

THE LEONID METEOR SHOWER OF 1898,

By EDWIN F. SAWYER.

The watch for the advance guard of the *Leonid* meteor shower due next year, was begun on Nov. 11 and continued until the 18th, although opportunities for observing the shower only presented themselves on the 11th, 12th and 14th, and for a short time on the 15th, on the other nights the sky remaining persistently overcast. On all occasions the center of observations was the sickle in *Leo*, and the view restricted to one-sixth of the visible heavens. On the 11th, from 14^h to 15^h, only three meteors were seen, none being *Leonids*. On the 12th, from 17^h to 17^h 30^m, only one faint meteor was observed, not a *Leonid*. On the 14th the watch was quite successful and was prolonged three hours from 13^h to 16^h with the results given below. On the 15th, from 11^h.45 to 12^h.15, only one was seen, not a *Leonid*.

Limits of Watch B.M.T.	Duration	Meteors Seen		
		Leonids	Others	Total
13 ^h 0 ^m - 13 ^h 30 ^m	30	9	2	11
13 30 - 14 0	30	5	1	6
14 0 - 14 30	30	7	2	9
14 30 - 15 0	30	7	1	8
15 0 - 15 30	30	8	4	12
15 30 - 16 0	39	6	2	8
	180	42	12	54

Per cent. of *Leonids*, 78.0.

Brighton, 1898 November 20.

The magnitudes of those recorded were as follows:

	>1 ^m	1 ^m	2 ^m	3 ^m	4 ^m <	Total
Leonids	4	4	10	11	13	42
Others	0	1	1	3	7	12
Total	4	5	11	14	20	54

In mapping the meteor tracks, attention only was given to those with short paths accurately observed near the radiant center, and only five such were noted, which gave a well determined center as at R.A. 148°.75; Decl. +22°.25.

METEOR TRACKS MAPPED.

No.	Boston M.T.	Mag.	Observed Path		Length of Path	Wt.
			From R.A. Decl.	To R.A. Decl.		
1	13 24 ^m	3	154° +24.5°	155.5° +25°	2	4
2	13 59	4	155° +25½°	157° +27°	2	4
3	14 1	>1	161.5° +18.5°	164° +17¾°	3	3
4	14 43	3	147.5° +14°	147¼° +12°	2	3
5	15 3	1	143° +9¼°	142° +7°	3	3

The bright meteors were of a decidedly green color, with persistent streaks, in one case lasting half a minute. There appeared to be no increase in the number observed from hour to hour during the watch.

NEW ASTEROIDS.

		1898	M.T.	α	δ	Daily Motion	Discoverer
<i>DU</i>	12 ^m	Nov. 8	9 ^h 57.6 ^m Nice	2 ^h 49 ^m 36 ^s	+15° 31'	-60 ^s -2'	Charlois
<i>DV</i>	12	Nov. 6	11 18.0 Heidelberg	3 10 8	+20 50		Wolf, Schwassmann
"		13	8 16.0 "	3 4 36	+18 56		
<i>DW</i>	12	Nov. 6	11 18.0 "	3 4 40	+18 15		Wolf, Villiger
"		13	8 16.0 "	2 58 40	+17 7		
<i>DX</i>	12	Nov. 6	11 18.0 "	3 2 24	+17 15	-44 -9	Wolf, Villiger
<i>DY</i>	13	Nov. 13	12 54.0 "	3 39 0	+17 59		Wolf, Villiger
"		18	10 52.0 "	3 34 48	+17 38		
<i>DZ</i>	12	Nov. 19	10 26.0 "	3 20 16	+19 2	-60 -5	Wolf, Villiger
<i>EA</i>	12.5	Nov. 19	13 39.0 "	2 57 12	+15 30	-44 -9	Wolf, Villiger

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