



# ***Georgi Dobrovolski Solar Observatory***

## ***Sunspot Region Co-ordinates and Classifications for 2012***

### **CONTENTS:**

<b>JANUARY</b>	<b>2-3</b>
<b>FEBRUARY</b>	<b>4-5</b>
<b>MARCH</b>	<b>6-7</b>
<b>APRIL</b>	<b>8-9</b>
<b>MAY</b>	<b>10-11</b>
<b>JUNE</b>	<b>12-13</b>
<b>JULY</b>	<b>14-15</b>
<b>AUGUST</b>	<b>16-17</b>
<b>SEPTEMBER</b>	<b>18</b>
<b>OCTOBER</b>	<b>19-20</b>
<b>NOVEMBER</b>	<b>21</b>
<b>DECEMBER</b>	<b>22</b>

# Georgi Dobrovolski Solar Observatory



## REGION CO-ORDINATES AND CLASSIFICATIONS FOR JANUARY 2012

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 is stated in degrees .

Region Numbers are NOAA/SWPC Numbers .

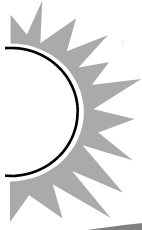
B = Heliographic Latitude ( + if NORTH , - if SOUTH ) .

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
5393	2012 / 01 / 08	1925	14.9	1395	+22	-63	312	1	1	0	0	0	0	1	0	HSX	—
				1391	+13	-05	010	6	2	4	1	2	4	0	0	DSI	long
				1393	+16	+41	056	12	3	4	1	8	4	0	0	FHC	—
				1389	-20	+71	086	1	1	0	0	0	0	1	0	HSX	big
5394	2012 / 01 / 15	2045	282.0	1402	+27	-67	215	4	1	2	1	2	2	0	0	CKI	—
				1401	+17	-64	218	2	2	0	1	2	0	0	0	DSO	—
				1399	-23	-57	225	1	0	1	0	0	0	0	1	AXX	—
				1396	+25	+05	287	5	2	3	1	2	3	0	0	DSI	—
				1404	+12	+14	296	1	0	1	0	0	0	0	1	AXX	big
				1398	+12	+33	315	6	3	3	1	3	3	0	0	DSC	—
5395	2012 / 01 / 17	1945	256.2	1405	+13	-53	203	1	1	0	0	0	0	1	0	HSX	—
				1402	+28	-42	214	5	2	1	1	4	1	0	0	DKI	—
				1401	+18	-40	216	13	3	4	1	9	4	0	0	FAC	—
				1399	-23	-31	225	1	0	1	0	0	0	0	1	AXX	—
				1403	-19	-04	252	3	0	3	1	0	3	0	0	BXI	—
				1406	-23	+53	309	4	2	1	1	3	1	0	0	DAI	small
5396	2012 / 01 / 19	1955	229.7	1405	+13	-29	201	1	1	0	0	0	0	1	0	HSX	—
				1402	+29	-19	211	4	2	0	1	4	0	0	0	DKO	—
				1401	+18	-17	213	15	3	5	1	10	5	0	0	FAC	—
				1407	+17	-03	227	4	2	2	1	2	2	0	0	DAI	small
5397	2012 / 01 / 22	1940	190.4	1408	+08	-59	131	2	1	0	1	2	0	0	0	HAX	—
				1405	+12	+10	200	1	0	1	0	0	0	0	1	AXX	—
				1401E	+17	+19	209	7	0	7	1	0	7	0	0	BXI	—
				1402	+29	+21	211	8	2	2	1	6	2	0	0	DA1	—
				1401W	+16	+29	219	6	2	1	1	5	1	0	0	DAI	—
				1407	+17	+38	228	1	0	1	0	0	0	0	1	AXX	big



# Georgi Dobrovolski Solar Observatory

## REGION CO-ORDINATES AND CLASSIFICATIONS FOR JANUARY 2012 continued.

OBS	DATE	UT	CM	REG.	B	CMD	L	f	p	s	gr	grfp	grf	efp	ef	Class.	Remarks	
5398	2012 / 01 / 23	2000	177.0	1408	+08	-46	131	2	1	0	1	2	0	0	0	HAX	—	
				1405	+13	+22	199	3	1	2	1	1	2	0	0	CSI	—	
				1402	+28	+34	211	11	2	4	1	7	4	0	0	DAI	—	
				1401W	+16	+42	219	7	2	2	1	5	2	0	0	DAI	—	
				1407	+16	+51	228	1	0	1	0	0	0	0	0	1	AXX	small
5399	2012 / 01 / 24	1925	164.2	1408	+08	-33	131	2	1	0	1	2	0	0	0	HAX	—	
				1405	+12	+35	199	1	0	1	0	0	0	0	0	1	AXX	—
				1402	+29	+47	211	10	3	2	1	8	2	0	0	DAC	—	
				1401W	+16	+64	228	4	1	2	1	2	2	0	0	CAI	—	
5400	2012 / 01 / 30	2040	84.5	1413	+08	-25	060	8	3	5	1	3	5	0	0	DSC	—	
				1410	+20	-23	062	1	1	0	0	0	0	1	0	HHX	—	
				1411	-27	+13	098	4	1	3	1	1	3	0	0	CSI	—	
				1408	+08	+47	132	1	1	0	0	0	0	1	0	HSX	—	

# Georgi Dobrovolski Solar Observatory



## REGION CO-ORDINATES AND CLASSIFICATIONS FOR FEBRUARY 2012

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 is stated in degrees .

Region Numbers are NOAA/SWPC Numbers .

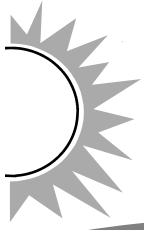
B = Heliographic Latitude ( + if NORTH , - if SOUTH ) .

