Georgi Dobrovolski Solar Observatory

NEW ZEALAND

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SUNSPOT RESULTS FOR APRIL 2007

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 ; SN = Pettisindex ; BX = Beckindex ; CV = Classification Value ;
QC = Quality Count ; QC^2 = 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 Coordonne'(UTC).

DATE	UT	g	f	WN	p	s	SN	BX	CV	QC	QC^2	Q	S	T	Ref.
01															
02	2045	0	0	0	0	0	0	0	0	0	0	1.5	2.0	2.5	4788-5
03															
04															
05	2120	0	0	0	0	0	0	0	0	0	0	2.0	3.0	3.0	4789-5
06															
07	2045	0	0	0	0	0	0	0	0	0	0	2.0	3.0	3.5	4790-5
08	2120	0	0	0	0	0	0	0	0	0	0	1.0	2.0	1.5	4791-5
09	2145	0	0	0	0	0	0	0	0	0	0	1.5	2.5	2.0	4792-5
10	2140	0	0	0	0	0	0	0	0	0	0	1.5	2.0	2.0	4793-5
11															
12															
13															
14															
15															
16															
17															
18															
19	2150	0	0	0	0	0	0	0	0	0	0	1.5	2.5	1.5	4794-5
20	2200	0	0	0	0	0	0	0	0	0	0	1.5	2.5	1.5	4795-5
21	2155	0	0	0	0	0	0	0	0	0	0	2.0	2.5	2.0	4796-5
22															
23	2135	0	0	0	0	0	0	0	0	0	0	1.5	2.5	3.0	4797-5
24	2150	0	0	0	0	0	0	0	0	0	0	2.0	3.5	3.5	4798-5
25	2200	1	3	13	1	1	11	24	38	3	9	2.0	2.5	2.0	4799-5
26	2155	1	8	18	2	3	23	144	46	4	16	1.0	2.0	2.0	4800-5
27															
28															
29															
30															
31	—														
TOTALS	——	2	11	31	3	4	34	168	84	7	25	21.0	32.5	30.0	——
NOBS	——	13	13	13	13	13	13	13	13	13	13	13	13	13	——
MNS	——	0.15	0.85	2.38	0.23	0.31	2.62	12.92	6.46	0.54	1.92	1.62	2.50	2.31	——

MEAN WEIGHT = 0.4858 MEAN CONDITION = 2.1410 TRUNCATED WOLF NUMBER = 2.38

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SUNSPOT DISTRIBUTION & INTER-SOL INDICES FOR

APRIL 2007

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 umbræ within penumbræ 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	2045	0	0	0	0	0	0	1.5	2.0	2.5	4788-5
03											
04											
05	2120	0	0	0	0	0	0	2.0	3.0	3.0	4789-5
06											
07	2045	0	0	0	0	0	0	2.0	3.0	3.5	4790-5
08	2120	0	0	0	0	0	0	1.0	2.0	1.5	4791-5
09	2145	0	0	0	0	0	0	1.5	2.5	2.0	4792-5
10	2140	0	0	0	0	0	0	1.5	2.0	2.0	4793-5
11											
12											
13											
14											
15											
16											
17											
18											
19	2150	0	0	0	0	0	0	1.5	2.5	1.5	4794-5
20	2200	0	0	0	0	0	0	1.5	2.5	1.5	4795-5
21	2155	0	0	0	0	0	0	2.0	2.5	2.0	4796-5
22											
23	2135	0	0	0	0	0	0	1.5	2.5	3.0	4797-5
24	2150	0	0	0	0	0	0	2.0	3.5	3.5	4798-5
25	2200	4	1	2	1	0	0	2.0	2.5	2.0	4799-5
26	2155	9	1	5	3	0	0	1.0	2.0	2.0	4800-5
27											
28											
29											
30											
31	—										
TOTALS	——	13	2	7	4	0	0	21.0	32.5	30.0	——
NOBS	——	13	13	13	13	13	13	13	13	13	——
MNS	——	1.00	0.15	0.54	0.31	0.00	0.00	1.62	2.50	2.31	——

