



Georgi Dobrovolski Solar Observatory

Sunspot Region Co-ordinates and Classifications for

2015

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Georgi Dobrovolski Solar Observatory



REGION CO-ORDINATES AND CLASSIFICATIONS FOR JANUARY 2015

All observations carried out by HOWARD BARNES .

Telescope : 76 mm refractor (f.l. 910 mm) .

Observed by PROJECTION . Full disc diameter = 145 mm approx .

CM = Central Meridian longitude, stated in degrees .

REG. = NOAA/SWPC Region Numbers .

B = Heliographic Latitude (+ if NORTH , - if SOUTH) .

CMD = Degrees of Longitude in respect to the Central Meridian (- if EAST, + if WEST) .

L = Carrington Longitude .

Stated times (UT) approximate Co-ordinated Universal Time / Temps Universel Coordonné (UTC).

OBS	DATE	UT	CM	REG.	B	CMD	L	f	p	s	gr	grfp	grf	efp	ef	Class.	Remarks
5722	2015 / 01 / 01	2155	53.0	2253	-07	-49	004	16	3	5	1	11	5	0	0	EAC	short
				2252	-20	-25	028	1	1	0	0	0	0	1	0	HSX	—
				2251	-13	-05	048	5	2	2	1	3	2	0	0	DAI	long
				2248	-19	+28	081	1	1	0	0	0	0	1	0	HSX	—
				2246	+19	+55	108	2	1	1	1	1	1	0	0	CSO	—
5723	2015 / 01 / 03	1925	14.8	2255	-15	-54	321	3	1	2	1	1	2	0	0	CSI	—
				2253	-07	-12	003	22	4	6	1	16	6	0	0	FAC	—
				2252	-20	+12	027	1	1	0	0	0	0	1	0	HSX	—
				2251	-13	+32	047	3	2	1	1	2	1	0	0	DSI	—
				2256	-08	+58	073	1	1	0	0	0	0	1	0	HSX	—
				2248	-19	+65	080	1	0	1	0	0	0	0	1	AXX	big
5724	2015 / 01 / 05	1950	348.3	2255	-16	-27	321	5	1	4	1	1	4	0	0	CSI	—
				2253	-07	+15	003	28	6	7	1	21	7	0	0	FAC	—
				2252	-19	+38	026	2	1	1	1	1	1	0	0	CSO	—
				2251	-13	+57	045	1	1	0	0	0	0	1	0	HSX	—
5725	2015 / 01 / 07	1955	321.9	2259	-18	-73	249	1	1	0	0	0	0	1	0	HSX	small
				2258	+12	-61	261	1	0	1	0	0	0	0	1	AXX	—
				2257	+05	-02	320	13	2	4	1	9	4	0	0	DAI	—
				2255	-14	-01	321	3	1	2	1	1	2	0	0	CSI	—
				2253	-06	+41	003	16	5	4	1	12	4	0	0	FAC	—
5726	2015 / 01 / 11	1940	269.3	2261	-11	-47	222	1	1	0	0	0	0	1	0	HSX	—
				2259	-16	-28	241	12	2	2	1	10	2	0	0	EKI	—
				2260	+09	+15	284	2	1	1	1	1	1	0	0	CSO	—
				2255	-16	+49	318	5	2	0	1	5	0	0	0	DAO	—
				2257	+07	+53	322	17	4	5	1	12	5	0	0	EAC	—
				—	-14	+61	330	1	0	1	0	0	0	0	1	AXX	—



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REGION CO-ORDINATES AND CLASSIFICATIONS FOR JANUARY 2015 continued.

OBS	DATE	UT	CM	REG.	B	CMD	L	f	p	s	gr	grfp	grf	efp	ef	Class.	Remarks
5727	2015 / 01 / 12	1940	256.2	2261	-11	-33	223	1	1	0	0	0	0	1	0	HSX	—
				2259	-15	-17	239	9	2	0	1	9	0	0	0	EKO	—
				2260	+09	+29	285	4	1	3	1	1	3	0	0	CSI	—
				2262	-00	+42	298	3	0	3	1	0	3	0	0	BXI	—
				2255	-15	+64	320	6	2	1	1	5	1	0	0	DAI	—
				2257	+07	+66	322	11	4	2	1	9	2	0	0	EAC	—
5728	2015 / 01 / 13	1945	243.0	2261	-11	-20	223	1	1	0	0	0	0	1	0	HSX	—
				2259	-15	-02	241	7	3	0	1	7	0	0	0	EKO	class correct
				2260	+09	+43	286	5	2	3	1	2	3	0	0	DSI	—
				2262	+01	+53	296	3	1	2	1	1	2	0	0	CSI	—
				2255	-16	+76	319	3	2	0	1	3	0	0	0	DAO	—
				2257	+07	+77	320	4	2	1	1	3	1	0	0	EAI	—
5729	2015 / 01 / 14	2000	229.7	2261	-11	-07	223	1	1	0	0	0	0	1	0	HSX	—
				2259	-15	+05	235	14	3	4	1	10	4	0	0	DAC	tight
				2260	+10	+56	286	2	1	1	1	1	1	0	0	CSO	—
5730	2015 / 01 / 16	1940	203.5	2261	-12	+19	223	1	1	0	0	0	0	1	0	HSX	small
				2259	-17	+33	237	7	2	5	1	2	5	0	0	DSI	—
5731	2015 / 01 / 21	2010	137.4	2266	-06	+29	166	8	2	2	1	6	2	0	0	DAI	—
5732	2015 / 01 / 22	1955	124.4	2268	-10	-70	054	6	2	2	1	4	2	0	0	EKI	—
				2269	+08	-39	085	1	1	0	0	0	0	1	0	HSX	—
				2266	-04	+43	167	5	2	3	1	2	3	0	0	DSI	—
5733	2015 / 01 / 24	2025	97.8	2268	-10	-50	048	11	2	4	1	7	4	0	0	FKI	—
				2269	+09	-11	087	1	0	1	0	0	0	0	1	AXX	small
				2266	-05	+68	166	2	1	1	1	1	1	0	0	CSO	—
5734	2015 / 01 / 27	1950	58.6	2272	+13	-53	006	1	1	0	0	0	0	1	0	HSX	—
				2276	-07	-41	018	1	0	1	0	0	0	0	1	AXX	big
				2268	-10	-13	046	24	4	8	1	16	8	0	0	FAC	—
				2273	-03	+08	067	7	2	2	1	5	2	0	0	DAI	—
				2271	+18	+15	074	11	3	4	1	7	4	0	0	DAC	—
				2275	-17	+23	082	8	3	2	1	6	2	0	0	DAC	—