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
5401	2012 / 02 / 06	1945	352.8	1410	+17	+65	058	5	3	2	1	3	2	0	0	ESC	—
				1413	+07	+71	064	1	0	1	0	0	0	0	0	1	AXX
5402	2012 / 02 / 07	2005	339.5	1410	+19	+77	056	2	2	0	1	2	0	0	0	DSO	—
5403	2012 / 02 / 08	2035	326.0	1416	-16	-39	287	2	1	1	1	1	1	0	0	CSO	—
				1415	+10	+58	024	3	0	3	1	0	3	0	0	BXI	—
5404	2012 / 02 / 15	1940	234.4	1420	+11	-39	195	1	1	0	0	0	0	1	0	HSX	—
				1419	+29	-31	203	2	1	1	1	1	1	0	0	CSO	—
				1416	-19	+53	287	3	1	1	1	2	1	0	0	EAO	—
5405	2012 / 02 / 16	2005	221.0	1420	+10	-25	196	1	1	0	0	0	0	1	0	HSX	—
				1419	+28	-21	200	2	1	1	1	1	1	0	0	CSO	—
				1416	-18	+72	293	1	1	0	0	0	0	1	0	HSX	—
5406	2012 / 02 / 17	2010	207.8	1420	+11	-12	196	1	1	0	0	0	0	1	0	HSX	—
				1419	+28	-08	200	1	1	0	0	0	0	1	0	HSX	small
				1416	-17	+83	291	1	1	0	0	0	0	1	0	HSX	—
5407	2012 / 02 / 18	2015	194.6	1422	+15	-18	177	2	1	1	1	1	1	0	0	CSO	small
				1420	+11	+01	196	1	1	0	0	0	0	1	0	HSX	—
				1419	+29	+02	197	1	1	0	0	0	0	1	0	HSX	small
5408	2012 / 02 / 19	2030	181.3	1422	+15	-04	177	11	2	4	1	7	4	0	0	DAI	—
				1420	+11	+14	195	1	1	0	0	0	0	1	0	HSX	—
				1419	+29	+16	197	1	0	1	0	0	0	0	1	AXX	—
5409	2012 / 02 / 24	2115	115.0	1423	+18	-58	057	1	1	0	0	0	0	1	0	HSX	—
				?	-22	-10	105	1	0	1	0	0	0	0	1	AXX	big
				1422	+15	+63	178	1	1	0	0	0	0	0	1	0	HHX

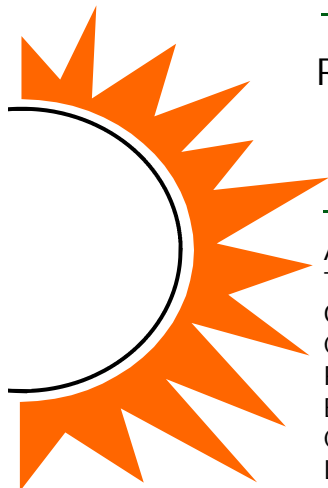


# Georgi Dobrovolski Solar Observatory

## REGION CO-ORDINATES AND CLASSIFICATIONS FOR FEBRUARY 2012 continued.

OBS	DATE	UT	CM	REG.	B	CMD	L	f	p	s	gr	grfp	grf	efp	ef	Class.	Remarks
5410	2012 / 02 / 25	2040	102.1	1424	+08	-54	048	1	0	1	0	0	0	0	1	AXX	big
				1423	+18	-44	058	1	1	0	0	0	0	1	0	HSX	—
				1422	+15	+76	178	1	1	0	0	0	0	1	0	HHX	—
5411	2012 / 02 / 26	2005	89.3	1424	+07	-41	048	1	0	1	0	0	0	0	1	AXX	—
				1423	+17	-31	058	1	1	0	0	0	0	1	0	HSX	—
				1425	+18	-14	075	1	0	1	0	0	0	0	0	1	AXX
5412	2012 / 02 / 29	2050	49.4	1423	+17	+08	057	2	1	0	1	2	0	0	0	HAX	—

# Georgi Dobrovolski Solar Observatory

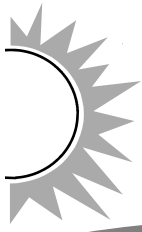


## REGION CO-ORDINATES AND CLASSIFICATIONS FOR MARCH 2012

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 is stated in degrees .  
 Region Numbers are NOAA/SWPC 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
5413	2012 / 03 / 03	2030	10.0	1429	+18	-71	299	8	2	0	1	8	0	0	0	DKO	long
				1428	-17	-54	316	3	2	1	1	2	1	0	0	DSI	—
				1427	+15	+28	038	2	1	1	1	1	1	0	0	CSO	—
				1423	+17	+46	056	1	1	0	0	0	0	1	0	HSX	—
5414	2012 / 03 / 04	2035	356.8	1429	+18	-57	300	13	1	4	1	9	4	0	0	CKI	—
				1430	+19	-42	315	3	2	1	1	2	1	0	0	DSI	—
				1428	-17	-39	318	7	2	2	1	5	2	0	0	DAI	—
				1431	-27	+21	018	1	0	1	0	0	0	0	1	AXX	—
				1423	+17	+58	055	1	1	0	0	0	0	1	0	HSX	—
5415	2012 / 03 / 05	2115	343.3	1429	+17	-43	300	23	1	4	1	19	4	0	0	CKI	—
				1430	+20	-27	316	5	2	2	1	3	2	0	0	DAI	—
				1428	-17	-23	320	11	2	3	1	8	3	0	0	DAI	—
				1431	-27	+35	018	2	0	2	1	0	2	0	0	BXO	—
				1423	+16	+73	056	1	1	0	0	0	0	1	0	HSX	—
5416	2012 / 03 / 06	2105	330.2	1429	+17	-32	298	19	2	0	1	19	0	0	0	DKO	—
				1430	+19	-15	315	12	3	7	1	5	7	0	0	DAC	—
				1428	-16	-11	319	16	2	4	1	12	4	0	0	DAI	—
				1431	-28	+46	016	1	0	1	0	0	0	0	1	AXX	—
5417	2012 / 03 / 08	2040	304.1	1429	+17	-03	301	27	3	8	1	19	8	0	0	EKC	—
				1430	+21	+11	315	10	1	5	1	5	5	0	0	CAI	—
				1428	-17	+15	319	9	2	3	1	6	3	0	0	DAI	—
5418	2012 / 03 / 12	2045	251.3	1433	+11	-52	199	1	1	0	0	0	0	1	0	HSX	—
				1434	-23	-46	205	2	1	1	1	1	1	0	0	CSO	—
				1432	+13	-29	222	5	0	5	1	0	5	0	0	BXI	—
				1429	+18	+48	299	14	4	3	1	11	3	0	0	FHC	—