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SUNSPOT CENSUS BY CLASSIFICATION FOR

APRIL 2007

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	2045	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03																			
04																			
05	2120	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06																			
07	2045	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08	2120	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09	2145	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10	2140	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11																			
12																			
13																			
14																			
15																			
16																			
17																			
18																			
19	2150	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
20	2200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21	2155	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
22																			
23	2135	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
24	2150	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
25	2200	0	0	0	0	1	3	0	0	0	0	0	0	0	0	0	0	0	0
26	2155	0	0	0	0	0	0	1	8	0	0	0	0	0	0	0	0	0	0
27																			
28																			
29																			
30																			
31	—																		
TOTALS	——	0	0	0	0	1	3	1	8	0	0	0	0	0	0	0	0	0	0

REGIONAL PERCENTAGES

A	B	C	D	E	F	G	H	J	Σ g
0.0	0.0	50.0	50.0	0.0	0.0	0.0	0.0	0.0	2

NOBS = 13 $\overline{p / g}$ mean = 1.5000 $\overline{f / g}$ mean = 5.5000

$\overline{p} / \overline{g}$ mean = 1.5000 $\overline{f} / \overline{g}$ mean = 5.5000

GROUP COMPLEXITY INDEX (GCI) = 7.0000

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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	$g(S^W)$	$WN(S^W)$	$SN(S^W)$	$BX(S^W)$	$CV(S^W)$	$QC(S^W)$	$IS(S^W)$
2005 NOVEMBER	2.06	31.17	40.20	221.1	40.18	6.31	11.88
DECEMBER	1.93	28.14	34.77	182.9	34.93	5.71	10.00
2006 JANUARY	1.75	25.12	30.36	161.9	30.74	5.06	8.69
FEBRUARY	1.58	22.75	27.18	153.1	28.70	4.62	7.88
MARCH	1.48	21.18	25.31	145.5	27.42	4.40	7.27
APRIL	1.50	21.21	25.00	139.5	27.07	4.43	7.06
MAY	1.56	21.92	25.55	140.9	27.90	4.57	7.20
JUNE	1.48	21.01	24.39	138.9	27.71	4.38	7.13
JULY	1.41	20.26	23.39	138.1	28.14	4.24	7.06
AUGUST	1.48	21.13	24.22	141.8	30.33	4.44	7.25
SEPTEMBER	1.49	21.20	24.05	140.7	30.89	4.46	7.20
OCTOBER	1.37	19.29	21.65	126.5	28.61	4.08	6.49

BARNES-13 METHOD

MONTH	$g(S^{B13})$	$WN(S^{B13})$	$SN(S^{B13})$	$BX(S^{B13})$	$CV(S^{B13})$	$QC(S^{B13})$	$IS(S^{B13})$
2005 NOVEMBER	1.93	28.43	36.02	197.0	36.23	5.78	10.37
DECEMBER	1.83	26.24	31.96	170.5	32.19	5.31	8.97
2006 JANUARY	1.70	24.02	28.49	151.3	28.81	4.83	7.91
FEBRUARY	1.59	22.37	26.11	140.4	26.87	4.51	7.29
MARCH	1.55	21.71	25.18	137.1	26.35	4.42	7.10
APRIL	1.53	21.56	24.84	135.8	26.44	4.41	7.08
MAY	1.49	21.08	24.29	134.5	26.52	4.36	7.01
JUNE	1.41	20.24	23.57	135.4	26.76	4.24	6.98
JULY	1.38	20.02	23.53	140.6	27.97	4.25	7.13
AUGUST	1.41	20.48	24.07	145.9	29.83	4.39	7.32
SEPTEMBER	1.42	20.56	23.96	145.0	30.80	4.42	7.26
OCTOBER	1.40	20.01	23.06	139.1	30.69	4.30	6.96