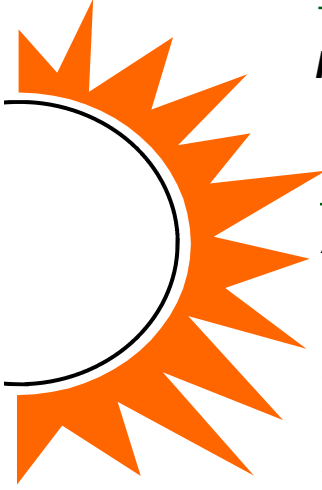


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REGION CO-ORDINATES AND CLASSIFICATIONS FOR JANUARY 2015 continued.

<i>OBS</i>	<i>DATE</i>	<i>UT</i>	<i>CM</i>	<i>REG.</i>	<i>B</i>	<i>CMD</i>	<i>L</i>	<i>f</i>	<i>p</i>	<i>s</i>	<i>gr</i>	<i>grfp</i>	<i>grf</i>	<i>efp</i>	<i>ef</i>	<i>Class.</i>	<i>Remarks</i>
5735	2015 / 01 / 28	1945	45.5	2277	+07	-69	336	3	2	0	1	3	0	0	0	DAO	—
				2278	-09	-39	006	1	0	1	0	0	0	0	1	AXX	—
				2272	+12	-36	009	1	1	0	0	0	0	1	0	HSX	—
				2276	-07	-27	018	3	0	3	1	0	3	0	0	BXI	—
				2268	-10	+03	048	22	5	8	1	14	8	0	0	FAC	—
				2273	+03	+24	069	1	1	0	0	0	0	1	0	HSX	—
				2271	+18	+28	073	10	3	2	1	8	2	0	0	DAC	—
				2275	-17	+38	083	5	2	2	1	3	2	0	0	DSI	—

Georgi Dobrovolski Solar Observatory



REGION CO-ORDINATES AND CLASSIFICATIONS FOR FEBRUARY 2015

All observations carried out by HOWARD BARNES .

Telescope : 76 mm refractor (f.l. 910 mm) .

Observed by PROJECTION . Full disc diameter = 145 mm approx .

CM = Central Meridian longitude, stated in degrees .

REG. = NOAA/SWPC Region Numbers .

B = Heliographic Latitude (+ if NORTH , - if SOUTH) .

CMD = Degrees of Longitude in respect to the Central Meridian (- if EAST, + if WEST) .

L = Carrington Longitude .

Stated times (UT) approximate Co-ordinated Universal Time / Temps Universel Coordonné (UTC).

OBS	DATE	UT	CM	REG.	B	CMD	L	f	p	s	gr	grfp	grf	efp	ef	Class.	Remarks	
5736	2015 / 02 / 04	1955	313.2	2281	+13	-64	249	4	1	2	1	2	2	0	0	CAI	—	
				2280	-08	-33	280	7	2	3	1	4	3	0	0	DAI	—	
				2277E	+08	-01	312	12	2	8	1	4	8	0	0	DAI	tight	
				2277C	+06	+07	320	1	0	1	0	0	0	0	0	1	AXX	—
				2277	+08	+22	335	21	6	12	1	9	12	0	0	FAC	—	
5737	2015 / 02 / 10	2010	234.1	2282	+11	-50	184	5	2	2	1	3	2	0	0	DAI	—	
				2281	+12	+16	250	2	1	0	1	2	0	0	0	HAX	—	
				—	+10	+30	264	1	0	1	0	0	0	0	1	AXX	—	
				2280	-07	+50	284	11	3	4	1	7	4	0	0	EAC	short	
5738	2015 / 02 / 13	2010	194.6	2284	+14	-58	137	1	0	1	0	0	0	0	1	AXX	—	
				2282	+10	-06	189	7	2	3	1	4	3	0	0	DAI	—	
5739	2015 / 02 / 15	2000	168.3	2285	-09	+12	180	2	1	1	1	1	1	0	0	CSO	small	
				2282	+11	+22	190	9	2	4	1	5	4	0	0	EAI	—	
5740	2015 / 02 / 17	2020	141.8	2282	+11	+49	191	5	2	2	1	3	2	0	0	DAI	—	
5741	2015 / 02 / 18	2015	128.7	2288	-07	+36	165	2	1	1	1	1	1	0	0	CSO	—	
				2282	+11	+62	191	4	2	1	1	3	1	0	0	DAI	—	
				2286	-18	+64	193	1	1	0	0	0	0	1	0	HSX	—	
5742	2015 / 02 / 24	2015	49.7	2290	+20	+05	055	7	2	3	1	4	3	0	0	DAI	—	
5743	2015 / 02 / 25	2035	36.3	2290	+19	+21	057	6	1	4	1	2	4	0	0	CAI	—	
5744	2015 / 02 / 26	2150	22.5	2293	+06	-43	339	2	2	0	1	2	0	0	0	DSO	small & tight	
				2290	+19	+35	057	5	1	3	1	2	3	0	0	CAI	small	
5745	2015 / 02 / 27	2110	9.7	2293	+06	-31	339	15	2	8	1	7	8	0	0	DAI	—	
				2294	-14	+12	022	12	3	7	1	5	7	0	0	DAC	—	
				2290	+19	+48	058	1	0	1	0	0	0	0	0	1	AXX	—
5746	2015 / 02 / 28	2045	356.7	2293	+06	-17	340	12	4	3	1	9	3	0	0	DAC	long	
				2292	-09	+14	011	1	1	0	0	0	0	1	0	HSX	—	
				2294	-14	+26	023	9	2	7	1	2	7	0	0	DSI	—	
				2290	+22	+61	058	1	0	1	0	0	0	0	0	1	AXX	—

Georgi Dobrovolski Solar Observatory



REGION CO-ORDINATES AND CLASSIFICATIONS FOR MARCH 2015

All observations carried out by HOWARD BARNES .