# Georgi Dobrovolski Solar Observatory

## REGION CO-ORDINATES AND CLASSIFICATIONS FOR MARCH 2012 continued.

OBS	DATE	UT	CM	REG.	B	CMD	L	f	p	s	gr	grfp	grf	efp	ef	Class.	Remarks
5419	2012 / 03 / 13	2100	238.0	1433	+12	-39	199	6	2	4	1	2	4	0	0	DSI	—
				1434	-22	-33	205	1	1	0	0	0	0	1	0	HSX	—
				1432	+14	-17	221	7	1	5	1	2	5	0	0	CAI	—
				1429	+18	+61	299	13	3	5	1	8	5	0	0	FKC	—
5420	2012 / 03 / 14	2130	224.5	1433	+13	-25	200	4	2	1	1	3	1	0	0	DAI	tight
				1434	-22	-14	211	1	1	0	0	0	0	1	0	HSX	—
				1432	+14	-05	220	8	1	6	1	2	6	0	0	CAI	—
				1429	+19	+75	300	4	3	1	1	3	1	0	0	FHC	—
5421	2012 / 03 / 15	2105	211.6	1433	+12	-11	201	7	2	4	1	3	4	0	0	DAC	tight
				1434	-21	-01	211	1	1	0	0	0	0	1	0	HSX	—
				1432	+14	+11	223	6	1	4	1	2	4	0	0	CAI	small
5422	2012 / 03 / 21	2155	132.0	1438	-14	-59	073	2	1	1	1	1	1	0	0	CSO	tight
				1440	-26	+22	154	7	2	4	1	3	4	0	0	DAI	—
5423	2012 / 03 / 28	2045	40.3	1448	-17	-57	343	1	0	1	0	0	0	0	1	AXX	—
				1445	-23	-15	025	5	2	3	1	2	3	0	0	FSO	—
				1443	+12	+13	053	1	0	1	0	0	0	0	1	AXX	—
				1442	+12	+23	063	4	2	1	1	3	1	0	0	DAI	—
				1438	-14	+34	074	2	1	1	1	1	1	0	0	CSO	—
				1447	-23	+66	106	1	0	1	0	0	0	0	1	AXX	—
5424	2012 / 03 / 29	2100	27.0	1448	-17	-44	343	2	0	2	1	0	2	0	0	BXO	—
				1445	-23	-03	024	6	2	4	1	2	4	0	0	EHO	—
				1449	-18	+14	041	3	0	3	1	0	3	0	0	BXI	—
				1443	+12	+26	053	1	0	1	0	0	0	0	1	AXX	—
				1442	+13	+39	066	3	2	1	1	2	1	0	0	DSI	—
				1438	-14	+49	076	1	1	0	0	0	0	1	0	HSX	small
5425	2012/03/30	2155	13.3	1448	-17	-30	343	1	0	1	0	0	0	0	1	AXX	—
				1445	-22	+17	030	1	1	0	0	0	0	1	0	HHX	—
				1449	-18	+30	043	4	1	2	1	2	2	0	0	CAI	tight
				1442	+12	+53	066	5	2	3	1	2	3	0	0	DSI	—

# Georgi Dobrovolski Solar Observatory



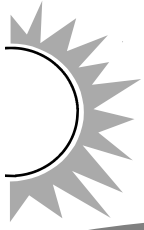
## REGION CO-ORDINATES AND CLASSIFICATIONS FOR APRIL 2012

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 is stated in degrees .  
 Region Numbers are NOAA/SWPC 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
5426	2012 / 04 / 04	2140	307.5	1452	+18	-22	285	2	1	1	1	1	1	0	0	CSO	—
				1450	+17	+17	324	11	3	6	1	5	6	0	0	EAC	short
5427	2012 / 04 / 05	2155	294.2	1452	+18	-07	287	1	1	0	0	0	0	1	0	HSX	—
				1450	+15	+29	323	14	3	6	1	8	6	0	0	EAC	—
5428	2012 / 04 / 06	2235	280.6	1450	+16	+43	324	7	1	6	1	1	6	0	0	CSI	long
5429	2012 / 04 / 08	2205	254.5	1450	+15	+75	329	1	1	0	0	0	0	1	0	HSX	—
5430	2012 / 04 / 15	2225	161.9	1459	-16	-66	096	6	3	2	1	4	2	0	0	EAC	small
				1455	+05	+45	207	7	3	4	1	3	4	0	0	ESC	small
5431	2012 / 04 / 17	2240	135.3	1461	+13	-67	068	1	1	0	0	0	0	1	0	HSX	—
				1459	-15	-41	094	17	5	6	1	11	6	0	0	EAC	—
				1460	+16	-27	108	11	2	4	1	7	4	0	0	DAI	—
				1462	-23	+04	139	3	1	2	1	1	2	0	0	CSI	—
5432	2012 / 04 / 18	2210	112.4	1461	+13	-42	070	1	1	0	0	0	0	1	0	HSX	—
				1459	-16	-19	093	23	6	9	1	14	9	0	0	EAC	long
				1460	+16	-04	108	12	2	5	1	7	5	0	0	DAI	—
				1462	-24	+27	139	3	1	2	1	1	2	0	0	CSI	—
				1463	-26	+46	158	5	1	4	1	1	4	0	0	CSI	—
5433	2012 / 04 / 19	2225	109.1	1465	-17	-55	054	1	0	1	0	0	0	0	1	AXX	—
				1461	+14	-39	070	1	1	0	0	0	0	1	0	HSX	—
				1459	-15	-14	095	21	6	10	1	11	10	0	0	EAC	scorpion-shaped
				1460	+16	-01	108	14	3	5	1	9	5	0	0	DAC	—
				1462	-24	+29	138	8	2	2	1	6	2	0	0	DAI	—
				1463	-26	+47	156	5	2	3	1	2	3	0	0	DSI	—





# Georgi Dobrovolski Solar Observatory

## REGION CO-ORDINATES AND CLASSIFICATIONS FOR APRIL 2012 continued.

OBS	DATE	UT	CM	REG.	B	CMD	L	f	p	s	gr	grfp	grf	efp	ef	Class.	Remarks
5434	2012 / 04 / 20	2200	96.1	1465	-17	-42	054	7	2	2	1	5	2	0	0	DAI	—
				1461	+12	-26	070	1	0	1	0	0	0	0	1	AXX	—
				1459	-16	-02	094	25	4	8	1	17	8	0	0	EKC	short
				1460	+15	+13	109	17	3	8	1	9	8	0	0	DKC	long
				1462	-25	+45	141	9	2	4	1	5	4	0	0	DHI	—
				1463	-26	+64	160	3	1	2	1	1	2	0	0	CSI	—
5435	2012 / 04 / 23	2245	56.0	1466	+11	-16	040	4	1	3	1	1	3	0	0	CSI	—
				1465	-18	-01	055	14	2	3	1	11	3	0	0	DKI	tight
				1459	-14	+38	094	18	2	5	1	13	5	0	0	DKI	—
				1460	+16	+52	108	8	2	3	1	5	3	0	0	DAI	—
				1462	-25	+80	136	1	1	0	0	0	0	1	0	HHX	—

