3
56 7 859	6	10
671 071	7	10
5672 047	7	10
5700 402	6	4
5 03 707	6	
5707 904	6	2
7 7 878	6	6
73 127	6	7
37 268	7	9
5743 645	7	3
866 075		1

Ob -S 9 nd GN

No 1021 (Gr 6059)

I AT + 7

LONG 108

CLASS—IVb IVa IIb IIa

Date—1906 December 29—1907 January 9

W l gth	M an g	N mb t f
4864 919	7	1
4875 671	5	1
4886 284	4	1
4928 511	5	1
494 107	5	1
5001 105	6	1
5009 829	6	10
5043 761	4	2
504 82	5	9
5053 056	5	2
5068 174	6	10
5087 289	6	1
5180 543	6	1
5134 697	5	2
5186 270	5	4
5188 690	4	2
5188 890	5	1
5140 094	5	2
5140 886	5	1
5141 497 } 886 }	5	2

No 1034 (Gr 6075 to 6077)

I AT -13 ro 22

LONG 320 ro 329

CLASS—V IIIa IVd IIIb

Date—1907 January 12—18

W l gth	M an g	N mb t f
4864 919	6	4
4875 671	5	3
4928 511	4	2
5001 105	6	3
5009 829	6	6
5028 052	5	3
5043 761	5	1
5045 583	6	7
5053 056	6	1
5068 174	6	7
5087 289	6	4
5180 543	6	3

NO 1044 (GR 6088)
 LAT - 17
 LONG 280
 CLASS-IVa I IVb III IVd
 Date-1907 January 21-25
 W I 8th M N mb f

OP	SS	P	GR
4808 029	6	1	1
4864 818	7	3	3
4876 671	6	2	2
488 264	4	2	2
48 8 511	4	2	2
5001 165		2	2
008 828	7	3	3
6012 179	5	1	1
6010 840	5	1	1
6028 052	6		
6026 748	5	1	1
6048 761	6	1	1
6016 582	6	4	4
6068 174	6	3	3
6087 23	5	3	3
6130 543	6	5	5
6136 70	6	2	2
6138 680	4	1	1
6138 901	4	1	1
6147 652	6	1	1
1 0 283	5	4	4
6 19 875	6	4	4
25 885	6		
6228 712	6	1	1
6229 187	4	1	1
6200 578	5	2	2
6428 474	8	4	4
6430 72	6	2	2
648 078	6	1	1
6480 287	6	2	2
6460 805	5	1	1
6547 215	4	4	4
6527 859		4	4
671 071	7	4	4
6872 047	7	4	4
6 00 408	6	2	2
6708 787	6	2	2
6707 204	6	2	2
6727 878	6	2	2
6781 427	6	2	2
787 288	7	2	2
6748 645	8	2	2
686 675	6	1	1

NO 1043 (GR 6087)
 LAT + 19
 LONG 280
 CLASS-IVa I IVb
 Date-1907 January 19
 W I 8th M N mb f

OP	SS	P	GR
5134 687	5	2	2
5136 270	6	2	2
5148 801	6	1	1
5147 652	6	7	7
5150 318	6	6	6
5219 875	5	5	5
5 25 896	5	2	2
5300 578	4	1	1
5428 474	8	6	6
5430 572	6	5	5
5430 287	6	2	2
5527 859	6	5	5
5671 0 1	6	6	6
567 047	6	6	6
5727 878	6	1	1
5731 427	6	1	1
5737 288	7	6	6
5743 645	7	2	2
4864 818	6	1	1
928 511	4	1	1
5001 16	5	1	1
5028 052	5	1	1
5048 82	5	1	1
5066 174	7	1	1
5180 548	5	1	1
5147 652	6	1	1
5225 625	4	1	1
5300 578	5	1	1
5428 4 4	6	1	1
5460 572	5	1	1
5490 267	5	1	1
58 7 8 9	4	1	1
5871 071	5	1	1
5872 047	5	1	1
5872 047	5	1	1
5737 288	5	1	1
5748 645	6	1	1

No 1045 (Gr 6090)