Telescope : 76 mm refractor (f.l. 910 mm) .

Observed by PROJECTION . Full disc diameter = 145 mm approx .

CM = Central Meridian longitude, stated in degrees .

REG. = NOAA/SWPC Region Numbers .

B = Heliographic Latitude (+ if NORTH , - if SOUTH) .

CMD = Degrees of Longitude in respect to the Central Meridian (- if EAST, + if WEST) .

L = Carrington Longitude .

Stated times (UT) approximate Co-ordinated Universal Time / Temps Universel Coordonné (UTC).

OBS	DATE	UT	CM	REG.	B	CMD	L	f	p	s	gr	grfp	grf	efp	ef	Class.	Remarks	
5747	2015 / 03 / 04	2100	303.9	2293	+05	+36	340	4	1	2	1	2	2	0	0	CAI	—	
5748	2015 / 03 / 07	2150	263.9	2297	-17	-67	197	4	1	3	1	1	3	0	0	CSI	—	
5749	2015 / 03 / 09	2115	237.9	2297	-16	-42	196	11	2	6	1	5	6	0	0	DKI	—	
5750	2015 / 03 / 10	2110	224.7	2297	-16	-28	197	17	3	5	1	12	5	0	0	DKC	—	
				2298	-11	+23	248	1	0	1	0	0	0	0	0	1	AXX	—
5751	2015 / 03 / 12	2115	198.3	2297	-16	-01	197	24	5	9	1	15	9	0	0	EKC	short	
				2298	-11	+51	249	2	0	2	1	0	2	0	0	0	BXO	small
5752	2015 / 03 / 13	2105	185.2	2301	-16	-15	170	1	0	1	0	0	0	0	1	AXX	small	
				2297	-17	+11	196	18	4	6	1	12	6	0	0	0	EKC	—
5753	2015 / 03 / 16	2110	145.7	2297	-17	+50	196	9	3	2	1	7	2	0	0	EKC	—	
5754	2015 / 03 / 17	2115	132.4	2303	+19	-66	066	1	1	0	0	0	0	1	0	HSX	—	
				2302	+10	+52	184	2	1	1	1	1	1	0	0	0	CSO	—
				2297	-16	+62	194	6	1	2	1	4	2	0	0	0	CKI	very long
5755	2015 / 03 / 19	2130	105.9	2303	+18	-41	065	1	1	0	0	0	0	1	0	HSX	—	
				2304	+17	+29	135	1	0	1	0	0	0	0	0	1	AXX	—
				2297	-17	+84	190	1	1	0	0	0	0	1	0	0	HHX	—
5756	2015 / 03 / 21	2125	79.6	2305	-08	-69	011	3	2	0	1	3	0	0	0	DAO	tight	
				2303	+19	-13	067	1	1	0	0	0	0	1	0	0	HSX	—
				2306	-17	+50	130	2	0	2	1	0	2	0	0	0	BXO	—
5757	2015 / 03 / 25	2145	26.7	2313	+17	-51	336	1	1	0	0	0	0	1	0	HSX	—	
				2312	+08	-39	348	1	1	0	0	0	0	0	1	0	HSX	small
				2310	+06	-28	359	1	0	1	0	0	0	0	0	1	AXX	—
				2305	-08	-20	007	13	3	6	1	7	6	0	0	0	DKC	—
				2307	-18	+16	043	5	1	4	1	1	4	0	0	0	CSI	—
				2303	+20	+40	067	2	1	0	1	2	0	0	0	0	HAX	—
5758	2015 / 03 / 30	2105	321.1	2315	-20	+40	001	3	2	1	1	2	1	0	0	DSI	—	
				2305	-10	+50	011	7	2	4	1	3	4	0	0	0	EHI	—
5759	2015 / 03 / 31	2110	307.9	2315	-21	+51	359	2	1	1	1	1	1	0	0	CSO	—	
				2305	-11	+62	010	5	1	3	1	2	3	0	0	0	CHI	—

Georgi Dobrovolski Solar Observatory



REGION CO-ORDINATES AND CLASSIFICATIONS FOR APRIL 2015

All observations carried out by HOWARD BARNES .

Telescope : 76 mm refractor (f.l. 910 mm) .

Observed by PROJECTION . Full disc diameter = 145 mm approx .

CM = Central Meridian longitude, stated in degrees .

REG. = NOAA/SWPC Region Numbers .

B = Heliographic Latitude (+ if NORTH , - if SOUTH) .

CMD = Degrees of Longitude in respect to the Central Meridian (- if EAST , + if WEST) .

L = Carrington Longitude .

Stated times (UT) approximate Co-ordinated Universal Time / Temps Universel Coordonné (UTC).