# Georgi Dobrovolski Solar Observatory

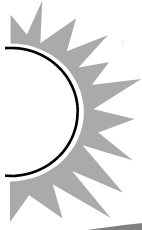


## REGION CO-ORDINATES AND CLASSIFICATIONS FOR MAY 2012

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 is stated in degrees .  
 Region Numbers are NOAA/SWPC 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
5436	2012 / 05 / 01	2215	310.6	1471	-21	-37	274	4	1	2	1	2	2	0	0	CKI	—
				1472	-28	-16	295	3	2	1	1	2	1	0	0	DSI	long
				1469E	-21	+20	331	1	1	0	0	0	0	1	0	HSX	—
				1469W	-20	+29	340	1	1	0	0	0	0	1	0	HSX	—
				1473	-21	+36	347	6	2	3	1	3	3	0	0	DAI	—
5437	2012 / 05 / 02	2230	297.2	1471	-21	-21	276	4	1	2	1	2	2	0	0	CKO	—
				1472	-28	-02	295	2	1	1	1	1	1	0	0	CSO	long
				1469E	-23	+34	331	8	3	2	1	6	2	0	0	DAC	—
				1469W	-22	+43	340	1	0	1	0	0	0	0	1	AXX	—
				1473	-21	+52	349	1	1	0	0	0	0	1	0	HSX	—
5438	2012 / 05 / 03	2240	283.9	1475	+05	-63	221	1	0	1	0	0	0	0	1	AXX	big
				1474	+16	-54	230	1	0	1	0	0	0	0	1	AXX	big
				1471	-19	-08	276	9	2	5	1	4	5	0	0	EKI	—
				1469E	-22	+56	340	5	3	2	1	3	2	0	0	DSC	—
				1473	-21	+67	351	1	1	0	0	0	0	1	0	HSX	—
5439	2012 / 05 / 04	2245	270.7	1475	+06	-51	220	1	1	0	0	0	0	1	0	HSX	small
				1474	+14	-42	229	1	0	1	0	0	0	0	1	AXX	—
				1471	-19	+06	277	5	2	1	1	4	1	0	0	DKI	—
				1469	-25	+61	332	3	1	2	1	1	2	0	0	CSI	—
5440	2012 / 05 / 05	2225	257.6	1476	+09	-70	188	3	2	0	1	3	0	0	0	EKO	—
				1475	+04	-41	217	1	0	1	0	0	0	0	1	AXX	—
				1474	+13	-32	226	1	0	1	0	0	0	0	1	AXX	—
				1471	-19	+22	280	7	2	2	1	5	2	0	0	DKI	—
				1469	-26	+75	333	1	1	0	0	0	0	1	0	HSX	—
5441	2012 / 05 / 10	2300	191.2	1477/8	-23	-51	140	3	2	0	1	3	0	0	0	DAO	—
				1476	+12	-11	180	34	5	7	1	27	7	0	0	FKC	—
				?	+19	-02	189	3	1	2	1	1	2	0	0	CSI	—



# Georgi Dobrovolski Solar Observatory

## REGION CO-ORDINATES AND CLASSIFICATIONS FOR MAY 2012 continued.

OBS	DATE	UT	CM	REG.	B	CMD	L	f	p	s	gr	grfp	grf	efp	ef	Class.	Remarks
5442	2012 / 05 / 11	2235	178.2	1479	+15	-67	111	2	2	0	1	2	0	0	0	DSO	—
				1477/8	-23	-38	140	3	2	0	1	3	0	0	0	DSO	—
				1476	+11	+04	182	37	7	12	1	25	12	0	0	FKC	—
5443	2012 / 05 / 21	2240	45.9	1486	+16	-27	019	2	1	0	1	2	0	0	0	HAX	—
				1484	+10	+29	075	17	4	5	1	12	5	0	0	DAC	long
				1482	+15	+56	102	4	1	3	1	1	3	0	0	CSI	—
5444	2012 / 05 / 22	2220	32.8	1486	+17	-14	019	1	1	0	0	0	0	1	0	HSX	—
				1484	+10	+42	075	13	3	6	1	7	6	0	0	DAC	—
				1482	+14	+70	103	1	1	0	0	0	0	1	0	HSX	—
5445	2012 / 05 / 28	2245	313.2	1492	-12	-30	283	9	2	4	1	5	4	0	0	EAI	short
				1490	-13	-04	309	10	3	5	1	5	5	0	0	DAC	—
				1488	+11	+28	341	5	1	4	1	1	4	0	0	CSI	—
				1486	+16	+66	019	1	1	0	0	0	0	1	0	HSX	—
5446	2012 / 05 / 30	2300	286.6	1492	-13	-06	281	4	2	1	1	3	1	0	0	EAO	short
				1490	-12	+20	307	8	3	4	1	4	4	0	0	DAC	—
5447	2012 / 05 / 31	2250	273.5	1494	-16	-69	204	1	1	0	0	0	0	1	0	HSX	—
				1493	+15	-65	208	4	3	1	1	3	1	0	0	ESC	long
				1495	-12	-19	254	4	0	4	1	0	4	0	0	BXI	—
				1492	-13	+11	284	4	2	2	1	2	2	0	0	ESO	short
				1490	-13	+36	309	6	3	2	1	4	2	0	0	DAC	—

