

the Earth will occur on 19th April 1917, at a distance of only 0.4986 astronomical units, or 46,000,000 miles. The details are as follows:—

$$\begin{aligned}
 M &= 74^\circ 8' 17.4'' & \text{Log } a &= 0.1638461. \\
 \pi &= 121^\circ 25' 31.9'' & \text{Log } c &= 9.3482445. \\
 \alpha &= 303^\circ 35' 8.69'' & \text{Log } q &= 0.0542801. \\
 i &= 10^\circ 49' 39.64'' & u &= 2014''.8299. \\
 X &= r (9.99461) \sin (34^\circ 3' 41'' + u) \\
 Y &= r (9.94143) \sin (299^\circ 0' 14'' + u) \\
 Z &= r (9.70826) \sin (319^\circ 31' 38'' + u)
 \end{aligned}$$

	<i>R.A.</i>			<i>Decl.</i>	<i>Logr.</i>	<i>Log Δ</i>
	h.	m.	s.			
On March 1 ...	15	4	15	—39° 47' 43"	0.10126	9.75592
„ April 19 ...	14	55	2	—50° 27' 30"	0.15070	9.69779
„ June 1 ...	13	56	9	—38° 33' 25"	0.19054	9.79274

Paper on Last Year's Sun-spots,

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DURING last year the maximum solar activity has continued to manifest itself as in 1915. Indeed the spot surface even increased somewhat until June 1916, when a violent paroxysm was followed by comparative calm, varied with several fluctuations. The northern hemisphere has had nearly double the number of spots that the southern hemisphere has produced. Many of the spots have been visible by the naked eye. Many spots have increased in size with extraordinary rapidity. From the 18th to the 20th of August, within the 48 hours, a little group of spots has increased more than ten-fold in diameter, from 6,000 to 65,000 miles. The largest spot had a diameter of 80,000 miles; it had an immense tongue of fire, which almost crossed the dark back-ground like a bridge. Last year the records for the highest latitude of a sun-spot has been recorded, namely, 59 degrees. Hitherto the highest latitude recorded (by Peters in 1846) was 50 degrees. Moreover, the greatest protuberance hitherto recorded was photographed by Mr. Evershed in Kashmir on 26th May 1916, extending to a distance from the limb of 18 minutes, or 500,000 miles, or over twice the distance of the Moon from the Earth. These great fountains of fire have been expelled from the Sun at the velocity of 120 miles per second. The terrestrial magnetic activity has been correspondingly excessive last year, though it does not synchronize exactly with the solar activity for some reason as yet not known.