TABLE 3.—*Solar radiation measurements, and determinations of atmospheric turbidity factor, β. Washington, D. C., April, 1932*

[Value in Italics have been interpolated]

Date and solar hour angle	Solar altitude, h	Air mass, m.	I_m	I_y	I_r	β	Blueness of sky	Atmospheric dust particles per cubic centimeter	Notes (skylight polarization, P=Clouds
Apr. 6	° ′		gr. cal.	gr. cal.	gr. cal.				
4:22 a	23-07	2.54	0.964	*0.730*	0.604	0.108		630	P.=60.6%.
4:17 a	24-03	2.45	1.007	.750	*.616*	.095			
3:44 a	30-16	1.98	1.058	.836	*.690*	.155	5		
3:40 a	31-00	1.94	1.082	*.845*	.692	.145			
2:52 a	39-40	1.57	1.192	.860	*.697*	.117			Stopped by clouds.
2:48 a	40-09	1.55	1.207	*.861*	.697	.110			
Apr. 7									
5:00 a	15-55	3.61	.696	.554	*.477*	.130		754	P=54.0%.
4:56 a	16-42	3.47	.720	*.564*	.492	.130			
4:32 a	21-32	2.71	.878	*.677*	.566	.125			
4:24 a	23-04	2.55	.938	.701	*.588*	.110			
3:56 a	28-16	2.11	1.043	.776	*.639*	.100			
3:52 a	29-02	2.06	1.051	*.780*	.644	.115	4		
3:17 a	35-28	1.72	1.137	*.832*	.673	.120			
3:11 a	36-31	1.68	1.141	.837	.678	.130			Clouds.
Apr. 12									
4:46 a	19-58	2.91	1.098	*.852*	.685	.065		441	Stopped by clouds.
4:34 a	22-13	2.63	1.141	.851	*.692*	.060			
Apr. 14									
5:14 a	16-17	3.53	.819	*.671*	.563	.115		806	
5:08 a	17-27	3.31	.863	.683	*.572*	.100			
4:42 a	21-06	2.76	.969	.755	*.620*	.100			Do.
4:35 a	22-29	2.60	1.000	*.778*	.639	.080			
Apr. 15									
5:06 a	16-40	3.46	.936	*.737*	.611	.078		974	Stopped by Ci. clouds.
5:02 a	17-32	3.29	.962	.740	*.616*	.075			
Apr. 18									
5:21 a	14-23	3.99	.881	.702	*.615*	.090		344	P=61.6%.
5:03 a	17-54	3.23	1.002	.773	*.647*	.075			
4:59 a	18-40	3.10	1.027	*.785*	.656	.075			
4:32 a	23-55	2.40	1.118	.835	*.685*	.075			
4:28 a	24-47	2.37	1.137	*.858*	.687	.075			
3:44 a	33-06	1.83	1.223	*.905*	.732	.095	5		
3:40 a	33-52	1.79	1.229	.909	*.735*	.095			
3:11 a	39-15	1.58	1.296	*.958*	.752	.092			
3:03 a	40-42	1.53	1.303	.942	*.754*	.095			
2:44 a	44-00	1.44	1.326	*.947*	.757	.095			
2:35 a	45-38	1.40	1.338	.950	*.758*	.090			
2:10 a	49-06	1.32	1.354	*.954*	.740	.080			
0:50 a	59-52	1.15	1.428	.999	*.802*	.095			
2:48 p	43-26	1.46	1.284	*.956*	.743	.105			
2:52 p	42-42	1.48	1.290	.934	*.740*	.100			
Apr. 19									
5:17 a	15-23	3.73	.794	.624	*.538*	.095		546	P=57.9%.
5:12 a	16-21	3.44	.803	*.644*	.534	.105			
4:50 a	20-32	2.83	.948	*.719*	.601	.095			
4:44 a	21-48	2.68	.978	.743	*.614*	.095	5		
Apr. 22									
2:11 a	50-40	1.29	1.249	*.912*	.598	.050		714	P=54.1%
2:07 a	51-18	1.28	1.264	.914	*.603*	.045			
0:34 a	62-20	1.13	1.330	.904	*.727*	.110			
0:30 a	62-34	1.13	1.334	*.912*	.730	.110			
3:06 p	41-04	1.51	1.179	*.875*	.713	.145			
3:10 p	40-20	1.54	1.200	.873	*.711*	.125			
3:56 p	31-46	1.90	1.182	.834	*.672*	.075			
4:00 p	31-02	1.94	1.196	*.819*	.666	.062	4		
4:26 p	25-50	2.28	1.040	*.776*	.628	.095			
4:29 p	25-22	2.33	1.002	.765	*.622*	.105			
4:48 p	21-40	2.70	.978	.711	*.576*	.068			
4:52 p	20-53	2.78	.948	*.700*	.560	.070			
5:09 p	17-35	3.28	.828	*.638*	.524	.090			
5:13 p	16-48	3.43	.820	.617	*.514*	.082			
Apr. 28									
0:06 a	65-18	1.10	1.347	1.025	*.818*	.170		231	P=53.9%.
0:02 a	65-20	1.10	1.354	*1.021*	.811	.170			
1:50 p	55-22	1.21	1.290	.917	*.751*	.150			
1:54 p	54-49	1.22	1.306	*.916*	.750	.140			
2:32 p	48-35	1.33	1.242	*.908*	.716	.140			
2:35 p	48-00	1.34	1.235	.907	*.715*	.145			
3:19 p	39-55	1.56	1.204	*.859*	.673	.095			
3:22 p	39-16	1.58	1.224	.856	*.668*	.075			
4:00 p	32-12	1.88	1.203	.854	*.668*	.065			
4:04 p	31-21	1.92	1.183	*.849*	.663	.068	5		
4:32 p	25-49	2.29	1.140	.778	*.632*	.045			
4:36 p	25-02	2.35	1.118	.770	.619	.050			Stopped by clouds.
4:51 p	22-14	2.63	1.070	-------	.624	.060			
Apr. 29									
4:00 a	32-16	1.87	1.003	.772	*.640*	.165	4	1029	P=58.6%.
3:56 a	33-08	1.82	1.035	*.779*	.650	.155			

