No. 181 **International Astronomical Union** January/March 1973

QUARTERLY BULLETIN ON SOLAR ACTIVITY

Published by the Eidgen. Sternwarte in Zürich

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I. SUNSPOTS

Sunspot Relative-Numbers and Sunspot-Areas

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1973	Jan.	R	R_C	A_C	A_R	A_Z
	1	45	0	--	--	--
	2	53	8	662	--	464
	3	61	16	972	988	652
	4	66	36	1187	1018	--
	5	74	23	1302	1272	--
	6	83	59	1680	--	1379
	7	66	49	--	--	1286
	8	62	27	1051	1098	952
	9	67	19	--	989	695
	10	58	9	--	656	415
	11	52	10	267	242	167
	12	32	7	205	--	98
	13	32	13	200	--	81
	14	20	7	--	--	196
	15	16	0	326	--	--
	16	11	0	315	302	356
	17	27	16	347	--	--
	18	42	33	--	510	--
	19	47	30	347	--	362
	20	60	31	505	520	327
	21	62	24	542	--	--
	22	62	0	463	--	--
	23	60	24	--	--	--
	24	50	26	243	--	130
	25	39	21	--	--	--
	26	27	27	110	130	17
	27	14	0	47	--	2
	28	14	0	--	--	--
	29	13	7	11	0	--
	30	16	8	37	--	4
	31	14	14	43	--	--
	Mean	43.4	17.5	494	644	421

1973	Feb.	R	R_C	A_C	A_R	A_Z
	1	14	14	22	--	2
	2	17	0	26	--	--
	3	22	7	152	191	94
	4	21	7	147	--	79
	5	41	18	215	112	137
	6	32	11	367	334	204
	7	34	8	446	368	371
	8	53	0	535	448	442
	9	60	18	683	655	--
	10	61	37	--	--	628
	11	59	43	720	--	--
	12	80	58	751	--	540
	13	83	41	772	--	--
	14	85	13	856	--	682
	15	74	24	762	--	635
	16	54	31	725	--	520
	17	40	33	425	--	485
	18	28	21	404	--	330
	19	18	7	326	334	290
	20	30	11	316	--	257
	21	31	12	305	288	198
	22	32	12	142	144	--
	23	37	0	152	232	94
	24	42	0	456	--	259
	25	44	14	630	--	542
	26	37	14	761	--	662
	27	36	28	683	576	680
	28	36	28	834	--	774
	Mean	42.9	18.2	467	335	387

1973	Mar.	R	R_C	A_C	A_R	A_Z
	1	40	20	851	--	786
	2	38	20	782	844	664
	3	35	17	657	--	--
	4	32	0	614	--	--
	5	22	0	463	461	461
	6	32	0	610	592	--
	7	38	0	509	--	--
	8	50	18	536	--	454
	9	53	27	1256	931	--
	10	67	36	1622	--	--
	11	69	53	1559	--	1265
	12	85	58	--	1489	1278
	13	93	57	1879	1684	1344
	14	83	60	1780	1288	1113
	15	73	54	1586	--	947
	16	64	28	1376	1088	752
	17	52	12	--	675	472
	18	44	0	467	--	311
	19	38	0	483	--	267
	20	23	0	457	445	304
	21	20	20	583	399	312
	22	30	22	493	280	288
	23	37	25	--	571	488
	24	29	0	--	--	615
	25	27	0	756	--	612
	26	23	13	783	674	617
	27	32	13	--	713	622
	28	43	10	1197	--	874
	29	46	24	1328	--	1074
	30	50	0	1465	1342	1181
	31	59	27	1691	1725	1200
	Mean	46.0	19.8	992	894	732

Zürich, January 1974

M. Waldmeier

No.182 **International Astronomical Union** April/June 1973

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1973	Apr.	R	R_C	A_C	A_R	A_Z
	1	65	32	1806	--	1528
	2	79	38	1959	1941	1489
	3	93	40	2307	--	--
	4	93	73	2017	--	1542
	5	75	14	1533	1805	1344
	6	75	24	1460	1215	994
	7	76	24	925	910	615
	8	71	33	1271	--	702
	9	85	68	1303	--	--
	10	65	58	840	1308	--
	11	62	35	919	--	499
	12	46	34	525	703	300
	13	41	0	535	773	238
	14	37	7	547	573	114
	15	35	7	257	--	232
	16	29	7	299	236	116
	17	16	7	121	0	26
	18	15	0	21	--	28
	19	30	0	163	460	250
	20	37	18	778	--	426
	21	45	18	798	--	564
	22	62	51	672	--	--
	23	73	46	914	--	568
	24	71	31	1061	--	652
	25	67	23	803	--	681
	26	67	50	1092	1212	435
	27	65	41	1208	1304	667
	28	60	42	1555	1526	--
	29	54	38	882	--	705
	30	42	32	541	--	336
	Mean	57.7	29.7	970	998	602

