

# QUARTERLY BULLETIN ON SOLAR ACTIVITY

Published by the Eidgen. Sternwarte in Zürich

with financial support from UNESCO

## I. SUNSPOTS

### Sunspot Relative-Numbers and Sunspot-Areas

Co-operating Observatories for Sunspot Relative-Numbers R: Arcetri, Arosa, Beirut, Belgrad, Bucarest, Catania, Herstmonceux, Ikoma-Nara, Istanbul, Kanzelhöhe, Karlsruhe, Kiev, Kislovodsk, Locarno, Madrid, Manila, Potsdam, Prag, Quezon-City, Roma-Monte Mario, Skalnaté Pleso, Taipei, Tashkent, Tokyo, Tortosa, Uccle, Wrocław, Zürich.

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1963	January			February			March		
	R	$A_R$	$A_C$	R	$A_R$	$A_C$	R	$A_R$	$A_C$
1	23	—	75	30	—	458	0	0	0
2	29	137	105	25	—	—	0	0	0
3	34	112	117	44	—	356	8	0	0
4	35	53	63	53	—	—	14	—	127
5	23	—	36	47	394	332	22	279	127
6	8	—	10	50	496	342	32	245	147
7	7	—	—	48	413	296	35	—	174
8	8	—	4	40	285	—	29	174	155
9	7	0	9	32	—	—	32	—	107
10	8	—	56	21	—	104	34	—	104
11	8	—	122	18	—	—	23	—	56
12	8	230	—	16	—	67	18	59	44
13	9	—	94	9	95	—	17	—	34
14	33	313	253	16	—	67	24	—	24
15	44	514	282	17	—	60	15	—	6
16	40	—	—	16	—	94	8	187	93
17	40	—	—	18	—	84	13	—	107
18	21	—	228	16	78	103	19	—	89
19	20	—	234	20	—	—	12	184	89
20	16	—	191	20	114	60	13	183	98
21	16	—	154	20	67	75	13	184	78
22	7	0	—	20	—	37	16	—	98
23	17	—	—	22	—	43	17	146	76
24	15	—	15	20	—	38	19	—	92
25	17	—	8	16	0	30	10	176	—
26	7	—	5	11	—	26	16	162	—
27	14	—	13	17	—	27	15	—	—
28	34	—	86	0	0	—	7	—	0
29	25	324	106				12	72	42
30	23	433	160				17	212	104
31	18	—	213				19	—	101
Mean	19.8	212	106	24.4	194	135	17.1	141	78

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1963	April			May			June		
	R	$A_R$	$A_C$	R	$A_R$	$A_C$	R	$A_R$	$A_C$
1	15	—	104	23	331	—	31	354	181
2	25	182	86	22	300	141	26	—	—
3	28	141	85	24	249	209	15	21	4
4	17	26	40	20	—	204	13	—	5
5	23	—	—	26	234	135	23	92	35
6	50	—	—	43	320	133	8	65	43
7	50	—	—	46	364	158	29	141	83
8	63	464	241	55	—	164	54	574	190
9	55	809	403	48	—	203	68	—	272
10	59	819	243	64	—	250	82	1265	516
11	48	635	—	64	538	248	82	1202	—
12	63	869	450	55	—	310	87	1243	679
13	56	—	492	54	549	279	82	1215	664
14	45	—	396	56	—	492	57	—	570
15	50	—	397	65	1236	486	54	913	485
16	50	626	382	66	—	703	33	676	535
17	41	619	408	76	1215	769	27	575	347
18	34	—	398	78	1055	660	25	72	57
19	28	—	—	68	983	748	23	—	58
20	19	490	—	58	986	532	19	—	70
21	10	0	0	49	774	458	19	—	78
22	0	0	0	37	434	309	7	0	5
23	0	0	0	24	—	440	15	0	8
24	0	0	0	28	—	542	24	228	103
25	0	0	0	18	556	216	29	223	72
26	0	0	0	9	0	6	34	292	113
27	0	0	0	18	—	12	31	243	156
28	7	0	0	36	—	43	24	115	102
29	16	—	162	32	142	77	30	79	52
30	26	396	214	37	182	131	27	—	65
31				35	429	159			
Mean	29.3	304	188	43.0	544	307	35.9	436	198