LAT + 4

LONG 174

CLASS—IVa IVb

Date—1907 January 23-29

W l gth	M w d g	N mb t f
4862 020		3
4864 919	8	6
4875 671	6	4
4885 264	4	3
4916 4 6	0	1
4928 511	4	3
5001 105	0	4
009 829	6	6
5018 479	5	1
5016 840	5	
5023 0 2	6	4
5025 49	5	1
5033 47	4	1
5043 761	5	3
5045 532	7	0
5052 803	5	1
5053 056	5	2
5061 882	4	1
5062 285	4	1
5066 171	8	5
5087 289	4	2
5130 549	0	2
5134 697	4	1
5136 270	0	3
5138 690	5	1
5143 901		3
5117 652	6	6
51 0 863	6	6
5219 87	6	0
5 25 695	6	4
5238 71	4	1
5 39 137	4	1
5300 578	6	2
5300 928	5	1
5420 510	6	1
5426 474	8	6
5460 572	7	5
5490 867	6	3
5490 90	4	2
5627 859	0	6
5671 071	7	6
5672 047	7	6
5700 402	6	2
5703 797	6	2
707 204	6	2
5727 873	6	5
5731 437	6	5
5737 288	8	6
5743 645	8	4

Ob rv —SS d G V

4

No 1050 (Gr 6098)

LAT + 8

LONG 113

CLASS—IVa I IVb

Date—1907 January 27-31

W l gth	M w d	N mb t f
4864 010	8	3
4875 671	7	3
4915 107	6	1
5009 829	6	4
5023 05	7	3
5045 532	0	4
5066 171	7	4
087 289	5	1
136 270	7	1
147 652	7	4
150 863	6	4
5 10 875	7	2
5426 474	8	4
5460 57	0	3
5460 867	6	3
5027 859		3
5671 071	7	4
5672 047	7	4
5700 402	5	1
5 08 797	6	1
707 204	5	1
5727 873	6	2
5731 437	0	2
5737 288	8	4
5743 645	8	3

Ob —SS d G V

No 1051 (Gr 6099)

LAT + 22

LONG 82

CLASS—IIb IIa IIIa IVb

Date—1907 January 30-February 4

W l gth	M w d n g	N mb t f n
4862 020	6	3
4862 788	7	1
4864 919	9	4
4875 671	6	4
4885 264	4	4
4894 748	5	1
4898 79	0	1
4916 4 6	6	3
4920 047	5	2

W l gth	M n d	N mb t f
4928 11	4	4
4948 868	5	1
4965 107	6	2
4977 838	4	1
5001 165	6	4
5009 829	6	6
5018 479	5	2
018 340	5	2
50 3 052	7	5
5048 475	6	
5048 781	6	4
5045 582	6	7
5058 056	6	1
5062 86	4	2
5062 28		
5066 174	7	6
5085 668	5	
5087 289	5	4
180 543	6	1
184 697	4	2
5186 270	6	3
5188 690	6	3
148 901	6	2
5147 652	7	7
5150 868	6	7
5212 859	6	2
5219 875	8	6
5225 695	5	4
5238 71	5	2
5239 187	4	
5800 578	6	3
5867 044	7	1
5426 474	9	7
5443 405	5	1
5480 572	7	6
5482 078	5	1
5490 867	7	6
5490 905	6	3
56 7 859	6	7
56 1 071	7	7
5672 047	7	7
5700 402	5	4
5708 797	5	4
5707 204	5	4
5727 878	6	7
5731 487	6	7
5737 288	8	6
5743 645	9	5
5866 675	6	2
5867 785	6	1
Ob	-S S	d G N

No 1052 (Gr 6100)

LAT + 11

LONG 74

CLASS- I IIIa IIc IVb IVa

Date-1907 February 2 4 6

W l gth	M n w d	N b t f
4862 029	5	1
4864 919	8	3
4875 671	6	2
5001 165	6	2
5009 829	5	3
50 3 052	7	3
5018 761	6	2
5045 582		3
5066 174	8	3
5136 270	6	1
5147 652	7	3
5150 309	5	1
5219 875	5	3
5225 695	5	2
5426 474	8	3
5480 572		3
5180 807	6	3
5627 859		3
5671 071	8	3
56 2 047	8	3
5 27 878	6	1
5731 487	6	1
5737 88	8	3
5 43 645	8	3
Ob	-S S	

No 1057 (Gr 6103)

