area so if that observer heard real detonations the lack of symmetry is even more pronounced. This suggested that at the time of the fall of the meteor, northwesterly winds were prevailing over that part of Ontario. We, therefore, wrote to Mr. J. Patterson, Controller of the Meteorological Division of the Air Services at Toronto, Canada. Mr. Patterson replied that "at 8:00 P.M., a cold wave was advancing rapidly from northwestern Ontario with westerly winds." At 9:00 P.M. the winds were north and northwest, in general, for the area of detonations. This accounts for the area lying farther to the east and south than is normal for a detonating meteor.

Preliminary Determination of the Velocity

Estimates for the duration of the detonating meteor ran from a few seconds up to three minutes. No doubt the higher estimates were due to the observer's confusing the duration of the entire display with the duration of the detonating meteor. From celestial mechanics, the minimum velocity with which a meteor can enter the earth's atmosphere is seven miles per second. The path length was 116 miles, so even making allowance for atmospheric retardation, the duration could hardly have exceeded 20 seconds. Estimates of 30 seconds and above were rejected as impossible. Using the nine lower estimates which appeared to refer to the detonating meteor, we obtained 12½ seconds for the duration, corresponding to a velocity of 9.3 miles per second. This was only a preliminary figure, and it was rounded off to 9½ miles for obtaining the more exact value of the velocity from the zenith attraction.

The Velocity from the Zenith Attraction

It was assumed that the meteor reported from Ann Arbor came from the same radiant and with the same velocity as the Ontario detonating meteor. The procedure for obtaining the accurate velocity was as follows: With the preliminary value for the velocity (9.5 miles per second), the altitude of the radiant of the detonating meteor was corrected for zenith attraction. The corrected radiant was reduced to right ascension and declination. The right ascension and declination of the corrected radiant were reduced to altitude and azimuth for Ann Arbor at the time of the fall of the Ann Arbor meteor. With the preliminary value of the velocity, the zenith attraction was computed, and the altitude and azimuth of the apparent radiant were obtained for Ann Arbor. These coördinates of the apparent radiant were reduced to right ascension and declination, and checked against the great circle of the Ann Arbor meteor. If the correct velocity had been assumed, the radiant of the detonating meteor would seem to fall on the great circle of the Ann Arbor meteor as seen from Ann Arbor.

The work was carried through graphically for the assumed velocity, 9.5 miles per second, and it was found that the radiant missed the great circle by some two degrees. The graphical work indicated that the correct velocity was about 10.2. Computation using a slide rule and four-place