# Georgi Dobrovolski Solar Observatory

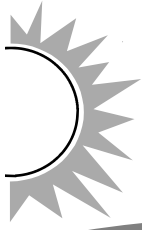


## REGION CO-ORDINATES AND CLASSIFICATIONS FOR JUNE 2012

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 is stated in degrees .  
 Region Numbers are NOAA/SWPC 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
5448	2012 / 06 / 05	2300	207.2	1498	+07	-16	191	4	1	3	1	1	3	0	0	CSI	—
				1494	-17	-06	201	5	2	3	1	2	3	0	0	DSI	tight
				1496	+16	-05	202	2	1	1	1	1	1	0	0	CSO	small
				1493	+12	+05	212	12	4	7	1	5	7	0	0	DAC	long
				1497	-21	+18	225	9	2	3	1	6	3	0	0	DAI	—
				1500	+15	+49	256	1	1	0	0	0	0	0	1	0	HSX
5449	2012 / 06 / 07	2250	180.8	1499	+13	+08	189	5	0	5	1	0	5	0	0	BXI	—
				1498	+07	+09	190	1	1	0	0	0	0	1	0	HSX	small
				1494	-18	+17	198	3	1	2	1	1	2	0	0	CSI	—
				1496	+16	+23	204	1	1	0	0	0	0	1	0	HSX	small
				1493	+15	+31	212	5	1	4	1	1	4	0	0	CSI	—
				1497	-21	+42	223	7	2	3	1	4	3	0	0	DAI	—
5450	2012 / 06 / 12	2305	114.5	1506	+11	-39	076	3	1	0	1	3	0	0	0	HAX	—
				1504	-17	-29	086	21	4	10	1	11	10	0	0	EKC	—
				1505	-09	-25	090	7	2	4	1	3	4	0	0	DAI	—
				1507	-27	-03	112	12	3	8	1	4	8	0	0	EAO	class correct, short
5451	2012 / 06 / 13	2310	101.2	1506	+11	-25	076	5	2	2	1	3	2	0	0	DAI	—
				1504	-17	-15	086	23	4	7	1	16	7	0	0	EKC	—
				1505	-09	-12	089	3	2	0	1	3	0	0	0	DAO	—
				1507/8	-26	+09	110	18	4	12	1	6	12	0	0	DSC	—
5452	2012 / 06 / 15	2305	74.8	1506	+11	+01	076	3	0	3	1	0	3	0	0	BXI	—
				1504	-16	+11	086	15	3	6	1	9	6	0	0	EKC	—
				1505	-10	+13	088	5	2	3	1	2	3	0	0	DSI	—
				1509	-15	+28	103	1	0	1	0	0	0	0	1	AXX	big
				1507/8	-27	+33	108	14	3	8	1	6	8	0	0	DAC	—



# Georgi Dobrovolski Solar Observatory

## REGION CO-ORDINATES AND CLASSIFICATIONS FOR JUNE 2012 continued.

OBS	DATE	UT	CM	REG.	B	CMD	L	f	p	s	gr	grfp	grf	efp	ef	Class.	Remarks
5453	2012 / 06 / 21	2310	355.4	1511	+15	+03	358	3	1	1	1	2	1	0	0	CAO	—
5454	2012 / 06 / 22	2320	342.0	1511	+15	+16	358	3	1	2	1	1	2	0	0	CSI	—
5455	2012 / 06 / 28	2315	262.7	1516	+13	-59	204	2	0	2	1	0	2	0	0	BXO	—
				1515	-17	-58	205	6	3	1	1	5	1	0	0	DAC	—
				1513	+17	-45	218	4	1	3	1	1	3	0	0	CSI	—
				1514	-16	-45	218	9	1	8	1	1	8	0	0	CSI	—
				1512	-16	+01	264	8	2	5	1	3	5	0	0	DAI	—
5456	2012 / 06 / 30	2310	236.2	1515	-16	-32	204	16	4	3	1	13	3	0	0	DAC	long
				1516	+14	-29	207	6	2	4	1	2	4	0	0	DSI	penumbrae small
				1513	+17	-19	217	3	1	2	1	1	2	0	0	CSI	—
				1514	-15	-17	219	4	1	3	1	1	3	0	0	CSI	—
				1512	-16	+27	263	5	2	3	1	2	3	0	0	DSI	—

# Georgi Dobrovolski Solar Observatory



## REGION CO-ORDINATES AND CLASSIFICATIONS FOR JULY 2012

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 is stated in degrees .

Region Numbers are NOAA/SWPC Numbers .

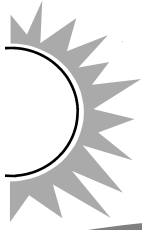
B = Heliographic Latitude ( + if NORTH , - if SOUTH ) .

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	
5457	2012 / 07 / 05	2320	169.9	1519	-15	-63	107	2	1	0	1	2	0	0	0	HAX	—	
				1518	+09	-52	118	1	1	0	0	0	0	0	1	0	HSX	—
				1517	+18	+27	197	4	1	2	1	2	2	0	0	0	CAI	—
				1515	-17	+35	205	26	4	5	1	21	5	0	0	0	FKC	long
				1513	+15	+50	220	4	1	2	1	2	2	0	0	0	CKI	—
5458	2012 / 07 / 06	2315	156.8	1520	-15	-69	088	9	3	2	1	7	2	0	0	EKC	—	
				1519	-15	-48	109	1	1	0	0	0	0	1	0	HSX	—	
				1518	+09	-40	117	1	1	0	0	0	0	1	0	HRX	—	
				1517	+19	+38	195	1	0	1	0	0	0	0	1	0	AXX	—
				1515	-18	+49	206	28	5	7	1	21	7	0	0	0	FKC	—
				1513	+15	+64	221	1	1	0	0	0	0	1	0	0	HHX	—
5459	2012 / 07 / 07	2315	143.5	1520	-15	-56	088	16	5	3	1	13	3	0	0	FKC	—	
				1519	-15	-35	109	1	1	0	0	0	0	1	0	HSX	—	
				1518	+10	-25	119	4	1	3	1	1	3	0	0	0	CSI	small
				1515	-17	+62	206	19	6	4	1	15	4	0	0	0	FKC	—
				1513	+16	+77	221	1	1	0	0	0	0	1	0	0	HHX	—
5460	2012 / 07 / 08	2310	130.3	1520	-15	-44	086	29	6	10	1	19	10	0	0	FKC	—	
				1519	-15	-21	109	3	1	2	1	1	2	0	0	0	CSI	—
				1518	+10	-14	116	2	0	2	1	0	2	0	0	0	BXO	small
				1515	-17	+76	206	6	2	1	1	5	1	0	0	0	FKI	—
5461	2012 / 07 / 09	2305	117.1	1520	-17	-33	084	36	7	7	1	29	7	0	0	FKC	—	
				1521	-22	-21	096	11	2	4	1	7	4	0	0	0	DAI	—
				1519	-16	-13	104	2	1	1	1	1	1	0	0	0	CSO	—
				1518	+10	-01	116	1	0	1	0	0	0	0	1	0	AXX	small
5462	2012 / 07 / 10	2330	103.7	1520	-16	-20	084	33	7	6	1	27	6	0	0	FKC	—	
				1521	-22	-06	098	11	5	2	1	9	2	0	0	0	DAC	—
				1519	-16	+03	107	1	1	0	0	0	0	1	0	0	HSX	—