LAT - 13

LONG 337

CLASS-IVb IVc IVd IVe

Date -1907 February 5-10

W l gth	M n l g	N ber t f
4862 029	2	1
4862 788	4	1
4864 919	8	
487 671	6	3
4885 261	5	3
4910 426	6	1
4926 394	6	1
4928 511	4	3
4965 107	5	2
001 165	6	3
5009 829	7	5
5018 479	5	1
5016 340	5	1
5028 052	6	4
5048 4 5	5	1
5048 781	5	2
5045 582	6	5
5066 174	7	3

W l th	M d g	N mb t	f
5085 (68)	5	1	
087 23)	6	3	
130 19	6	2	
134 (97	4	1	
186 0	(
188 (30		1	
113 901		1	
11 6 2	7	4	
51 0 303	(	5	
5 19 877	7	5	
225 (35	5	3	
238 7 12			
5289 137	4	1	
542 174	J	5	
5460 7	7		
4 10 987	7		
4 10 105	(
6 7 8 9		5	
(71 071	7	5	
6 2 0 17	7	5	
00 402		4	
03 7 77	6	4	
707 04	(	4	
5727 873	6		
731 137	6	7	
5 37 288	8		
711 (47	7		
01	-5 9	1 G N	

No 1060 (Gr 6107)

LAT - 4

LONG 323

Class-IVa IVb

Date-1907 February 12

W l th	M d g	N mb t	f
1884 01)	8	1	
487 (71	(	1	
001 1(	r	1	
5009 82)		1	
50 3 052		1	
50 15 82	7	1	
50 174	8	1	
14 (2	7	1	
150 8(3	6	1	
213 875	5	1	
5227 69		1	
4 6 174	8	1	
460 72	7	1	
430 967	6	1	
5827 87J	6	1	
5871 071	8	1	
672 047	8	1	
5737 288	9	1	
5748 (45	8	1	
01	-8 8		

No 1061 (Gr 6108)

LAT - 17

LONG 306

Class-IIc IIa IIIa V IVd

Date-1907 February 9-18

W l th	M d g	N mb t	f
4862 0 0	5	1	
4864 019	7	5	
4875 6 1	6	2	
4885 284	5	1	
4916 428	5	1	
4928 284	7	1	
49 8 51	4	2	
4948 520	6	1	
49 0 801	5	1	
4955 4		1	
4965 107	6	6	
5001 18	6		
5009 8 9	7	8	
5018 479	5	1	
016 840	5	1	
50 3 05	7		
5048 475	5	1	
5048 761	6	5	
5045 582	6	8	
5066 1 4	6	8	
5085 688	6	8	
5087 289	6	6	
5130 543	4	1	
184 697	5	1	
5138 270	5	1	
5188 690	5	1	
5140 984	7	1	
5147 652	6	8	
5150 368	6	8	
5 19 875	7	8	
25 695	5	2	
288 742	5	1	
5229 187		1	
300 878	6	1	
5388 J77	7	1	
428 474	8	8	
5460 5	6	8	
490 867	6	5	
5460 806	5	1	
58 7 8 9	6	8	
5871 071	6	8	
5872 047	6	8	
5700 40	5	1	
5 08 797	6	1	
5707 204	6	1	
57 7 873	8	7	
5781 437	6	7	
5737 258	7	8	
748 645	7	4	
5868 6 5	6	1	
5879 945	6	1	
01	-8 8	d G N	

No 1073 (Gr 6117)

LAT + 4

LONG 164

CLASS—IVa IVb

Date—1907 February 20 26

W l gtl	M w d g	N mb b t f
4862 0 9	5	1
4864 91 1	8	4
4875 671	6	3
488 284	1	3
490 107	6	1
5001 165		5
5009 829	(	5
50 3 052	6	4
5013 761	6	1
045 582	7	5
508 174	8	
5087 23 1	7	1
5147 8 2	7	5
5150 868	(
210 87 7	6	5
5225 695	4	4
5238 712	6	1
423 474	8	5
460 572	7	5
5400 907	(	4
5400 905	7	2
5627 859	6	5
5671 071	7	5
5672 047	7	5
5727 873	7	4
781 487		4
7787 288	8	5
5748 615	8	5
Ob	—SS dGN	

No 1075 (Gr 6118)

LAT — 13

LONG 171

CLASS—I IVb IIIb IIIa IIa IIc

Date—1907 February 23 25

W l gth	M w d	N mb b t f
4832 029	6	2
4864 919	9	1
4875 671	6	1
4885 261	4	1
4918 26	4	1
4928 511	5	1
5001 105	7	1
5009 829	7	1
5018 479	6	1
501 340	7	1
5023 052	8	1
5043 61	6	1