OBS	DATE	UT	CM	REG.	B	CMD	L	f	p	s	gr	grfp	grf	efp	ef	Class.	Remarks
5760	2015 / 04 / 02	2145	281.2	2317	+09	+43	324	11	4	6	1	5	6	0	0	DAC	—
5761	2015 / 04 / 03	2055	268.4	2317	+11	+58	326	5	2	2	1	3	2	0	0	DAI	—
5762	2015 / 04 / 05	2155	241.5	2318	+10	-42	199	4	1	3	1	1	3	0	0	CSI	—
				2320	-12	-29	212	9	3	5	1	4	5	0	0	DAC	—
				2317	+11	+79	320	1	1	0	0	0	0	1	0	HSX	—
5763	2015 / 04 / 10	2215	175.3	2320	-13	+38	213	11	2	4	1	7	4	0	0	DAI	long penumbra
5764	2015 / 04 / 13	2300	135.3	2324	+19	-73	062	3	1	1	1	2	1	0	0	CAO	—
				2321	+13	-40	095	16	5	6	1	10	6	0	0	FAC	—
				2322	+14	-12	123	3	1	2	1	1	2	0	0	CSI	—
				—	+04	+12	147	1	0	1	0	0	0	0	1	AXX	—
				2320	-14	+78	213	5	3	2	1	3	2	0	0	ESC	—
5765	2015 / 04 / 15	2250	109.0	2325	+05	-57	052	4	1	1	1	3	1	0	0	CAO	—
				2324	+18	-47	062	12	3	4	1	8	4	0	0	DAC	tight
				2321	+12	-16	093	27	5	13	1	14	13	0	0	FAC	—
				2322	+14	+12	121	2	0	2	1	0	2	0	0	BXO	—
5766	2015 / 04 / 18	2205	69.8	2327	-09	-59	011	1	1	0	0	0	0	1	0	HSX	—
				—	-09	-25	044	1	0	1	0	0	0	0	1	AXX	—
				2325	+05	-20	050	4	1	2	1	2	2	0	0	CAI	—
				2324	+19	-10	060	13	3	4	1	9	4	0	0	EKC	—
				2321	+11	+20	090	18	4	12	1	6	12	0	0	FAC	—
5767	2015 / 04 / 19	2215	56.5	2330	+15	-47	009	1	0	1	0	0	0	0	1	AXX	—
				2327	-09	-44	012	1	1	0	0	0	0	1	0	HSX	—
				2325	+05	-06	050	7	1	4	1	3	4	0	0	CKI	—
				2324	+19	+04	060	14	3	3	1	11	3	0	0	DAC	tight
				2321	+11	+36	092	8	2	5	1	3	5	0	0	EAI	—
				2329	-08	+48	104	1	1	0	0	0	0	1	0	HSX	small



Georgi Dobrovolski Solar Observatory

REGION CO-ORDINATES AND CLASSIFICATIONS FOR APRIL 2015 continued.

OBS	DATE	UT	CM	REG.	B	CMD	L	f	p	s	gr	grfp	grf	efp	ef	Class.	Remarks
5768	2015 / 04 / 20	2250	43.0	2327	-09	-31	012	1	1	0	0	0	0	1	0	HSX	—
				2325	+05	+08	051	6	1	4	1	2	4	0	0	CKI	—
				2324	+19	+15	058	11	3	3	1	8	3	0	0	DAC	tight
				2321	+10	+47	090	3	1	2	1	1	2	0	0	CSI	—
				2322	+11	+69	112	4	2	2	1	2	2	0	0	DSI	—
5769	2015 / 04 / 23	2155	3.8	2333	+20	-53	311	1	1	0	0	0	0	1	0	HSX	—
				2327/31	-08	+12	016	9	2	7	1	2	7	0	0	FSI	—
				2325	+05	+50	054	4	1	1	1	3	1	0	0	CKO	—
				2324	+19	+57	061	1	1	0	0	0	0	1	0	HSX	—
5770	2015 / 04 / 25	2230	337.1	2333	+20	-27	310	2	1	1	1	1	1	0	0	CSO	small
				2327/31	-09	+40	017	13	4	6	1	7	6	0	0	FAC	—
				2325	+04	+78	055	3	1	2	1	1	2	0	0	CSI	—
5771	2015 / 04 / 30	2225	271.1	2335	-16	-77	194	1	1	0	0	0	0	1	0	HSX	small
				—	-22	-27	244	3	0	3	1	0	3	0	0	BXI	—

Georgi Dobrovolski Solar Observatory



REGION CO-ORDINATES AND CLASSIFICATIONS FOR MAY 2015

All observations carried out by HOWARD BARNES .

Telescope : 76 mm refractor (f.l. 910 mm) .

Observed by PROJECTION . Full disc diameter = 145 mm approx .

CM = Central Meridian longitude, stated in degrees .

REG. = NOAA/SWPC Region Numbers .

B = Heliographic Latitude (+ if NORTH , - if SOUTH) .

CMD = Degrees of Longitude in respect to the Central Meridian (- if EAST, + if WEST) .

L = Carrington Longitude .

Stated times (UT) approximate Co-ordinated Universal Time / Temps Universel Coordonné (UTC).

