

Georgi Dobrovolski Solar Observatory



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SUNSPOT RESULTS FOR JULY 2017

All observations carried out by HOWARD BARNES .

Telescope : 76 mm refractor (f.l. 910 mm) k considered as 1 .

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

WN = Wolf Number ; PX = Pettisindex ; BX = Beckindex ; CV = Classification Value ;

QC = Quality Count ; QC² = Squared Quality Count .

Q = Quietness [ie. steadiness] refer to Kiepenheuer scale .

S = Sharpness [ie. clarity] refer to Kiepenheuer scale .

T = Transparency where 1 = excellent , 5 = worthless .

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

DATE	UT	g	f	WN	p	s	PX	BX	CV	QC	QC ²	Q	S	T	Ref.											
01																										
02																										
03	2245	0	0	0	0	0	0	0	0	0	0	1.5	3.0	2.5	6001-2											
04																										
05																										
06																										
07																										
08																										
09	2310	1	27	37	6	8	68	675	56	5	25	1.5	2.5	2.0	6002-2											
10	2240	1	30	40	5	9	59	750	56	5	25	1.5	2.5	2.5	6003-2											
11	2250	1	28	38	4	13	53	700	56	5	25	1.0	2.5	2.5	6004-2											
12																										
13																										
14	2245	1	11	21	3	5	35	275	56	5	25	1.5	2.5	2.5	6005-2											
15	2305	1	6	16	1	3	13	48	39	3	9	1.5	2.5	2.0	6006-2											
16																										
17																										
18																										
19																										
20																										
21																										
22																										
23	2215	0	0	0	0	0	0	0	0	0	0	1.5	2.5	2.5	6007-3											
24	2310	0	0	0	0	0	0	0	0	0	0	2.0	2.5	2.5	6008-3											
25	2235	0	0	0	0	0	0	0	0	0	0	1.5	2.5	2.5	6009-3											
26																										
27																										
28	2235	0	0	0	0	0	0	0	0	0	0	2.0	2.5	2.0	6010-3											
29																										
30																										
31																										
Σ	—	5	102	152	19	38	228	2448	263	23	109	15.5	25.5	23.5	—											
NOBS	—	10	10	10	10	10	10	10	10	10	10	10	10	10	—											
MNS	—	0.50	10.20	15.20	1.90	3.80	22.80	244.80	26.30	2.30	10.9	1.55	2.55	2.35	—											
MEAN WEIGHT =		0.4665					MEAN CONDITION =					2.1500					TRUNCATED WOLF NUMBER =					15.20				

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SUNSPOT DISTRIBUTION & INTER-SOL INDICES FOR JULY 2017

All observations carried out by HOWARD BARNES .

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

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

IS = Inter-Sol Index .

gr = number of multi-spot groups .

grfp = number of umbrae within penumbrae within the groups (gr) .

grf = number of non-penumbral spots within the groups (gr) .

efp = number of single penumbral spots .

ef = number of single non-penumbral spots .

Q = Quietness [ie. steadiness] refer to Kiepenheuer scale .

S = Sharpness [ie. clarity] refer to Kiepenheuer scale .

T = Transparency where 1 = excellent , 5 = worthless .

DATE	UT	IS	gr	grfp	grf	efp	ef	Q	S	T	Ref.
01											
02											
03	2245	0	0	0	0	0	0	1.5	3.0	2.5	6001-2
04											
05											
06											
07											
08											
09	2310	28	1	19	8	0	0	1.5	2.5	2.0	6002-2
10	2240	31	1	21	9	0	0	1.5	2.5	2.5	6003-2
11	2250	29	1	15	13	0	0	1.0	2.5	2.5	6004-2
12											
13											
14	2245	12	1	6	5	0	0	1.5	2.5	2.5	6005-2
15	2305	7	1	3	3	0	0	1.5	2.5	2.0	6006-2
16											
17											
18											
19											
20											
21											
22											
23	2215	0	0	0	0	0	0	1.5	2.5	2.5	6007-3
24	2310	0	0	0	0	0	0	2.0	2.5	2.5	6008-3
25	2235	0	0	0	0	0	0	1.5	2.5	2.5	6009-3
26											
27											
28	2235	0	0	0	0	0	0	2.0	2.5	2.0	6010-3
29											
30											
31											
Σ	—	107	5	64	38	0	0	15.5	25.5	23.5	—
NOBS	—	10	10	10	10	10	10	10	10	10	—
MNS	—	10.70	0.50	6.40	3.80	0.00	0.00	1.55	2.55	2.35	—

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SUNSPOT CENSUS BY CLASSIFICATION FOR JULY 2017

All observations carried out by HOWARD BARNES .
Telescope : 76 mm refractor (f.l. 910 mm).
Observed by PROJECTION . Full disc diameter = 145 mm approx .
IF 2 OR MORE REGIONS ARE OF THE SAME CLASSIFICATION , THEN SUNSPOT COUNTS
ARE SEPARATED BY SOLIDI (/) .