W l gth	M w d n g	N b b t n
5045 58	7	2
5066 174	8	
5085 668		1
5087 239	0	1
130 543		1
5134 697	5	1
513 270	6	1
5147 852	7	2
5150 868	(	2
5219 8 5	6	2
5225 69	5	1
5126 4 4	8	2
480 572	6	
5490 367	6	2
5400 905	5	1
5627 859	(	2
5671 071	7	
5672 047	7	2
Ob	—SS dGN	

No 1081 (Gr 6123)

LAT + 24

LONG 76

CLASS—IVa IVc I

Date—1907 February 27 28

W l gth	M w d g	N mb b t n
4804 919	8	1
48 5 871	6	1
4885 264		1
49 5 107	7	1
5001 165	6	1
5009 8 9	6	2
5023 05	7	1
5045 582	6	2
060 174		2
50 87 289	6	1
5147 852	(	2
5150 868	6	
5219 875	6	2
225 60	5	1
5300 578	6	1
428 4 4	8	2
5400 572		2
490 367	6	2
5627 859	6	2
56 1 071	6	
5672 047	6	2
5700 402	5	1
5 08 797	5	1
57 7 8 3	6	2
5781 487	6	
5797 288	7	2
5748 645	6	2
Ob	—SS ndGN	

Catalogue of widened lens observed from July 1 1906 to February 28 190

W l gth	O	N mb f p t wh h tl l b w d	N mb f t m b d	M n t f w l g	W l gth	O g	N b f p t wh l tl l b w d	N mb f t m b d	M n t f w d g
4862 0 0	O	13	19	6	5066 174	T	48	119	7
4862 783		4	6	6	771 6(6	T	1	1	6
4868 888	F	3	3	8	0 5 841	T	5	7	5
4861 010	V	37	88	7	085 688		4	7	5
4868 451	T	1	1	5	8087 239	T	19	39	6
4870 898	T	1	1	(	106 778		1	1	5
4875 671	V	31	9	6	0 3				
4885 204	T	20	44		117 071		1	1	4
4891 743		1	1		5118 112	M	1	1	4
4898 708		1	1	6	1 0 9	T	2	3	4
4915 414	T		4	(	5130 543	N	16	29	6
4911 426		5	7		134 697		10	22	5
4920 047		1	2	5	131 270	F	29	50	7
4926 334		2	2	(	138 670		14	19	6
4928 511	T	17	31	5	5138 800		5	5	5
4948 868		1	1	5	110 094		1	2	5
4948 520		1	1	6	110 336		1	1	5
49 0 801		1	1		110 558		1	1	6
4955 1		1	1		110 902		1	1	7
4965 107	O	18	29	5	141 386				
4975 30	T	1	1		197	O	1	2	5
4977 843	F	4	2		5113 01		15	26	5
5001 165	T	3	68	6	147 65	T	48	124	
5009 829	T O	96	100	6	1 0 8(3		39	113	6
5013 479	O I	7	8	5	5156 828	C -	7	8	5
5010 340	T	11	12	(	160 119	O -	5	5	5
5028 0 2	T	30	01	6	51(3 074	O -	3	3	4
5025 749	T	6	7	4	5163 00	O -	1	1	
5048 475		4	5	5	212 850		1	2	6
5049 761	T	10	31	6	5219 875	T	33	94	6
5045 582	T	42	121	6	5221 471	T	3	6	5
505 803		1	1	5	5225 095	F	28	51	6
053 056	T	11	18	5	5228 54C		1	1	5
5061 882		1	1	1	5 38 742	T	9	13	6
5062 086		1	2	4	5239 127	O	6	8	4
5062 28	T	2	3	4	280 61	O	1	1	5