OBS	DATE	UT	CM	REG.	B	CMD	L	f	p	s	gr	grfp	grf	efp	ef	Class.	Remarks
5772	2015 / 05 / 09	2205	152.3	2342	+18	-64	088	2	1	1	1	1	1	0	0	CSO	—
				2341	-20	-48	104	1	1	0	0	0	0	1	0	HSX	—
				2340	-09	-39	113	2	1	1	1	1	1	0	0	CSO	small
				2339	+12	-25	127	36	9	7	1	29	7	0	0	FKC	—
				2337	-17	+22	174	2	0	2	1	0	2	0	0	BXO	—
				2335	-16	+41	193	1	1	0	0	0	0	1	0	HRX	—
5773	2015 / 05 / 15	2210	72.9	2348	-10	-49	024	1	1	0	0	0	0	1	0	HSX	—
				2346	-08	-16	057	5	1	4	1	1	4	0	0	CSI	small
				2344	-09	-03	070	1	1	0	0	0	0	1	0	HSX	—
				2342	+17	+21	094	1	1	0	0	0	0	1	0	HSX	—
				2341	-20	+30	103	2	1	0	1	2	0	0	0	HAX	—
				2339	+12	+58	131	21	6	4	1	17	4	0	0	FKC	—
5774	2015 / 05 / 18	2245	32.9	2348	-10	-09	024	5	1	3	1	2	3	0	0	CAI	—
				2344	-09	+38	071	2	1	1	1	1	1	0	0	CSO	—
				—	+15	+51	084	1	0	1	0	0	0	0	1	AXX	—
				2342	+17	+63	096	1	1	0	0	0	0	1	0	HSX	—
				2341	-19	+70	103	1	1	0	0	0	0	1	0	HSX	—
5775	2015 / 05 / 19	2235	19.7	2351	+22	-52	328	2	1	1	1	1	1	0	0	CSO	—
				2348	-10	+04	024	3	1	1	1	2	1	0	0	CAO	—
				2344	-10	+51	071	1	0	1	0	0	0	0	1	AXX	—
				2342	+16	+73	093	1	1	0	0	0	0	1	0	HSX	—
5776	2015 / 05 / 27	2225	274.0	2356	-15	-75	199	1	1	0	0	0	0	1	0	HSX	—
5777	2015 / 05 / 28	2230	260.7	2356	-15	-62	199	1	1	0	0	0	0	1	0	HSX	—
5778	2015 / 05 / 29	2235	247.4	2356	-15	-47	200	1	1	0	0	0	0	1	0	HSX	—
5779	2015 / 05 / 31	2240	220.9	2356	-16	-22	199	3	1	1	1	2	1	0	0	CAO	—

Georgi Dobrovolski Solar Observatory



REGION CO-ORDINATES AND CLASSIFICATIONS FOR JUNE 2015

All observations carried out by HOWARD BARNES .

Telescope : 76 mm refractor (f.l. 910 mm) .

Observed by PROJECTION . Full disc diameter = 145 mm approx .

CM = Central Meridian longitude, stated in degrees .

REG. = NOAA/SWPC Region Numbers .

B = Heliographic Latitude (+ if NORTH , - if SOUTH) .

CMD = Degrees of Longitude in respect to the Central Meridian (- if EAST, + if WEST) .

L = Carrington Longitude .

Stated times (UT) approximate Co-ordinated Universal Time / Temps Universel Coordonné (UTC).

OBS	DATE	UT	CM	REG.	B	CMD	L	f	p	s	gr	grfp	grf	efp	ef	Class.	Remarks
5780	2015 / 06 / 06	2255	141.4	2365	-13	-61	080	1	1	0	0	0	0	1	0	HSX	—
				2362	+07	-41	100	11	2	5	1	6	5	0	0	DAI	long
				2361	+16	-36	105	6	2	3	1	3	3	0	0	DAI	—
				2360	+15	-09	132	14	3	9	1	5	9	0	0	EAC	—
				2356	-16	+59	200	1	1	0	0	0	0	1	0	HSX	—
5781	2015 / 06 / 07	2250	128.2	2365	-13	-48	080	2	1	1	1	1	1	0	0	CSO	—
				2366	+17	-45	083	1	0	1	0	0	0	0	1	AXX	—
				2362	+05	-27	101	7	3	2	1	5	2	0	0	DAI	class correct
				2361	+16	-22	106	5	2	1	1	4	1	0	0	DAI	—
				2360	+15	+04	132	16	3	5	1	11	5	0	0	EAC	—
2356	-16	+72	200	1	1	0	0	0	0	1	0	HSX	—				
5782	2015 / 06 / 09	2245	101.8	2365	-13	-23	079	2	1	1	1	1	1	0	0	CSO	—
				2366	+17	-20	082	3	0	3	1	0	3	0	0	BXI	—
				2362	+06	+00	102	7	2	5	1	2	5	0	0	DSI	—
				2361	+17	+03	105	1	1	0	0	0	0	1	0	HSX	—
				2360	+15	+30	132	12	3	9	1	3	9	0	0	ESC	—
5783	2015 / 06 / 15	2255	22.3	2371	+11	-78	304	1	1	0	0	0	0	1	0	HSX	—
				2367	-20	-20	002	21	5	9	1	12	9	0	0	EAC	—
				2370	+18	-10	012	2	0	2	1	0	2	0	0	BXO	—
				2365	-13	+61	083	2	1	1	1	1	1	0	0	CSO	tight
5784	2015 / 06 / 16	2300	9.0	2371	+11	-68	301	9	3	2	1	7	2	0	0	EKC	—
				2367	-20	-07	002	22	4	13	1	9	13	0	0	EAC	—
				2365	-12	+72	081	1	1	0	0	0	0	1	0	HSX	—
5785	2015 / 06 / 21	2245	302.9	2371	+13	-01	302	32	3	13	1	19	13	0	0	FKC	—
				2367	-18	+63	006	11	3	5	1	6	5	0	0	EAC	—
5786	2015 / 06 / 22	2255	289.6	2371	+13	+12	302	34	4	10	1	24	10	0	0	FKC	—
				2367	-19	+76	006	7	2	3	1	4	3	0	0	DAI	—

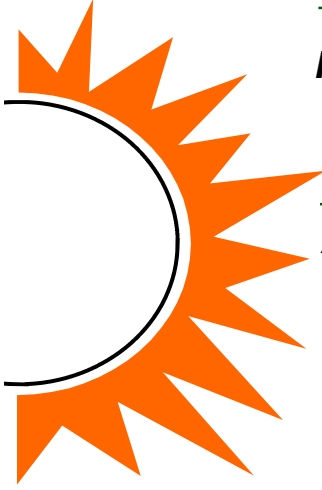


Georgi Dobrovolski Solar Observatory

REGION CO-ORDINATES AND CLASSIFICATIONS FOR JUNE 2015 continued.