# Georgi Dobrovolski Solar Observatory

## REGION CO-ORDINATES AND CLASSIFICATIONS FOR JULY 2012 continued.

OBS	DATE	UT	CM	REG.	B	CMD	L	f	p	s	gr	grfp	grf	efp	ef	Class.	Remarks
5463	2012 / 07 / 17	2320	11.1	1524	-17	-54	317	1	0	1	0	0	0	0	1	AXX	big
				1525	-22	-51	320	3	1	2	1	1	2	0	0	CSI	—
				1523	-28	+35	046	5	1	3	1	2	3	0	0	CAI	—
				1520	-17	+74	085	7	2	5	1	2	5	0	0	EHI	—
5464	2012 / 07 / 18	2305	358.1	1524	-16	-38	320	3	0	3	1	0	3	0	0	BXI	—
				1525	-22	-38	320	1	1	0	0	0	0	1	0	HSX	—
				1523	-28	+50	048	3	1	2	1	1	2	0	0	CSI	—
				1520	-17	+87	085	1	1	0	0	0	0	1	0	HHX	—
5465	2012 / 07 / 26	2300	252.3	1532	-20	-67	185	3	1	1	1	2	1	0	0	CAO	—
				1530	-19	-40	212	2	1	1	1	1	1	0	0	CSO	—
				1529	-11	-30	222	1	1	0	0	0	0	1	0	HSX	—
				1528	+17	-25	227	1	1	0	0	0	0	1	0	HSX	—
				1526	-17	+14	266	2	0	2	1	0	2	0	0	BXO	—
				1531	+15	+57	309	3	1	2	1	1	2	0	0	CSI	very small

# Georgi Dobrovolski Solar Observatory



## REGION CO-ORDINATES AND CLASSIFICATIONS FOR AUGUST 2012

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 is stated in degrees .

Region Numbers are NOAA/SWPC Numbers .

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

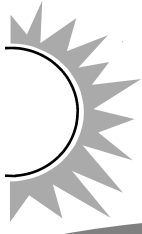
CMD = Degrees of Longitude in respect to the Central Meridian ( - if EAST , + if WEST ) .

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
5466	2012 / 08 / 02	2245	159.8	1537	+12	-51	109	1	1	0	0	0	0	1	0	HSX	—
				1538	-23	-44	116	6	2	2	1	4	2	0	0	DAI	—
				1535	+17	-25	135	2	1	1	1	1	1	0	0	CSO	—
				1536	-23	+12	172	3	1	1	1	2	1	0	0	CAO	tight
				1532	-18	+27	187	2	1	1	1	1	1	0	0	DHO	long
				1530	-19	+52	212	1	1	0	0	0	0	1	0	HSX	—
				1529	-11	+61	221	1	1	0	0	0	0	1	0	HSX	small
5467	2012 / 08 / 05	2230	120.3	1539	-23	-19	101	1	1	0	0	0	0	1	0	HSX	—
				1537	+13	-11	109	1	1	0	0	0	0	1	0	HSX	—
				1538	-22	-03	117	6	2	3	1	3	3	0	0	DAI	—
				1535	+18	+15	135	2	1	1	1	1	1	0	0	CSO	—
				1532	-19	+66	186	1	1	0	0	0	0	1	0	HHX	—
5468	2012 / 08 / 08	2245	80.5	1543	+21	-58	022	3	2	1	1	2	1	0	0	DSI	—
				1542	-14	-50	030	7	3	2	1	5	2	0	0	DAC	tight
				1540	-26	+09	089	5	2	3	1	2	3	0	0	DSI	—
				1539	-22	+20	100	4	1	2	1	2	2	0	0	CAI	—
				1537	+12	+30	110	1	1	0	0	0	0	1	0	HSX	—
				1538	-23	+35	115	4	2	2	1	2	2	0	0	DSI	—
				?	+17	+39	119	1	0	1	0	0	0	0	1	AXX	big
1535	+18	+54	134	1	1	0	0	0	0	1	0	HSX	—				
5469	2012 / 08 / 09	2240	67.3	1543	+21	-45	022	3	2	1	1	2	1	0	0	DSI	—
				1542	-14	-37	030	11	1	2	1	9	2	0	0	CAI	—
				1540	-26	+21	088	5	2	2	1	3	2	0	0	DAI	—
				1539	-20	+29	096	3	1	1	1	2	1	0	0	CAO	tight
				1537	+13	+41	108	1	1	0	0	0	0	1	0	HSX	—
				1538	-22	+46	113	2	2	0	1	2	0	0	0	DSO	—
				1535	+19	+69	136	1	1	0	0	0	0	1	0	HSX	—