1973 May	R	R_C	A_C	A_R	A_Z
1	24	0	252	--	108
2	46	0	840	729	491
3	64	0	877	--	652
4	77	7	1167	--	752
5	92	69	1586	--	774
6	68	52	1118	--	660
7	82	68	1049	1012	715
8	52	52	604	842	422
9	30	30	189	--	288
10	25	7	284	293	223
11	26	7	226	191	115
12	18	7	105	--	64
13	7	0	21	--	4
14	7	0	5	0	2
15	25	0	131	206	71
16	33	14	525	543	257
17	34	14	599	--	289
18	41	10	724	790	559
19	42	13	820	865	666
20	46	35	840	--	552
21	52	30	777	872	672
22	56	27	766	675	497
23	47	29	651	688	378
24	57	42	437	487	364
25	64	52	611	799	270
26	49	38	595	695	396
27	51	36	473	--	338
28	32	8	305	744	182
29	29	13	189	--	212
30	21	0	289	--	229
31	17	0	179	--	82
Mean	42.4	21.3	556	614	364

1973 June	R	R_C	A_C	A_R	A_Z
1	8	0	26	26	32
2	8	0	21	--	10
3	16	16	21	--	6
4	14	7	11	0	5
5	7	7	0	--	2
6	16	0	11	--	--
7	37	19	236	315	194
8	41	13	305	338	258
9	31	7	415	455	324
10	38	7	452	--	298
11	60	33	473	--	344
12	58	27	643	643	354
13	52	23	956	716	335
14	54	19	715	698	403
15	48	0	467	--	182
16	45	29	189	--	49
17	36	14	152	--	14
18	18	11	121	--	110
19	38	17	472	366	196
20	51	0	925	941	662
21	75	0	1013	--	857
22	66	24	1375	1423	--
23	54	43	1538	--	1072
24	51	51	1008	--	--
25	49	43	929	1027	684
26	46	24	804	907	539
27	43	14	588	--	250
28	42	7	379	299	90
29	51	7	294	--	114
30	33	0	520	404	344
Mean	39.5	15.4	502	571	286

Zürich, January 1974 M. Waldmeier

No. 183 **International Astronomical Union** July/September 1973

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1973 July	R	R_C	A_C	A_R	A_Z
1	29	0	567	--	489
2	31	0	793	--	618
3	39	16	898	948	752
4	32	32	882	1003	792
5	42	42	1124	1209	765
6	56	56	1202	1161	779
7	57	57	1102	1146	684
8	50	23	830	--	605
9	38	14	924	--	515
10	32	0	756	--	462
11	23	0	357	--	231
12	14	7	26	0	24
13	15	7	21	0	2
14	10	7	16	--	--
15	16	0	26	--	--
16	9	7	37	--	4
17	28	8	115	--	--
18	42	12	184	147	38
19	23	7	78	--	16
20	8	0	11	--	3
21	8	0	42	--	11
22	14	7	16	--	4
23	0	0	0	0	0
24	9	9	26	--	12
25	14	7	58	--	51
26	8	0	105	121	82
27	9	0	106	--	146
28	10	0	231	191	173
29	17	10	257	--	267
30	11	11	315	208	248
31	22	22	210	--	175
Mean	23.1	11.6	365	511	284

1973 Aug.	R	R_C	A_C	A_R	A_Z
1	36	25	342	223	226
2	28	21	210	249	142
3	21	7	126	150	143
4	28	10	263	--	172
5	34	17	248	--	184
6	40	33	268	497	281
7	42	35	400	616	360
8	40	8	505	503	450
9	38	18	320	--	297
10	27	8	142	204	146
11	23	7	58	60	42
12	0	0	5	--	0
13	0	0	0	--	0
14	0	0	0	--	0
15	0	0	0	--	0
16	0	0	0	--	0
17	0	0	0	0	0
18	7	0	42	--	2
19	7	0	11	--	2
20	7	0	5	--	2
21	15	15	105	0	3
22	10	10	42	54	9
23	17	9	58	--	19
24	22	7	94	--	98
25	28	13	242	351	179
26	38	0	310	--	239
27	37	11	426	325	303
28	47	23	436	503	349
29	56	36	941	626	534
30	64	41	1051	--	764
31	82	53	1382	--	--
Mean	25.6	13.1	259	291	165