OBS	DATE	UT	CM	REG.	B	CMD	L	f	p	s	gr	grfp	grf	efp	ef	Class.	Remarks
5787	2015 / 06 / 23	2250	276.4	2371	+12	+27	303	31	5	9	1	22	9	0	0	FKC	—
5788	2015 / 06 / 25	2240	250.0	2371	+12	+51	301	22	4	7	1	15	7	0	0	FKC	—
5789	2015 / 06 / 29	2245	197.0	2376	+13	-71	126	3	2	0	1	3	0	0	0	DAO	small
				2375	-12	-70	127	1	1	0	0	0	0	1	0	HSX	small
				2373	+15	-56	141	2	1	1	1	1	1	0	0	CSO	—
5790	2015 / 06 / 30	2240	183.8	2376	+13	-58	126	5	3	2	1	3	2	0	0	EAC	short
				2375	-10	-57	127	1	1	0	0	0	0	1	0	HSX	—
				2373	+15	-42	142	6	2	2	1	4	2	0	0	DAI	—
				—	+16	-30	154	1	0	1	0	0	0	0	0	1	AXX

Georgi Dobrovolski Solar Observatory



REGION CO-ORDINATES AND CLASSIFICATIONS FOR JULY 2015

All observations carried out by HOWARD BARNES .

Telescope : 76 mm refractor (f.l. 910 mm) .

Observed by PROJECTION . Full disc diameter = 145 mm approx .

CM = Central Meridian longitude, stated in degrees .

REG. = NOAA/SWPC Region Numbers .

B = Heliographic Latitude (+ if NORTH , - if SOUTH) .

CMD = Degrees of Longitude in respect to the Central Meridian (- if EAST, + if WEST) .

L = Carrington Longitude .

Stated times (UT) approximate Co-ordinated Universal Time / Temps Universel Coordonné (UTC).

OBS	DATE	UT	CM	REG.	B	CMD	L	f	p	s	gr	grfp	grf	efp	ef	Class.	Remarks	
5791	2015 / 07 / 08	2305	77.7	2384	-18	-63	015	2	1	0	1	2	0	0	0	HAX	—	
				2381	+14	-04	074	16	3	5	1	11	5	0	0	FAC	—	
				2378	-16	+08	086	2	1	1	1	1	1	0	0	CSO	—	
				2383	-07	+09	087	6	2	2	1	4	2	0	0	DAI	—	
				2379	-11	+22	100	1	0	1	0	0	0	0	0	1	AXX	—
				2375	-09	+48	126	1	1	0	0	0	0	0	1	0	HSX	—
				2376	+12	+52	130	1	0	1	0	0	0	0	0	1	AXX	—
				2373	+16	+66	144	1	1	0	0	0	0	0	1	0	HSX	—
5792	2015 / 07 / 09	2310	64.5	2384	-17	-47	017	3	1	0	1	3	0	0	0	HKX	—	
				2381	+14	+10	074	13	3	6	1	7	6	0	0	FAC	—	
				2383	-06	+23	087	4	2	2	1	2	2	0	0	DSI	—	
				2378	-10	+23	087	1	1	0	0	0	0	0	1	0	HSX	small
				2379	-09	+39	103	1	0	1	0	0	0	0	0	1	AXX	—
				2385	+07	+40	104	2	0	2	1	0	2	0	0	0	BXO	—
				2375	-09	+62	126	1	1	0	0	0	0	0	1	0	HSX	—
				2373	+16	+81	145	1	1	0	0	0	0	0	1	0	HSX	—
5793	2015 / 07 / 10	2310	51.2	2384	-18	-36	015	4	1	0	1	4	0	0	0	HKX	—	
				2381	+15	+24	075	12	3	4	1	8	4	0	0	FKC	—	
				2378	-15	+33	084	1	0	1	0	0	0	0	1	AXX	big	
				2383	-06	+37	088	1	0	1	0	0	0	0	1	AXX	—	
				2385	+07	+53	104	10	2	7	1	3	7	0	0	DAI	—	
				2375	-09	+75	126	1	1	0	0	0	0	0	1	0	HSX	—
5794	2015 / 07 / 11	2315	37.9	2384	-18	-23	015	4	2	0	1	4	0	0	0	DSO	tight	
				2381	+15	+37	075	9	2	3	1	6	3	0	0	FKI	—	
				2385	+08	+68	106	5	2	2	1	3	2	0	0	DAI	—	



Georgi Dobrovolski Solar Observatory

REGION CO-ORDINATES AND CLASSIFICATIONS FOR JULY 2015 *continued.*

OBS	DATE	UT	CM	REG.	B	CMD	L	f	p	s	gr	grfp	grf	efp	ef	Class.	Remarks
5795	2015 / 07 / 12	2310	24.8	2386	+11	-73	312	1	1	0	0	0	0	1	0	HSX	—
				2384	-18	-10	015	4	2	1	1	3	1	0	0	DAI	tight
				2381	+15	+50	075	7	2	0	1	7	0	0	0	FKO	—
5796	2015 / 07 / 18	2250	305.5	2387	+17	-35	271	7	2	4	1	3	4	0	0	DAI	—
				2386	+11	+06	312	2	1	0	1	2	0	0	0	HAX	—
				2384	-17	+68	014	2	1	1	1	1	1	0	0	CSO	—
5797	2015 / 07 / 20	2300	279.0	2387	+17	-05	274	15	3	12	1	3	12	0	0	ESC	—
				2386	+11	+33	312	1	1	0	0	0	0	1	0	HSX	—
5798	2015 / 07 / 21	2255	265.8	2387	+16	+09	275	11	2	8	1	3	8	0	0	DAI	—
				2386	+10	+47	313	1	1	0	0	0	0	1	0	HSX	—
5799	2015 / 07 / 22	2305	252.5	2387	+17	+24	276	4	1	1	1	3	1	0	0	CAO	—
				2386	+10	+61	313	1	1	0	0	0	0	1	0	HSX	—
5800	2015 / 07 / 29	2300	159.9	2394	+12	-79	081	1	1	0	0	0	0	1	0	HSX	—
				2393	+16	-59	101	1	0	1	0	0	0	0	1	AXX	—
				2391	+06	-45	115	2	1	0	1	2	0	0	0	HAX	—
				2390	-15	+38	198	13	4	7	1	6	7	0	0	EAC	short

Georgi Dobrovolski Solar Observatory



REGION CO-ORDINATES AND CLASSIFICATIONS FOR AUGUST 2015

All observations carried out by HOWARD BARNES .