C t l g f w i d e n d l n e s b e v d f m J l j 1 1906 t F b u a y 28 1907—cont

W l gth	O g	N mb f p t wh h th l w d b d	N mb f t m b d	M m t f w l n g	W l gth	O g	N mb f p t wh h th l w d b d	N mb f t m b d	M n t m f t w d g
5200 840		1	1	5	5598 025	M	2	2	5
5300 578		17	28	6	5547 215	F V	1	1	4
5300 929	O	2	2	6	56 859	V	42	116	6
5304 355	O	1	1	5	5671 071	V	48	122	6
5338 927		1	1	7	567 047	S	48	122	6
5369 044		1	1	7	5700 402		11	22	5
5394 689 } 918 }	M	1	1	6	5703 797	V	24	42	6
					5707 204	V	1	38	6
5399 075	M	1	2	4	57 7 873		27	64	6
5420 510	M	1	1	6	5781 487		27	64	6
5426 474		88	115	7	5737 288		10	114	7
5443 40		1	1	5	5743 645		37	82	7
5460 572		98	97	6	5866 675	T	6	7	6
546 078		2	2	5	5877 785	O	1	1	6
5490 367	T	40	91	6	5879 945	A (w)	1	1	6
5490 905		15	23	5					

NOTES

- 1906
- July 3 880 D₁ D b b b₂ appeared less winged in the spot spectrum 5530 061 (Fe) 5881 221 (Fe) 5396 974 (Ti) 5316 790 (He) 5231 91 (-) 5121 8 3 (F) and 5115 566 (Ni) were effaced in spot 5109 827 (Fe) 5018 629 (Fe) and 4882 316 were thinned (G N)
- 4 884 C reversed and dark C displaced 1A to red C thinned out in the umbra of the main spot (G N)
- 11 884 C was broken and reversed brilliantly to the east of the spot D dark mostly east of the spot group and very dark where C was brilliantly reversed (G N)
- 12 Spot spectra faint 884 886 892 C slightly reversed (S S)
- 13 894 C broken (G N)
- 24 Spot spectrum faint
899 C slightly displaced to red near the western end of the group 14 (S S)
- 25 899 C slightly reversed between the spots (K V S)
- 28 The widened line observation was made through clouds (S S)
- 30 905 C slightly reversed to the west of the spot 9^h 50^m 907 C strongly reversed and D₃ slightly dark on the umbra of the main spot 9^h 52^m (S S)
- August 2 907 C slightly reversed over almost the whole group including umbra (S S)
- 5 907 C reversed on and near the spot 8^h 37 (S S)
- 18 915 C slightly reversed about the middle of the group 8^h 15^m (S S)
- 29 Seeing bad 926 929 C reversed over the whole of both the groups slightly in the former 9^h 0^m and 8^h 57^m (S S)
- 30 924 C broken some distance to the east of the spot (G N)
- 31 923 926 and 929 C reversed between the spots 8^h 5^m Dark C slightly displaced to red at several points in 923 and 926 8^h 55^m (S S)
- September 1 933 C broken and reversed close to spot (G N)
- 2 931 C slightly displaced to violet to west of spot 8^h 3^m (S S)
- 4 932 F displaced 2A to violet to north west of group 9^h 35^m (S S)
- 8 936 C slightly reversed Dark C slightly displaced to red at several points 8^h 10^m 940 C strongly reversed close to the central spot and to the west of it D₁ slightly dark 8^h 14^m (S S)
- 9 934 C broken and reversed (G N)
- 10 934 C slightly reversed between the spots 9^h 5^m (S S)
- 12 943 C reversed on and near the companion spots D dark over the whole group 8^h 7^m (S S)
- 14 936 C reversed and bent towards red to the east of the spot slightly displaced to violet to the west of it 8^h 3^m
946 C strongly reversed between the spots 8^h 4^m
943 C reversed at several places near the spots 8^h 6^m
944 C reversed at several places Dark C displaced slightly to violet near the eastern end of the group 8^h 8^m (S S)
- 17 944 C reversed between the spots and on the umbra of the largest spot at the eastern end of the group 8^h 7^m (S S)
- 20 944 C slightly displaced to red near the western end (S S)
- 27 952 C slightly reversed 8^h 20^m (S S)
- 29 952 C reversed and D slightly dark near spots 8^h 1^m 958 C reversed near a spot (8^h 8^m) and broken about the centre of the group at 9^h 2^m (S S)
- October 4 958 C broken and faintly reversed (G N)
- 5 958 C reversed over almost the whole group 8^h 10^m (S S)
- 6

