



Georgi Dobrovolski Solar Observatory

NEW ZEALAND

E-MAIL: gdso@earthling.net

WEBSITE: www.cv-helios.net/gdso

SUNSPOT RESULTS FOR OCTOBER 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	QC ²	Q	S	T	Ref.
01															
02	2120	2	5	25	2	2	22	98	19	5	13	2.0	2.0	2.0	4458-1
03															
04															
05	2115	2	4	24	2	2	22	61	22	5	13	1.5	3.0	3.0	4459-1
06															
07															
08															
09															
10															
11															
12															
13															
14															
15															
16	2030	2	13	33	4	5	45	214	42	7	25	1.5	2.5	2.5	4460-2
17															
18	2050	4	21	61	9	8	98	397	97	14	52	1.5	2.0	1.5	4461-2
19															
20	2005	6	34	94	9	13	103	699	90	20	74	1.5	2.5	3.0	4462-2
21	2135	6	26	86	11	6	116	597	142	21	81	2.0	2.5	3.0	4463-2
22															
23															
24															
25															
26	2020	7	54	124	14	16	156	1117	114	24	88	1.5	2.0	2.0	4464-2
27															
28															
29															
30	1955	7	43	113	11	19	129	1095	141	22	82	1.5	3.0	4.0	4465-2
31	2035	6	44	104	14	14	154	1156	152	20	78	1.5	2.5	2.5	4466-2
TOTALS	—	42	244	664	76	85	845	5434	819	138	506	14.5	22.0	23.5	—
NOBS	—	9	9	9	9	9	9	9	9	9	9	9	9	9	—
MNS	—	4.67	27.11	73.78	8.44	9.44	93.89	603.78	91.00	15.33	56.22	1.61	2.44	2.61	—

MEAN WEIGHT = 0.4611

MEAN CONDITION = 2.2222

TRUNCATED WOLF NUMBER = 71.11

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

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SUNSPOT DISTRIBUTION & INTER-SOL INDICES FOR OCTOBER 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	2120	7	2	3	2	0	0	2.0	2.0	2.0	4458-1
03											
04											
05	2115	5	1	1	2	1	0	1.5	3.0	3.0	4459-1
06											
07											
08											
09											
10											
11											
12											
13											
14											
15											
16	2030	15	2	8	5	0	0	1.5	2.5	2.5	4460-2
17											
18	2050	24	3	12	8	1	0	1.5	2.0	1.5	4461-2
19											
20	2005	39	5	20	13	1	0	1.5	2.5	3.0	4462-2
21	2135	30	4	18	6	2	0	2.0	2.5	3.0	4463-2
22											
23											
24											
25											
26	2020	61	7	38	16	0	0	1.5	2.0	2.0	4464-2
27											
28											
29											
30	1955	49	6	23	19	1	0	1.5	3.0	4.0	4465-2
31	2035	48	4	28	14	2	0	1.5	2.5	2.5	4466-2
TOTALS	—	278	34	151	85	8	0	14.5	22.0	23.5	—
NOBS	—	9	9	9	9	9	9	9	9	9	—
MNS	—	30.89	3.78	16.78	9.44	0.89	0.00	1.61	2.44	2.61	—

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SUNSPOT CENSUS BY CLASSIFICATION FOR OCTOBER 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	2120	0	0	0	0	1	3	0	0	0	0	0	0	0	0	0	0	1	2
03																			
04																			
05	2115	0	0	0	0	1	3	0	0	0	0	0	0	0	0	0	0	1	1
06																			
07																			
08																			
09																			
10																			
11																			
12																			
13																			
14																			
15																			
16	2030	0	0	0	0	1	2	1	11	0	0	0	0	0	0	0	0	0	0
17																			
18	2050	0	0	0	0	0	0	3	4/5/11	0	0	0	0	0	0	0	0	1	1
19																			
20	2005	0	0	1	2	1	3	2	3/7	1	18	0	0	0	0	0	0	1	1
21	2135	0	0	0	0	0	0	3	3/4/4	1	13	0	0	0	0	0	0	2	1/1
22																			
23																			
24																			
25																			
26	2020	0	0	0	0	3	2/4/5	2	4/6	1	31	0	0	0	0	0	0	1	2
27																			
28																			
29																			
30	1955	0	0	1	2	2	2/3	1	14	0	0	1	19	0	0	0	0	2	1/2
31	2035	0	0	0	0	2	2/5	1	13	0	0	1	22	0	0	0	0	2	1/1
TOTALS	—	0	0	2	4	11	34	13	89	3	62	2	41	0	0	0	0	11	14
REGIONAL PERCENTAGES																			
A	B	C	D	E	F	G	H	J	SIGMAg										
0.0	4.8	26.2	31.0	7.1	4.8	0.0	0.0	26.2	42										
NOBS = 9						$\overline{p/g}$ mean = 1.7209					$\overline{f/g}$ mean = 5.2712								
						$\overline{p/g}$ mean = 1.8095					$\overline{f/g}$ mean = 5.8095								
GROUP COMPLEXITY INDEX (GCI) = 7.6190																			

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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	$g(S^W)$	$WN(S^W)$	$SN(S^W)$	$BX(S^W)$	$CV(S^W)$	$QC(S^W)$	$IS(S^W)$
2003 MAY	5.42	87.47	105.66	754.5	103.35	16.84	37.04
JUNE	5.20	83.92	100.90	711.4	98.47	16.12	35.52
JULY	4.95	80.94	98.45	709.6	96.91	15.55	34.95
AUGUST	4.68	77.77	95.55	703.2	94.97	14.95	34.28
SEPTEMBER	4.55	76.06	93.48	700.0	92.65	14.61	33.78
OCTOBER	4.41	73.76	90.28	690.5	88.82	14.13	32.79
NOVEMBER	4.29	71.92	88.12	673.5	85.40	13.74	32.00
DECEMBER	4.19	69.26	84.25	630.5	82.43	13.37	30.28
2004 JANUARY	4.00	65.23	78.05	575.9	77.59	12.71	28.00
FEBRUARY	3.75	61.35	72.76	548.3	72.73	11.90	26.48
MARCH	3.56	58.70	70.01	537.4	70.74	11.30	25.59
APRIL	3.53	57.59	70.08	508.8	70.66	11.20	24.77

BARNES-13 METHOD

MONTH	$g(S^{B13})$	$WN(S^{B13})$	$SN(S^{B13})$	$BX(S^{B13})$	$CV(S^{B13})$	$QC(S^{B13})$	$IS(S^{B13})$
2003 MAY	5.46	88.68	108.35	769.9	105.78	16.96	37.93
JUNE	5.29	87.55	107.34	794.9	104.33	16.62	38.39
JULY	5.09	85.57	105.39	806.7	102.60	16.21	38.27
AUGUST	4.84	82.11	101.07	786.7	98.76	15.58	37.12
SEPTEMBER	4.60	78.06	95.50	750.9	93.61	14.85	35.37
OCTOBER	4.35	73.60	89.51	704.8	88.15	14.07	33.20
NOVEMBER	4.14	69.20	83.99	644.3	82.96	13.34	30.79
DECEMBER	3.96	65.01	78.56	577.5	78.19	12.69	28.24
2004 JANUARY	3.80	61.44	73.72	524.8	73.91	12.09	26.12
FEBRUARY	3.68	59.12	70.59	500.3	70.85	11.63	24.88
MARCH	3.61	57.85	69.17	492.8	69.40	11.33	24.29
APRIL	3.58	57.27	68.92	486.3	68.87	11.18	23.97