Telescope : 76 mm refractor (f. l. 910 mm) .

Observed by PROJECTION . Full disc diameter = 145 mm approx .

CM = Central Meridian longitude, stated in degrees .

REG. = NOAA/SWPC Region Numbers .

B = Heliographic Latitude (+ if NORTH , - if SOUTH) .

CMD = Degrees of Longitude in respect to the Central Meridian (- if EAST , + if WEST) .

L = Carrington Longitude .

Stated times (UT) approximate Co-ordinated Universal Time / Temps Universel Coordonné (UTC).

OBS	DATE	UT	CM	REG.	B	CMD	L	f	p	s	gr	grfp	grf	efp	ef	Class.	Remarks
5801	2015 / 08 / 05	2305	67.3	2395	+12	-37	030	1	1	0	0	0	0	1	0	HSX	—
				2396	-17	-28	039	16	4	6	1	10	6	0	0	EKC	short
				2394	+11	+12	079	4	1	2	1	2	2	0	0	CAI	—
				2393	+18	+33	100	1	1	0	0	0	0	1	0	HSX	small
				2397	-12	+35	102	1	0	1	0	0	0	0	1	AXX	big
5802	2015 / 08 / 10	2250	1.32	2398	+16	-20	341	1	1	0	0	0	0	1	0	HSX	small
				2396	-18	+37	038	24	6	5	1	19	5	0	0	FKC	—
				2394	+12	+76	077	2	1	1	1	1	1	0	0	CSO	—
5803	2015 / 08 / 11	2240	348.2	2400	+17	-37	311	2	0	2	1	0	2	0	0	BXO	—
				2399	-16	-01	347	3	1	2	1	1	2	0	0	CSI	—
				2396	-18	+50	038	18	6	7	1	11	7	0	0	FKC	—
5804	2015 / 08 / 12	2230	335.1	2400	+17	-23	312	1	1	0	0	0	0	1	0	HSX	—
				2396	-18	+64	039	11	4	4	1	7	4	0	0	FKC	—
5805	2015 / 08 / 20	2220	229.4	2403	-13	-37	192	26	6	7	1	19	7	0	0	DAC	long & wide
				2401	-11	+42	271	1	0	1	0	0	0	0	1	AXX	—
5806	2015 / 08 / 23	2215	189.8	2403	-15	+03	193	46	7	14	1	32	14	0	0	FKC	—
				2404	+14	+15	205	4	1	3	1	1	3	0	0	CSI	—
5807	2015 / 08 / 25	2240	163.2	2403	-15	+30	193	32	5	6	1	26	6	0	0	FKC	—
5808	2015 / 08 / 27	2225	136.9	2403	-15	+56	193	24	5	7	1	17	7	0	0	FKC	—

Georgi Dobrovolski Solar Observatory



REGION CO-ORDINATES AND CLASSIFICATIONS FOR SEPTEMBER 2015

All observations carried out by HOWARD BARNES .

Telescope : 76 mm refractor (f.l. 910 mm) .

Observed by PROJECTION . Full disc diameter = 145 mm approx .

CM = Central Meridian longitude, stated in degrees .

REG. = NOAA/SWPC Region Numbers .

B = Heliographic Latitude (+ if NORTH , - if SOUTH) .

CMD = Degrees of Longitude in respect to the Central Meridian (- if EAST , + if WEST) .

L = Carrington Longitude .

Stated times (UT) approximate Co-ordinated Universal Time / Temps Universel Coordonné (UTC).

OBS	DATE	UT	CM	REG.	B	CMD	L	f	p	s	gr	grfp	grf	efp	ef	Class.	Remarks
5809	2015 / 09 / 01	2210	71.0	2409	+05	-55	016	2	2	0	1	2	0	0	0	DSO	—
				2406	+03	+04	075	3	0	3	1	0	3	0	0	BXI	—
5810	2015 / 09 / 11	2205	298.9	2415	-21	-69	230	4	2	1	1	3	1	0	0	EAI	—
				2414	-10	+19	318	12	2	9	1	3	9	0	0	DAI	—
				2411	+15	+27	326	1	1	0	0	0	0	1	0	HSX	—
				2416	-13	+35	334	1	0	1	0	0	0	0	0	1	AXX
5811	2015 / 09 / 13	2215	272.4	2418	-15	-69	203	1	1	0	0	0	0	1	0	HHX	—
				2415	-22	-41	231	6	1	4	1	2	4	0	0	CAI	—
				2414	-10	+49	321	8	2	5	1	3	5	0	0	EAI	—
5812	2015 / 09 / 16	2230	232.7	2419	+12	-36	197	7	1	4	1	3	4	0	0	CAI	—
				2418	-16	-31	202	1	1	0	0	0	0	1	0	HHX	—
				2415	-20	+01	234	21	4	11	1	10	11	0	0	EAC	—
5813	2015 / 09 / 21	2245	166.6	2420	+10	-65	102	12	2	6	1	6	6	0	0	FAI	—
				2418	-15	+34	201	3	1	0	1	3	0	0	0	HKX	—
				2415	-18	+68	235	5	2	3	1	2	3	0	0	DSI	—
5814	2015 / 09 / 25	2135	114.4	2420	+10	-12	102	9	2	3	1	6	3	0	0	FAI	—
				2422	-20	-12	102	23	4	9	1	14	9	0	0	EAC	—
				2421	+17	+08	122	8	2	3	1	5	3	0	0	DAI	tight
				2424	+12	+28	142	5	2	3	1	2	3	0	0	DSI	very small
5815	2015 / 09 / 26	2155	101.0	2426	+16	-35	066	2	1	1	1	1	1	0	0	CSO	small & tight
				2422	-20	+01	102	25	5	9	1	16	9	0	0	FAC	—
				2420	+10	+02	103	7	2	4	1	3	4	0	0	EAI	—
				2421	+17	+19	120	6	3	2	1	4	2	0	0	DAC	—
				2424	+12	+42	143	1	0	1	0	0	0	0	0	1	AXX



Georgi Dobrovolski Solar Observatory

REGION CO-ORDINATES AND CLASSIFICATIONS FOR SEPTEMBER 2015 continued.