DATE	UT	A		B		C		D		E		F		G		H		J	
		g	f	g	f	g	f	g	f	g	f	g	f	g	f	g	f	g	f
01																			
02																			
03	2245	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04																			
05																			
06																			
07																			
08																			
09	2310	0	0	0	0	0	0	0	0	1	27	0	0	0	0	0	0	0	0
10	2240	0	0	0	0	0	0	0	0	1	30	0	0	0	0	0	0	0	0
11	2250	0	0	0	0	0	0	0	0	1	28	0	0	0	0	0	0	0	0
12																			
13																			
14	2245	0	0	0	0	0	0	0	0	1	11	0	0	0	0	0	0	0	0
15	2305	0	0	0	0	1	6	0	0	0	0	0	0	0	0	0	0	0	0
16																			
17																			
18																			
19																			
20																			
21																			
22																			
23	2215	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	2310	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	2235	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
26																			
27																			
28	2235	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
29																			
30																			
31																			
TOTALS	—	0	0	0	0	1	6	0	0	4	96	0	0	0	0	0	0	0	0
REGIONAL PERCENTAGES																			
A	B	C	D	E	F	G	H	J	Σg										
0.0	0.0	20.0	0.0	80.0	0.0	0.0	0.0	0.0	5										
NOBS = 10				$\overline{p/g}$ mean = 3.8000				$\overline{f/g}$ mean = 20.4000											
				$\overline{p/g}$ mean = 3.8000				$\overline{f/g}$ mean = 20.4000											
GROUP COMPLEXITY INDEX (GCI) = 24.2000																			



SMOOTHED RESULTS OF OBSERVED VALUES FOR THE LAST 12 MONTHS (OBTAINABLE) USING THE WALDMEIER & BARNES-13 METHODS.

DATA BELOW ARE PRELIMINARY. FINAL VALUES WILL BE PUBLISHED IN GDSO ANNUAL REPORTS.

WALDMEIER METHOD

MONTH	$g^r(S^w)$	$WN^r(S^w)$	$PX^r(S^w)$	$BX^r(S^w)$	$CV^r(S^w)$	$QC^r(S^w)$	$IS^r(S^w)$
2016 FEBRUARY	2.22	34.30	40.69	297.2	44.01	7.23	13.60
MARCH	2.22	33.19	38.55	259.5	42.02	7.04	12.52
APRIL	2.17	32.24	37.29	247.2	40.89	6.80	12.02
MAY	2.13	31.38	36.01	234.1	39.81	6.59	11.56
JUNE	2.05	29.80	33.32	204.2	37.05	6.23	10.70
JULY	1.97	28.48	31.41	185.6	34.55	5.94	10.11
AUGUST	1.87	27.06	30.01	175.4	33.10	5.68	9.58
SEPTEMBER	1.72	24.88	27.63	160.7	30.92	5.22	8.82
OCTOBER	1.61	23.46	26.23	154.7	28.81	4.90	8.41
NOVEMBER	1.53	22.14	24.90	147.6	26.41	4.60	7.90
DECEMBER	1.44	20.93	23.87	143.5	24.34	4.32	7.51
2017 JANUARY	1.39	20.57	24.07	145.4	23.97	4.24	7.63

BARNES-13 METHOD

MONTH	$g^r(S^{B13})$	$WN^r(S^{B13})$	$PX^r(S^{B13})$	$BX^r(S^{B13})$	$CV^r(S^{B13})$	$QC^r(S^{B13})$	$IS^r(S^{B13})$
2016 FEBRUARY	2.23	33.42	39.24	266.3	42.84	7.14	12.63
MARCH	2.21	32.39	37.16	233.9	41.44	6.93	11.74
APRIL	2.19	31.84	36.06	220.0	40.87	6.77	11.37
MAY	2.16	31.26	34.98	210.5	39.99	6.59	11.11
JUNE	2.09	30.22	33.33	199.1	38.04	6.31	10.71
JULY	2.02	29.31	32.23	195.0	36.19	6.07	10.48
AUGUST	1.94	28.36	31.42	193.6	34.66	5.86	10.29
SEPTEMBER	1.81	26.63	29.67	185.3	32.26	5.49	9.76
OCTOBER	1.66	24.45	27.36	170.7	29.12	5.04	8.98
NOVEMBER	1.52	22.22	25.01	152.8	25.95	4.60	8.09
DECEMBER	1.39	20.31	23.16	137.3	23.42	4.23	7.33
2017 JANUARY	1.29	18.70	21.73	124.6	21.65	3.93	6.72

NB: VALUES FROM MAY 2015 TO MAY 2016 (INCLUSIVE),
ARE BASED, IN PART, ON INTERPOLATED VALUES OF NOVEMBER 2015.