

# Letters to the Editor

## LONGITUDE BY THE GREEN FLASH

SIR,

I have recently been looking into methods of obtaining longitude by noting the time of sunset or sunrise and I wonder if any members of the Institute have any reference to the early use of the method. It was certainly to my knowledge used in about 1925, and for the most part it seems to have been handed down by word of mouth.

The instant of the Sun's disk breaking surface at sunrise and the last sight of it vanishing at sunset is distinguished by the appearance of the well-known green flash. If this instant of time is recorded in G.M.T. from a chronometer, the longitude can then be computed by any of the methods used at sea, starting with the observed altitude of the Sun's upper limb as zero, and applying dip, semi-diameter, refraction and parallax; particular care must of course be taken to adjust for refraction for the prevailing temperature and pressure.

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Australia.

Yours faithfully,  
BRETT HILDER.

Tables for finding the longitude by chronometer at sunrise and sunset, compiled by H. B. Weston, were published by the Admiralty in 1851. During the last war tables for use with this method were prepared by H.M. Nautical Almanac Office for lifeboat navigation, and Harold Gatty's *Raft Book* published in 1943 also contained similar tables.

Observation of the instant of sunrise or sunset by the green flash does not appear, from any written accounts, to have been used to any extent, though undoubtedly it would give the precise time of the occurrence. Its observation at sunrise is apt to be missed, however favourable the conditions, unless the precise point on the horizon where the Sun will appear is watched. At sunset it is often observed in a markedly clear and dust-free atmosphere and in conditions of abnormal refraction, though it is by no means always observed when favourable conditions prevail. A great deal of informative matter about the phenomenon, and about the green ray which differs slightly from it, is given in the *Manual of Meteorological Observing* Part II (H.M. Stationery Office, London, 1950), and it is interesting to note that it can be observed with the setting Moon and with the bright planets Venus and Jupiter. Descriptions of what is actually observed, and under what conditions, can be of value to meteorologists and members may care to comment on Captain Brett Hilder's letter and also to write in any interesting details of their own observations of the green flash.—Ed.

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## ASTRO-FIX BY RANGES

SIR,

I read Professor Collins's paper (Vol. IV, No. 1) with great interest. It seems to me however that the method he proposes has a disadvantage in that the pre-computed data for great circles of position for stars on the same vertical or on the same almucantar are not always accessible. Instead, therefore, of using this pre-computed data, I would suggest an alternative method of calculation as follows.