OBS	DATE	UT	CM	REG.	B	CMD	L	f	p	s	gr	grfp	grf	efp	ef	Class.	Remarks
5816	2015 / 09 / 28	2200	74.6	2427	+18	-36	039	8	1	6	1	2	6	0	0	CAI	—
				2422	-20	+29	104	27	5	6	1	21	6	0	0	FKC	—
				2420	+11	+30	105	6	2	4	1	2	4	0	0	FAO	—
				2423	-09	+79	154	1	1	0	0	0	0	1	0	HSX	—
5817	2015 / 09 / 29	2120	61.8	2427	+18	-25	037	8	3	4	1	4	4	0	0	DAC	—
				2422	-18	+40	102	26	5	7	1	19	7	0	0	FKC	—
				2420	+11	+42	104	4	2	2	1	2	2	0	0	FAO	—

Georgi Dobrovolski Solar Observatory



REGION CO-ORDINATES AND CLASSIFICATIONS FOR OCTOBER 2015

All observations carried out by HOWARD BARNES .

Telescope : 76 mm refractor (f. l. 910 mm) .

Observed by PROJECTION . Full disc diameter = 145 mm approx .

CM = Central Meridian longitude, stated in degrees .

REG. = NOAA/SWPC Region Numbers .

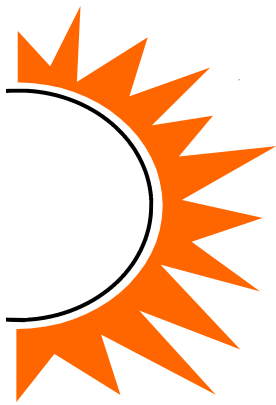
B = Heliographic Latitude (+ if NORTH , - if SOUTH) .

CMD = Degrees of Longitude in respect to the Central Meridian (- if EAST, + if WEST) .

L = Carrington Longitude .

Stated times (UT) approximate Co-ordinated Universal Time / Temps Universel Coordonné (UTC).

OBS	DATE	UT	CM	REG.	B	CMD	L	f	p	s	gr	grfp	grf	efp	ef	Class.	Remarks
5818	2015 / 10 / 05	2100	342.8	2427	+18	+56	039	3	1	2	1	1	2	0	0	CSI	—
5819	2015 / 10 / 08	2105	303.1	2430	-17	-61	242	1	0	1	0	0	0	0	1	AXX	—
5820	2015 / 10 / 18	2040	171.5	2436	+09	-59	112	7	2	3	1	4	3	0	0	EAI	—
				2435	-15	-46	125	1	1	0	0	0	0	1	0	HSX	—
				2434	-10	-07	164	9	2	3	1	6	3	0	0	DAI	tight
				2431	-19	+29	200	2	1	1	1	1	1	0	0	CSO	—



Georgi Dobrovolski Solar Observatory

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***Auckland
New Zealand***

Your ref.

Our ref.

NO OBSERVATIONS CARRIED OUT IN NOVEMBER 2015.



Georgi Dobrovolski Solar Observatory



REGION CO-ORDINATES AND CLASSIFICATIONS FOR DECEMBER 2015



All observations carried out by HOWARD BARNES .

Telescope : 76 mm refractor (f. l. 910 mm) .

Observed by PROJECTION . Full disc diameter = 145 mm approx .

CM = Central Meridian longitude, stated in degrees .

REG. = NOAA/SWPC Region Numbers .

B = Heliographic Latitude (+ if NORTH , - if SOUTH) .

CMD = Degrees of Longitude in respect to the Central Meridian (- if EAST, + if WEST) .

L = Carrington Longitude .

Stated times (UT) approximate Co-ordinated Universal Time / Temps Universel Coordonné (UTC).

OBS	DATE	UT	CM	REG.	B	CMD	L	f	p	s	gr	grfp	grf	efp	ef	Class.	Remarks
5821	2015 / 12 / 17	1920	101.3	2470	+15	-20	081	7	2	5	1	2	5	0	0	FKI	—
				2469	+18	-01	100	3	1	1	1	2	1	0	0	CAO	tight
				2468	-17	+25	126	3	1	2	1	1	2	0	0	CSI	—
5822	2015 / 12 / 22	2020	34.8	2472	+03	-65	330	2	1	1	1	1	1	0	0	CSO	—
				2473	-23	-64	331	6	3	2	1	4	2	0	0	ESC	—
				2470	+13	+48	083	2	1	0	1	2	0	0	0	HHX	—
5823	2015 / 12 / 25	1950	355.6	2472	+03	-26	330	6	1	4	1	2	4	0	0	CAI	—
				2473	-22	-25	331	19	4	6	1	13	6	0	0	FKC	—
5824	2015 / 12 / 26	2015	342.2	2472	+04	-13	329	2	1	1	1	1	1	0	0	CSO	—
				2473	-22	-11	331	25	6	7	1	18	7	0	0	FKC	—
5825	2015 / 12 / 27	2020	329.0	2473	-22	+03	332	26	7	8	1	18	8	0	0	FHC	—
5826	2015 / 12 / 30	1955	289.7	2473	-21	+44	334	6	4	1	1	5	1	0	0	FSO	lop-sided