1906

- October 12 965 C slightly reversed between spot and limb 8^h 0^m (S S)
 31 978 C reversed between the spots 8^h 10^m 980 C broken near eastern spot 9^h 7^m (S S)
- November 10 981 C reversed Dark C slightly displaced to red near the eastern end of the group
 9 20^m (S S)
 19 987 C slightly reversed and dark C displaced 1A to red at the north west end of the spot
 (K V S)
 26 990 C slightly displaced to red to the west of the spot 9^h 20^m (S S)
 28 992 C slightly reversed and D slightly dark 8^h 15^m (S S)
 30 Passing clouds
- December 3 992 C reversed Dark C slightly displaced to red to the west of the group 8^h 5^m
 (S S)
 4 992 C broken at several places and lightly bent to violet at one place (G N)
 13 1008 C knotted all along the group
 1010 C brilliantly reversed west of the spot and broken between the umbrae inside the spot
 (G N)
 14 1008 1012 C knotted and faintly reversed
 1010 C faintly reversed between the umbrae (G N)
 15 1010 C brilliantly reversed on the two umbrae D also brilliant D₁ D₂ b₁ b₂ b₃ b₄
 also reversed at the same place (b₁ stonger than b₂ b₃ or b₄) 8^h 45^m—9^h 10^m D dark
 and sharp to the east of the spot quite outside it 9^h 1^m Cloudy with only a few short
 breaks On December 12 when the spot came into view it was surrounded by an
 unusually small and faint group of faculae but was associated with a bright prominence
 streak (S S)
 16 1010 C reversed on the westernmost umbra in the main spot 8^h 40^m (S S)
 18 1010 C reversed on the westernmost umbra at 8^h 23^m on all the umbrae at 9^h 13 (S S)
 19 1010 C brilliantly reversed at a point inside the main umbra (8^h 50^m) broken along the
 group to the east of the main spot (S S)
 20 1008 C slightly reversed 8^h 30 1010 C reversed over the large umbra 8^h 35^m Faint
 sun B d seeing (S S)
 22 1008 C slightly reversed 9^h 2^m 1014 C reversed and broken and D dark in the
 western half of the group 9^h 31 1010 C reversed at the eastern end of the group
 9^h 30^m 1010 C slightly reversed and dark C slightly displaced to red between the
 two spots 9^h 28 (S S)
 23 1014 C slightly displaced to red to the east of the westernmost spot 8^h 20^m 1016 C
 reversed strongly over the whole group—strongest over the main umbra 8^h 23^m
 (S S)

1907

January 3 1021 The following lines were reversed —

L w l d	L # d	B l i g h t l i
5018 69 (Fe)	5100 108 (N)	5092 5
22 414 (Fe)	21 829 (F)	5144
84 279 (N)	5 244 (Ti o)	58
5109 827 (Fe)	59 281 (Fe)	6
4	62 449	63 5
55 303 (N)	5316 90 (Fe)	5275 641
5234 791	5480 964 (Fe)	5339
5938 974 (T)	87 354 (Fe)	12 890 (Co)
81 221	527 033	43 6 2 (Fe)
5535 061		5439
67 621		90 5
5638 4 8		97 0
79 249		5558 09
D		60 494
D		

(G N)

