

FURTHER INFORMATION REGARDING THE METEORIC DISPLAY OF FEBRUARY 9, 1913.

By C. A. CHANT.

ELSEWHERE in this issue is a discussion of this remarkable phenomenon by Mr. W. F. Denning, F.R.A.S., of Bristol, England; and since it was put in type fresh information has been received from two sources.

In my original paper one of the most interesting of the observers' reports printed was by Colonel W. R. Winter, of Bermuda. He has been able to collect additional facts, and has embodied them in a letter dated November 24, which I give in full below. Another discussion of the display appears in the *Journal* of the British Astronomical Association, written by Rev. M. Davidson, B.A., B.Sc., F.R.A.S., a well-known English authority on these subjects; and Mr. Denning has forwarded to me a synopsis of this paper. It deals chiefly with mathematical calculations of the path of the bodies, and is printed immediately after Colonel Winter's communication. Following this, I offer some remarks on these two papers.

MORE NEWS OF THE METEORS FROM BERMUDA

By W. R. WINTER

[A LETTER TO THE EDITOR]

I and many others have read with much interest the reports in your article in the *JOURNAL* and especially your review of them and your deductions. I have been able through this to get more information and give a general average of the opinions formed below:—

Appearance of the Display. The display came in sight in the north-western sky and, to the observers south of Hamilton, appeared to pass over or near the Bermuda Cathedral and cross the Island to the south of south-east. To me it appeared to come

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over the Cathedral and to disappear behind the crest of Milford Hill. This would give a parallel to its track.

When first seen it was taken for a display of two arc lights at the electric station which lies behind the Cathedral.

When these two leading bodies came to a point opposite the observer's station it was noted that they were flaking or emitting sparks which accompanied them, but did not form the larger trailers which followed, which resembled sky rockets in appearance; these were apparently formed by explosions, one of which occurred in Bermuda and was witnessed by Mr. F. Goodwin Gosling and Mr. R. Ingham.

It is agreed that the general appearance of the display differed materially from the reports of most of the observers in Ontario. Most of the large leading bodies had disappeared and the number of trailers and groups had greatly increased. These groups in some instances were very large and spread from 30° to 50° towards the zenith, they were connected by stragglers singly and in pairs. As they dropped behind they shortened in length and became more red in appearance until the last were mere red specks with a bluish flame-like appearance above them; they also appeared to have lost their energy and to resemble wind driven pieces of burning brown paper.

The two leading bodies were very brilliant and resembled arc lights and I observe that very few noticed this: Mr. W. H. Stevenson of Fenelon Falls, is one of the exceptions.

Time taken in passing. I regret that no one timed these objects in passing. Mr. Goodwin Gosling, having watched the leaders pass out of view behind the trees, had time to go into the house, upstairs and to call others and even then a steady stream was coming from the north-west sky, and it was a considerable time before all had passed. Two minutes seems a low estimate of the time in which they appeared to sail slowly and majestically across the sky.

Height above horizon. The various angles are very conflicting but there is no doubt that they were $30''$ from the horizon, at least. Mr. Goodwin Gosling's angle was carefully taken in