# Georgi Dobrovolski Solar Observatory

## REGION CO-ORDINATES AND CLASSIFICATIONS FOR AUGUST 2012 continued.

OBS	DATE	UT	CM	REG.	B	CMD	L	f	p	s	gr	grfp	grf	efp	ef	Class.	Remarks
5470	2012 / 08 / 16	2230	334.9	1546	+16	-70	265	1	1	0	0	0	0	1	0	HSX	—
				1543	+22	+47	022	7	1	2	1	5	2	0	0	CKI	—
5471	2012 / 08 / 17	2215	321.8	1546	+16	-58	264	1	1	0	0	0	0	1	0	HSX	—
				1547	+05	-24	298	2	0	2	1	0	2	0	0	BXO	—
				1543	+24	+58	020	4	1	0	1	4	0	0	0	HKX	—
5472	2012 / 08 / 21	2220	268.9	1552	-18	-55	214	1	1	0	0	0	0	1	0	HSX	—
				1548	+18	-33	236	3	1	2	1	1	2	0	0	CSI	—
				1546	+16	-06	263	1	1	0	0	0	0	1	0	HSX	—
				1551	+13	+13	282	5	2	3	1	2	3	0	0	DSI	—
5473	2012 / 08 / 22	2215	255.7	1553	-23	-64	192	1	1	0	0	0	0	1	0	HSX	—
				1552	-18	-42	214	1	1	0	0	0	0	1	0	HSX	—
				1548	+18	-19	237	2	1	1	1	1	1	0	0	CSO	tight
				1546	+16	+07	263	1	1	0	0	0	0	1	0	HSX	—
				1551	+12	+27	283	2	0	2	1	0	2	0	0	BXO	—
5474	2012 / 08 / 23	2210	242.5	1553	-23	-51	192	1	1	0	0	0	0	1	0	HSX	—
				1552	-18	-28	215	1	1	0	0	0	0	1	0	HSX	—
				1554	+16	-28	215	4	2	2	1	2	2	0	0	DSI	—
				1548	+18	-05	238	1	0	1	0	0	0	0	1	AXX	—
				1546	+16	+20	263	1	1	0	0	0	0	1	0	HSX	—
5475	2012 / 08 / 24	2215	229.3	1553	-22	-48	181	1	1	0	0	0	0	1	0	HSX	big
				1552	-17	-20	209	1	1	0	0	0	0	1	0	HSX	—
				1554	+16	-14	215	12	2	4	1	8	4	0	0	DAI	—
				1546	+16	+34	263	1	1	0	0	0	0	1	0	HSX	small
5476	2012 / 08 / 28	2210	176.5	1555	+08	-29	147	13	2	9	1	4	9	0	0	DAI	—
				1553	-21	+07	183	1	1	0	0	0	0	1	0	HSX	—
				1554	+17	+40	216	3	1	2	1	1	2	0	0	CSI	—
5477	2012 / 08 / 30	2200	150.1	1560	+03	-25	125	13	4	7	1	6	7	0	0	DAC	—
				1561	-12	-18	132	4	2	1	1	3	1	0	0	DAI	—
				1555	+08	-04	146	1	1	0	0	0	0	1	0	HSX	—
				1553	-21	+29	179	6	3	2	1	4	2	0	0	DAC	—
				?	+12	+42	192	1	0	1	0	0	0	0	1	AXX	—
1554	+16	+63	213	2	2	0	1	2	0	0	0	DSO	—				

# Georgi Dobrovolski Solar Observatory



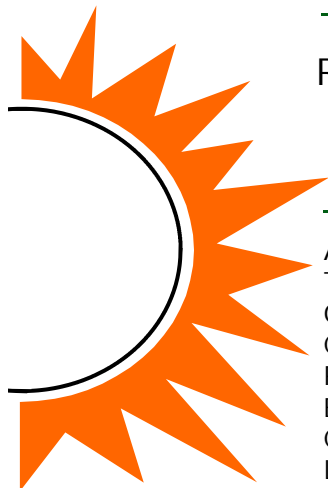
## REGION CO-ORDINATES AND CLASSIFICATIONS FOR SEPTEMBER 2012

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 is stated in degrees .  
 Region Numbers are NOAA/SWPC 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
5478	2012 / 09 / 09	2200	18.1	1567	+17	-29	349	3	2	1	1	2	1	0	0	DSI	small, long
				1566	+23	-03	015	1	1	0	0	0	0	1	0	HSX	—
				1568	-11	+26	044	6	3	2	1	4	2	0	0	DSC	—
				1564	-13	+52	070	7	2	2	1	5	2	0	0	DAI	—
5479	2012 / 09 / 11	2200	351.7	1571	-12	-73	279	1	1	0	0	0	0	1	0	HSX	—
				1569	-12	-55	297	4	2	1	1	3	1	0	0	DSI	—
				1566	+23	+23	015	1	1	0	0	0	0	1	0	HSX	—
5480	2012 / 09 / 12	2225	338.2	1571	-12	-59	279	1	1	0	0	0	0	1	0	HSX	—
				1569	-12	-41	297	8	4	2	1	6	2	0	0	DSC	long
				1566	+23	+38	016	1	1	0	0	0	0	1	0	HSX	—
5481	2012 / 09 / 19	2150	246.1	1575	+10	-63	183	7	2	2	1	5	2	0	0	EAI	—
				1576	-22	-63	183	1	1	0	0	0	0	1	0	HSX	—
				1571	-14	+34	280	1	1	0	0	0	0	1	0	HSX	—
				1569	-14	+54	300	1	1	0	0	0	0	1	0	HSX	big
5482	2012 / 09 / 21	2155	219.7	1576	-21	-42	178	2	2	0	1	2	0	0	0	DSO	—
				1575	+08	-40	180	13	2	3	1	10	3	0	0	EAI	short
				1569	-11	+80	300	1	1	0	0	0	0	1	0	HSX	—
5483	2012 / 09 / 24	2135	180.3	1579	-09	-72	108	1	1	0	0	0	0	1	0	HSX	big
				1577	+09	-19	161	5	1	3	1	2	3	0	0	CAI	—
				1581	+22	-17	163	1	0	1	0	0	0	0	1	AXX	—
				1578	+21	-11	169	3	0	3	1	0	3	0	0	BXI	—
				1576	-21	-05	175	3	1	2	1	1	2	0	0	CSI	—
				1575	+09	+02	182	8	2	4	1	4	4	0	0	EAI	—
				1573	+15	+43	223	1	0	1	0	0	0	0	1	AXX	—
5484	2012 / 09 / 28	2125	127.6	1582	-12	-44	084	2	1	0	1	2	0	0	0	HKX	—
				1579	-09	-22	106	1	1	0	0	0	0	1	0	HHX	—
				1577	+08	+39	167	3	1	2	1	1	2	0	0	CSI	small
				1575	+08	+58	186	1	1	0	0	0	0	1	0	HSX	—
				1583	+18	+60	188	2	1	1	1	1	1	0	0	CSO	—

# Georgi Dobrovolski Solar Observatory



## REGION CO-ORDINATES AND CLASSIFICATIONS FOR OCTOBER 2012

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 is stated in degrees .

Region Numbers are NOAA/SWPC Numbers .

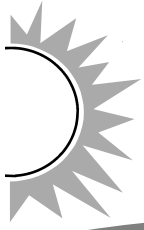
B = Heliographic Latitude ( + if NORTH , - if SOUTH ) .