- 1907
- January
- 10 1034 C reversed to the east and the west of the spot 10^h 35^m (S S)
- 14 1034 C slightly reversed at several places 8^h 40^m (S S)
- 16 1034 C reversed and D dark over a large area to the north west of the group quite clear of the spots 8^h 20^m (S S)
- 18 and 19 1034 C reversed at several places Dark C slightly displaced to red about the middle of the group 8^h 53^m C reversed on the group 1044 on the 19th 8^h 50^m (S S)
- 21 1045 1046 C slightly reversed near both groups 8^h 40^m (S S)
- 25 1045 C broken to east of spot 8^h 30^m 1047 C reversed 8^h 32^m (S S)
- 27 1044 C slightly reversed 8^h 45^m 1055 C slightly displaced to violet to west of spot 8^h 46^m 1051 C slightly displaced to violet to west of spot far away from it 8^h 47^m (S S)
- 29 1051 Bright continuous spectrum to the east and the west of the leader 10^h 10^m 1052 1054 C reversed on nearly the whole of the two groups Dark C broken about the centre of the groups 8^h 30 (S S)
- 31 1051 C reversed over the whole group including the main umbra (S S)
- February
- 1 1051 D very dark and knotted west of the main spot and over a small dot C was not brilliantly reversed there C reversed at the easternmost part of the umbra D₂ dark east of the spot also the group C was knotted and broken north of the main spot (G N)
- 4 1051 C reversed over the eastern half of the main umbra and over a rather wide area to the west of the spot 8^h 30
- 1052 C slightly displaced to red from the middle of the group to the eastern end of it amount gradually decreasing from the former to the latter position C also reversed near the eastern end 8^h 31
- 1054 C slightly displaced to red in the middle of the group 8^h 35 1057 C slightly reversed 8^h 36 (S S)
- 5 1051 C knotted and faintly reversed 1057 C knotted and D₂ dark east of the main spot (G N)
- 6 1051 C reversed at the eastern end of the umbra in the main spot 8^h 30^m 1057 Bright continuous spectrum at the centre of the umbra in the main spot C reversed at that position 8^h 20^m (S S)
- 7 1051 C faintly reversed on the eastern part of the umbra and to some distance east of it D₂ sharp and very dark only to the east of the spot 1057 C broken and knotted all along the group to the east of the main spot D₂ also dark in the same place Dark C slightly displaced to red close to the main spot
- 1058 C knotted and broken along the group D₂ dark in places east of the middle of the group 1061 C very much broken and brilliantly reversed in one place between the chief spots (G N)
- 8 1057 I displaced 1 J A to red to the west of the spot and close to it Further west it was displaced bodily by the same amount over a large area the effect was as though 48628 was greatly strengthened at that position 8^h 35^m I displaced to violet by the same amount at 8^h 42^m amount 2A at 8^h 47 H and Mg lines much narrowed over umbra C slightly reversed to west of spot Displacement to violet was 8A at 10^h 25^m it looked like a detached cloud at 10^h 30 (S S)
- 10 1058 C reversed to the east of the group 9^h 0^m 1061 C reversed on the western half of the easternmost spot but one in the train 10^h 15^m (S S)
- 11 1061 C knotted and broken along the group D dark between the main spots (G N)
- 12 1061 C reversed between the spots over almost the whole group Dark C slightly displaced to red to the east of the group 8^h 30^m 1068 C reversed to the west of the spot 8^h 29^m 1066 C reversed over the whole group Dark F displaced 0.5A to red to the east of the group 8^h 33^m 1058 C reversed and bent to the west of the main spot 8^h 35^m (S S)
- 13 1061 C slightly reversed in places D dark (G N)
- 14 1070 C reversed over a large area D sharp and dark to the east of the spot 8^h 30^m 1061 C reversed over almost the whole group and D dark in places C slightly displaced to red about the centre of the group 8^h 34^m 1066 C reversed Dark C slightly displaced to red to the east of the main spot 8^h 37^m (S S)

1907

- February—18 1061 C reversed and D dark and sharp between the spots 1069 C slightly displaced to red
cont at several places 1073 C slightly reversed to the east of the spot 8^h 35^m (S S)
- 20 1069 C slightly reversed and D dark between the spots 9^h 45^m 1073 C slightly reversed
 to the east of the spot 8^h 30^m (S S)
- 21 1078 C reversed and broken and D dark to the east of the spot 8^h 35^m 1077 C reversed
 8^h 35^m (S S)
- 23 1078 C strongly reversed near spots 8^h 34^m 1075 C reversed over almost the whole
 group F was displaced slightly to red at several places and about 1A to violet near the
 centre of the group 8^h 35^m 1076 1080 C reversed (S S)
- 24 1079 C strongly reversed on western spot and between the spots D bright on western
 spot and dark between the spots Continuous spectra at several points between the spots
 Bright F displaced about 1.5A to red to the east of the western spot also both ways by
 1A to the west of the eastern spot 9^h 0^m 1075 C slightly reversed and D slightly dark
 on nearly the whole group 9^h 6^m 1081 C reversed and D dark between spot and limb
 F displaced about 1.5A to violet from the spot to the limb 9^h 10^m Displacement dis
 appeared at 9^h 18^m (S S)
- 26 1076 C reversed and D dark between the spots 8^h 24^m 1075 C slightly reversed at several
 places 8^h 20^m (S S)
- 29 1084 C slightly reversed 8^h 35^m (S S)

SOLAR PHYSICS OBSERVATORY }
 KODAIKANAL 2nd July 1907 }

J EVLERSHED
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