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1963	July			August			September		
	R	$A_R$	$A_C$	R	$A_R$	$A_C$	R	$A_R$	$A_C$
1	30	—	49	65	884	534	20	125	67
2	22	—	14	55	546	386	25	96	70
3	37	481	141	53	635	473	34	121	53
4	22	450	167	51	538	442	43	—	163
5	9	213	126	50	458	390	42	—	124
6	9	207	123	53	—	371	31	150	94
7	9	173	152	38	—	356	9	—	51
8	10	167	156	23	454	285	14	139	54
9	17	228	179	22	418	255	15	265	80
10	9	175	106	20	—	303	23	211	83
11	10	185	105	9	0	56	22	108	40
12	10	211	116	0	0	0	28	—	80
13	18	239	107	7	0	11	40	532	345
14	22	204	123	13	—	17	65	—	712
15	19	28	94	11	—	12	84	2366	881
16	11	29	26	18	78	48	85	1539	1036
17	11	—	24	29	—	124	81	—	1104
18	13	42	38	43	360	188	73	—	908
19	15	65	—	36	512	301	72	1174	860
20	11	56	12	36	385	236	73	—	956
21	19	—	31	50	276	243	77	1507	989
22	19	29	22	68	534	391	70	1140	761
23	25	54	38	64	568	353	54	953	720
24	17	60	41	50	802	374	38	902	599
25	25	52	39	37	—	355	25	—	—
26	16	0	9	29	240	117	13	480	410
27	23	0	13	16	173	96	0	0	0
28	7	0	0	21	152	88	9	59	5
29	24	76	49	16	127	75	0	0	0
30	55	299	276	23	138	83	0	0	0
31	65	856	487	24	150	92			
Mean	19.6	170	95	33.2	351	228	38.8	565	388

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1963	October			November			December		
	R	$A_R$	$A_C$	R	$A_R$	$A_C$	R	$A_R$	$A_C$
1	0	0	0	45	—	216	28	332	99
2	7	—	3	52	—	198	31	337	118
3	9	—	7	43	—	205	30	—	87
4	8	0	0	37	—	—	30	—	98
5	0	0	0	29	—	97	28	198	89
6	15	358	173	13	69	24	25	196	97
7	20	403	216	10	29	16	17	156	84
8	32	—	280	11	21	23	13	—	61
9	37	414	286	9	0	5	32	76	—
10	32	418	198	0	0	0	27	56	—
11	40	339	203	8	—	0	26	—	47
12	39	469	—	11	0	14	18	0	42
13	42	322	—	7	0	5	10	0	12
14	51	—	173	7	0	0	8	0	9
15	49	393	230	9	—	3	7	—	3
16	52	590	255	16	—	89	7	0	10
17	50	432	242	24	—	116	8	0	—
18	40	—	221	28	202	110	17	92	34
19	29	263	106	25	—	73	15	—	—
20	37	0	489	28	—	97	17	—	44
21	35	878	376	30	410	304	14	—	—
22	45	1102	445	34	368	306	13	—	—
23	50	908	562	36	327	210	9	21	15
24	51	745	542	35	303	195	16	—	—
25	53	—	579	32	—	137	8	—	—
26	52	687	574	23	—	112	7	0	0
27	38	—	479	23	—	124	0	0	0
28	24	435	242	21	—	137	0	0	0
29	54	—	258	27	145	107	0	0	0
30	58	620	318	28	128	102	0	0	—
31	45	558	308				0	0	0
Mean	35.3	449	268	23.4	133	104	14.9	73	43