1973 Sep.	R	R_C	A_C	A_R	A_Z
1	89	30	1339	--	1395
2	124	56	2122	--	1703
3	130	47	2904	--	2149
4	121	53	2731	--	2316
5	108	67	2364	--	2308
6	84	28	2012	1948	1829
7	77	50	1644	2188	1464
8	72	36	1549	--	1260
9	75	25	1302	--	810
10	58	0	730	1145	713
11	42	0	536	582	363
12	22	0	226	127	122
13	0	0	0	0	0
14	0	0	0	0	0
15	13	0	21	--	27
16	26	12	42	--	81
17	20	7	74	--	77
18	16	7	115	--	67
19	8	8	95	--	78
20	30	9	--	--	168
21	39	13	289	--	--
22	48	19	694	--	497
23	58	17	930	--	--
24	63	47	1333	--	1037
25	74	48	1103	--	1241
26	78	48	1475	--	1365
27	78	37	1439	--	--
28	80	34	1228	1559	1345
29	75	10	1650	1554	1320
30	71	21	1466	--	1089
Mean	59.3	24.3	1083	1011	919

Zürich, January 1974

M. Waldmeier

No. 184 **International Astronomical Union** October/December 1973

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1973 Oct.	R	R_C	A_C	A_R	A_Z
1	68	41	1377	1173	--
2	66	48	924	--	662
3	52	23	689	--	518
4	50	31	589	706	446
5	44	8	467	408	372
6	38	7	284	261	270
7	30	0	173	--	--
8	22	0	116	--	--
9	23	7	89	108	54
10	8	0	0	0	3
11	0	0	0	0	0
12	0	0	0	--	0
13	8	8	32	67	41
14	10	8	32	--	--
15	16	8	32	0	15
16	18	0	63	86	34
17	19	0	100	160	63
18	15	0	26	--	20
19	0	0	0	0	0
20	0	0	0	0	0
21	0	0	0	--	0
22	16	0	--	133	134
23	28	10	787	670	--
24	36	0	1302	--	919
25	53	7	1056	1055	1155
26	59	34	1628	1289	1142
27	53	35	1649	1518	1388
28	62	49	--	--	1210
29	65	56	1155	1169	967
30	55	30	856	827	778
31	37	8	609	604	492
Mean	30.7	13.5	484	487	411

1973 Nov.	R	R_C	A_C	A_R	A_Z
1	31	21	341	--	325
2	33	9	320	255	180
3	23	7	47	96	44
4	20	0	--	--	--
5	7	0	0	--	--
6	0	0	0	0	0
7	0	0	0	0	0
8	0	0	--	0	0
9	0	0	0	0	0
10	0	0	0	0	0
11	7	7	5	--	2
12	0	0	0	0	0
13	9	0	21	38	20
14	11	0	79	127	--
15	12	0	147	127	--
16	13	0	158	159	70
17	16	16	121	--	45
18	16	10	173	--	26
19	22	15	58	--	16
20	16	16	53	--	6
21	23	16	47	57	27
22	29	10	231	--	173
23	39	13	756	700	531
24	38	7	793	876	592
25	46	0	1019	--	801
26	62	33	1114	1019	931
27	60	41	998	938	576
28	61	39	683	815	363
29	64	35	782	--	--
30	59	0	600	--	318
Mean	23.9	9.8	305	289	202

1973 Dec.	R	R_C	A_C	A_R	A_Z
1	46	0	399	--	159
2	24	0	147	--	35
3	24	0	137	--	18
4	0	0	0	0	--
5	0	0	--	0	--
6	0	0	--	0	0
7	0	0	0	--	--
8	7	0	26	--	--
9	8	0	42	--	--
10	16	0	47	--	43
11	9	0	--	48	52
12	9	9	42	57	20
13	8	8	--	38	22
14	8	8	37	35	--
15	17	9	21	--	--
16	26	0	63	--	142
17	40	0	89	--	153
18	43	7	121	--	130
19	41	8	305	360	183
20	47	47	551	515	--
21	51	51	1118	--	900
22	51	51	1102	866	1169
23	47	36	1166	--	--
24	51	0	1029	--	--
25	53	0	798	--	--
26	57	13	762	--	--
27	26	0	--	223	248
28	12	7	--	--	51
29	0	0	0	0	0
30	0	0	0	--	0
31	0	0	--	--	--
Mean	23.3	8.2	333	178	185

Zürich, January 1974 M. Waldmeier