POSITIONS AND AREAS OF SUN SPOTS

Communicated by Capt. J. F. Hellweg, Superintendent United States Naval Observatory. Data furnished by Naval Observatory, in cooperation with Harvard, Yerkes Perkins, and Mount Wilson Observatories. The differences of longitude are measured from central meridian, positive west. The north latitudes are plus. Areas are corrected for foreshortening and are expressed in millionths of sun's visible hemisphere. The total area, including spots and groups, is given for each day in the last column.

Date	Eastern standard civil time	Heliographic			Area		Total area for each day
		Diff. long.	Longitude	Latitude	Spot	Group	
1932	*H m*	°	°	°			
Apr. 1 (Naval Observatory)	10 41	+16.0	115.0	+13.0	77	-------	77
Apr. 2 (Naval Observatory)	11 53	+29.5	114.7	+13.0	62	-------	62
Apr. 3 (Naval Observatory)	12 22	+58.0	129.7	−10.0	-------	108	108
Apr. 4 (Naval Observatory)	11 18	+80.0	139.1	−10.0	-------	93	93
Apr. 5 (Naval Observatory)	12 27	No spots			-------	-------	-------
Apr. 6 (Naval Observatory)	10 47	No spots			-------	-------	-------
Apr. 7 (Naval Observatory)	10 46	No spots					
Apr. 8 (Yerkes Observatory)		No spots					
Apr. 9 (Yerkes Observatory)		No spots					
Apr. 10 (Mount Wilson)	18 0	−67.0	269.2	−8.0	-------	2	-------
		+23.0	359.2	−14.0	-------	4	6
Apr. 11 (Yerkes Observatory)		No spots			-------	-------	-------
Apr. 12 (Naval Observatory)	11 45	No spots			-------	-------	-------
Apr. 13 (Naval Observatory)	10 30	No spots			-------	-------	-------
Apr. 14 (Naval Observatory)	10 38	No spots			-------	-------	-------
Apr. 15 (Naval Observatory)	11 4	+0.0	274.0	−18.0	15	-------	-------
		+3.0	277.0	−16.0	25	-------	40
Apr. 16 (Naval Observatory)	10 47	+16.0	277.0	−16.0	15	-------	15
Apr. 17 (Naval Observatory)	11 26	+28.0	275.4	−19.0	25	-------	-------
		+30.0	277.4	−15.0	31	-------	56
Apr. 18 (Naval Observatory)	10 29	No spots			-------	-------	-------
Apr. 19 (Naval Observatory)	10 38	No spots			-------	-------	-------
Apr. 20 (Naval Observatory)	10 59	No spots			-------	-------	-------
Apr. 21 (Naval Observatory)	11 52	−50.0	144.3	+9.0	-------	154	-------
		+60.0	254.3	−8.0	-------	216	370
Apr. 22 (Naval Observatory)	10 37	−36.0	145.8	+9.0	-------	340	-------
		+73.0	254.8	−8.0	-------	216	556
Apr. 23 (Naval Observatory)	11 5	−23.0	145.3	+9.0	-------	463	463
Apr. 24 (Naval Observatory)	14 12	−8.0	145.4	+9.0	-------	463	463
Apr. 25 (Harvard Observatory)	13 27	+5.0	145.7	+9.0	-------	908	908
Apr. 26 (Naval Observatory)	11 25	+16.0	144.5	+9.0	-------	556	556
Apr. 27 (Naval Observatory)	10 13	+29.0	145.0	+10.0	-------	556	556
Apr. 28 (Naval Observatory)	10 29	+42.0	144.6	+10.0	-------	617	617
Apr. 29 (Naval Observatory)	10 11	+56.0	145.5	+10.0	-------	432	432
Apr. 30 (Naval Observatory)	11 38	+70.0	145.5	+10.0	-------	401	401
Mean daily area for April							193

PROVISIONAL SUN-SPOT RELATIVE NUMBERS FOR APRIL, 1932 [1]

[Data furnished through the courtesy of Prof. W. Brunner, University of Zurich, Switzerland]

April, 1932	Relative numbers	April, 1932	Relative numbers	April, 1932	Relative numbers
1	8	11	0	21	*W*Ecc 18
2	8	12	0	22	34
2	16	13	0	23	29
4	9	14	0	24	-------
5	0	15	8	25	*b* 31
6	0	16	8	26	31
7	0	17	9	27	32
8	0	18	8	28	27
9	0	19	0	29	24
10	0	20	0	30	14

Mean: 29 days 10.8.

[1] Dependent alone on observations at Zurich and its station at Arosa.

a=Passage of an average-sized group through the central meridian.
b=Passage of a large group or spot through the central meridian.
c=New formation of a center of activity: E, on the eastern part of the sun's disk; W, on the western part; M, in the central zone.
d=Entrance of a large or average-sized center of activity on the east limb.