Georgi Dobrovolski Solar Observatory

NEW ZEALAND

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SUNSPOT RESULTS FOR FEBRUARY 2004

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 ; 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 .

DATE	UT*	g	f	WN	p	s	SN	BX	CV	QC	QC²	Q	S	T	Ref.
01															
02															
03															
04															
05															
06															
07															
08															
09															
10															
11															
12	1955	4	19	59	7	7	77	331	77	13	45	1.5	3.0	3.0	4368-3
13	2030	5	19	69	6	11	71	254	72	16	54	1.5	2.0	2.5	4369-3
14	2020	5	14	64	5	7	57	229	69	13	41	2.0	3.0	2.5	4370-3
15															
16	2110	3	3	33	2	1	21	78	21	5	9	1.5	2.0	2.0	4371-3
17															
18															
19															
20															
21	2100	3	13	43	6	5	65	272	51	8	24	1.5	3.0	3.0	4372-3
22															
23															
24															
25															
26															
27															
28															
29															
30	—														
31	—														
TOTALS	——	20	68	268	26	31	291	1164	290	55	173	8.0	13.0	13.0	——
NOBS	——	5	5	5	5	5	5	5	5	5	5	5	5	5	——
MNS	——	4.00	13.60	53.60	5.20	6.20	58.20	232.80	58.00	11.00	34.60	1.60	2.60	2.60	——

MEAN WEIGHT = 0.4491 MEAN CONDITION = 2.2667 TRUNCATED WOLF NUMBER = 44.40

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

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SUNSPOT DISTRIBUTION & INTER-SOL INDICES FOR

FEBRUARY 2004

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											
03											
04											
05											
06											
07											
08											
09											
10											
11											
12	1955	22	3	11	7	1	0	1.5	3.0	3.0	4368-3
13	2030	24	5	8	11	0	0	1.5	2.0	2.5	4369-3
14	2020	17	3	6	6	1	1	2.0	3.0	2.5	4370-3
15											
16	2110	3	0	0	0	2	1	1.5	2.0	2.0	4371-3
17											
18											
19											
20											
21	2100	14	1	6	5	2	0	1.5	3.0	3.0	4372-3
22											
23											
24											
25											
26											
27											
28											
29											
30	—										
31	—										
TOTALS	——	80	12	31	29	6	2	8.0	13.0	13.0	——
NOBS	——	5	5	5	5	5	5	5	5	5	——
MNS	——	16.00	2.40	6.20	5.80	1.20	0.40	1.60	2.60	2.60	——

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SUNSPOT CENSUS BY CLASSIFICATION FOR

FEBRUARY 2004

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																			
04																			
05																			
06																			
07																			
08																			
09																			
10																			
11																			
12	1955	0	0	0	0	1	3	2	7/8	0	0	0	0	0	0	0	0	1	1
13	2030	0	0	1	2	2	2/4	2	3/8	0	0	0	0	0	0	0	0	0	0
14	2020	1	1	1	2	0	0	2	4/6	0	0	0	0	0	0	0	0	1	1
15																			
16	2110	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	1/1
17																			
18																			
19																			
20																			
21	2100	0	0	0	0	0	0	1	11	0	0	0	0	0	0	0	0	2	1/1
22																			
23																			
24																			
25																			
26																			
27																			
28																			
29																			
30	—																		
31	—																		
TOTALS	——	2	2	2	4	3	9	7	47	0	0	0	0	0	0	0	0	6	6

REGIONAL PERCENTAGES

A	B	C	D	E	F	G	H	J	SIGMAg
10.0	10.0	15.0	35.0	0.0	0.0	0.0	0.0	30.0	20

NOBS = 5 $\overline{p / g}$ mean = 1.3233 $\overline{f / g}$ mean = 3.3367

$\overline{p} / \overline{g}$ mean = 1.3000 $\overline{f} / \overline{g}$ mean = 3.4000

GROUP COMPLEXITY INDEX (GCI) = 4.7000

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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 THE GDSO ANNUAL REPORTS.

WALDMEIER METHOD

MONTH	$g(S^W)$	$WN(S^W)$	$SN(S^W)$	$BX(S^W)$	$CV(S^W)$	$QC(S^W)$	$IS(S^W)$
2002 SEPTEMBER	7.97	130.68	165.10	1197.0	153.84	24.94	56.49
OCTOBER	7.67	125.50	158.44	1141.3	149.33	23.91	54.09
NOVEMBER	7.24	118.58	149.12	1070.6	141.32	22.49	51.12
DECEMBER	6.87	113.99	143.55	1054.5	134.37	21.39	50.07
2003 JANUARY	6.70	111.33	139.67	1025.9	130.98	20.89	49.03
FEBRUARY	6.53	106.90	133.21	945.1	126.45	20.28	46.09
MARCH	6.16	99.23	122.66	846.7	117.87	19.05	41.83
APRIL	5.74	92.23	112.48	790.1	110.05	17.81	38.75
MAY	5.42	87.47	105.66	754.5	103.31	16.84	37.04
JUNE	5.20	83.92	100.90	711.4	98.43	16.12	35.52
JULY	4.95	80.94	98.45	709.6	96.87	15.55	34.95
AUGUST	4.68	77.77	95.55	703.2	94.93	14.95	34.28

BARNES-13 METHOD

MONTH	$g(S^{B13})$	$WN(S^{B13})$	$SN(S^{B13})$	$BX(S^{B13})$	$CV(S^{B13})$	$QC(S^{B13})$	$IS(S^{B13})$
2002 SEPTEMBER	8.13	137.03	175.09	1329.4	161.27	25.65	61.34
OCTOBER	7.75	128.96	163.61	1214.9	152.05	24.25	56.83
NOVEMBER	7.29	119.51	150.09	1080.1	140.95	22.64	51.58
DECEMBER	6.88	110.96	137.75	957.8	130.18	21.17	46.90
2003 JANUARY	6.54	103.97	127.63	856.1	121.91	19.99	43.03
FEBRUARY	6.23	98.09	119.76	784.5	115.93	18.98	40.04
MARCH	5.92	93.26	113.82	746.3	111.23	18.09	38.13
APRIL	5.66	90.19	110.04	745.1	107.96	17.43	37.52
MAY	5.46	88.68	108.35	769.9	105.72	16.96	37.93
JUNE	5.29	87.55	107.34	794.9	104.28	16.62	38.39
JULY	5.09	85.57	105.39	806.7	102.56	16.21	38.27
AUGUST	4.84	82.11	101.07	786.7	98.72	15.58	37.12