

Incident: 227

of these meteor showers normally produce extremely bright green fireballs such as those recently observed. For example, the observation mentioned by Mr Monnig (Incident 231) appeared near the maximum of the Quadrantid shower of early January. Mr McCullough's observation of August was near the time of the Persid shower (Incident 230) and the December observations (223, 223a, 224, 226, 227, etc) fell in the interval covered by the Geminid shower. This relationship might indicate an attempt to render the green fireballs less conspicuous by causing them to appear only when there is considerable meteoric activity.

h. As noted in an earlier communication the remarkably vivid green color reported for most of the December fireballs is rarely observed in the case of genuine meteors. By laboratory test this peculiar color seems to be identical with that given off by copper salts in the blowpipe flame. If this identification is correct, the wavelength of the radiation from the green fireballs is near $\lambda = 5215 \text{ \AA}$.

i. The duration estimates of between 2 and 3 seconds reported for the green fireballs are considerably longer than those (0.4 - 0.5 seconds) for the ordinary visual meteors, but shorter than the duration estimates invariably reported in the case of a genuine meteorite fall (5 to 30 seconds or even longer).

j. None of the green fireballs seem to have a train of sparks or a dust cloud following. This contrasts sharply with the behavior noted in case of meteoric fireballs - particularly those that penetrate to the very low levels where the green fireball of December 12 was observed.

NOTE: Inquiry at Holloman AF Base, Alamogordo, N. M., revealed that research work at night and on Sundays does not involve the use of any lighting device or flares such as described in the various reports submitted.