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
5485	2012 / 10 / 05	2140	35.1	1585	-19	-27	008	5	2	2	1	3	2	0	0	DAI	—
				1582	-12	+50	085	1	1	0	0	0	0	1	0	HHX	—
				1579	-10	+72	107	3	1	1	1	2	1	0	0	CAO	—
5486	2012 / 10 / 06	2105	22.2	1586	-12	-80	302	1	1	0	0	0	0	1	0	HSX	—
				1585	-20	-14	008	3	1	2	1	1	2	0	0	CSI	—
				1582	-12	+62	084	1	1	0	0	0	0	1	0	HHX	—
5487	2012 / 10 / 10	2135	329.2	1589	+13	-64	265	12	2	7	1	5	7	0	0	DAI	—
				1586	-12	-27	302	1	1	0	0	0	0	1	0	HSX	—
				1585	-19	+40	009	2	1	1	1	1	1	0	0	CSO	—
5488	2012 / 10 / 15	2010	264.0	1591	+07	-35	229	7	3	2	1	5	2	0	0	DSC	—
				1592	+23	-09	255	1	0	1	0	0	0	0	1	AXX	—
				1590	-30	-08	256	2	1	1	1	1	1	0	0	CSO	—
				1589	+14	+03	267	17	1	11	1	6	11	0	0	CAI	—
				1586	-13	+39	303	1	1	0	0	0	0	1	0	HSX	—
5489	2012 / 10 / 19	2035	211.0	1596	+08	-62	149	6	2	3	1	3	3	0	0	EAI	—
				1593	+17	-24	187	2	1	1	1	1	1	0	0	CSO	—
				1591	+08	+20	231	1	1	0	0	0	0	1	0	HSX	big
				1590	-30	+40	251	5	2	2	1	3	2	0	0	DAI	small
5490	2012 / 10 / 23	2025	158.3	1599	-09	-75	083	1	1	0	0	0	0	1	0	HSX	—
				1598	-12	-47	111	9	2	1	1	8	1	0	0	DKI	—
				1596	+07	-09	149	16	2	11	1	5	11	0	0	EKI	—
				1593	+15	+30	188	1	0	1	0	0	0	0	1	AXX	—
				1591	+06	+72	230	1	1	0	0	0	0	1	0	HSX	—



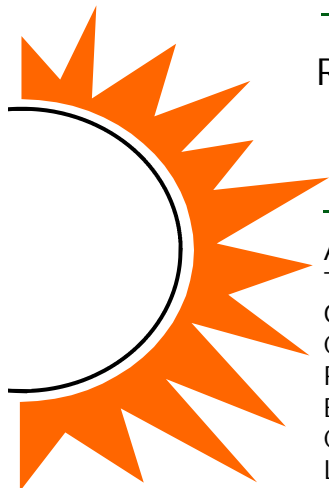
# Georgi Dobrovolski Solar Observatory

## REGION CO-ORDINATES AND CLASSIFICATIONS FOR OCTOBER 2012 continued.

OBS	DATE	UT	CM	REG.	B	CMD	L	f	p	s	gr	grfp	grf	efp	ef	Class.	Remarks
5491	2012 / 10 / 25	2055	131.7	1599	-10	-45	087	1	1	0	0	0	0	1	0	HSX	big
				1598	-12	-20	112	12	2	7	1	5	7	0	0	DAI	—
				1596	+07	+19	151	7	2	2	1	5	2	0	0	DAI	long
5492	2012 / 10 / 27	2045	105.4	1599	-11	-17	088	1	1	0	0	0	0	1	0	HHX	—
				1598	-11	+09	114	13	1	5	1	8	5	0	0	CKI	—
				1596	+08	+47	152	7	2	3	1	4	3	0	0	DAI	—
5493	2012 / 10 / 29	2045	79.0	1602	-17	-67	012	1	0	1	0	0	0	0	1	AXX	big
				1599	-11	+07	086	1	1	0	0	0	0	1	0	HHX	—
				1598	-11	+34	113	5	1	3	1	2	3	0	0	CHI	class correct
				1596	+05	+76	155	4	1	2	1	2	2	0	0	CAI	—



# Georgi Dobrovolski Solar Observatory



## REGION CO-ORDINATES AND CLASSIFICATIONS FOR DECEMBER 2012

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 is stated in degrees .

Region Numbers are NOAA/SWPC 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
5500	2012 / 12 / 08	1925	272.5	1629	+12	-34	238	6	2	3	1	3	3	0	0	DAI	—
				1630	+18	-18	254	2	1	1	1	1	1	0	0	CSO	—
				1623	+07	+72	344	1	1	0	0	0	0	1	0	HSX	—
5501	2012 / 12 / 09	1930	259.3	1629	+11	-22	237	4	2	1	1	3	1	0	0	DAI	—
				1630	+18	-05	254	7	3	3	1	4	3	0	0	DAC	—
5502	2012 / 12 / 11	2110	232.0	1629	+11	+06	238	6	2	1	1	5	1	0	0	DAI	—
				1630	+19	+21	253	3	1	2	1	1	2	0	0	CSI	—
5503	2012 / 12 / 14	2015	193.0	1631	+21	+31	224	7	0	7	1	0	7	0	0	BXI	—
				1632	+17	+40	233	4	2	0	1	4	0	0	0	DSO	—
				1629	+11	+47	240	6	3	2	1	4	2	0	0	EAC	short
				1630	+20	+64	257	1	0	1	0	0	0	0	1	AXX	—
5504	2012 / 12 / 15	2010	179.8	1633	-07	-71	109	5	2	2	1	3	2	0	0	FAI	—
				1634	-13	-71	109	2	1	1	1	1	1	0	0	CSO	—
				1631	+21	+44	224	3	1	2	1	1	2	0	0	CSI	—
				1632	+17	+54	234	2	1	0	1	2	0	0	0	HAX	—
				1629	+11	+60	240	4	2	1	1	3	1	0	0	EAI	short
5505	2012 / 12 / 21	1940	101.1	1635	+09	-37	064	5	2	2	1	3	2	0	0	DAI	—
				1634	-13	+10	111	1	1	0	0	0	0	1	0	HSX	—
				1633	-07	+11	112	9	2	6	1	3	6	0	0	EAI	—
5506	2012 / 12 / 30	1920	342.7	1639	-17	-35	308	2	1	1	1	1	1	0	0	CSO	—
				1638	+12	-34	309	1	1	0	0	0	0	1	0	HSX	—
				1640	+28	-23	320	4	2	1	1	2	1	0	0	DAI	—
5507	2012 / 12 / 31	1930	329.4	1642	-24	-74	255	1	1	0	0	0	0	1	0	HSX	—
				1641	+05	-55	274	3	1	2	1	1	2	0	0	CSI	small
				1638	+13	-21	308	2	1	0	1	2	0	0	0	HAX	—
				1639	-16	-19	310	2	1	1	1	1	1	0	0	CSO	—
				1640	+28	-09	320	12	1	8	1	4	8	0	0	CAI	—
				1636	+14	+11	340	4	0	4	1	0	4	0	0	BXI	—