

fatal. In the case of fatalities resulting from this cause, it is believed that positive lightning was involved. Physical effects of electrical origin on service continued in all-metallic aircraft are negligible, owing to the Faraday-cage protection afforded by the conducting skin. However, a slight electrical shock may be experienced by a crew member aboard an aircraft if he is making good contact at two well separated points during passage of the steep wavefront of potential through the area of contact at the time of a real lightning stroke.

(7) Accompanying Phenomena

1. Sound

The origination and dissipation of "ball lightning" at the surface are often attended by a sharp report, but not invariably. Very frequently the beginning or end, respectively, of "ball lightning" is accompanied by a positively identified streak of streak lightning to or very nearly to the point of observation. The thunder produced by such a stroke will naturally be considered by many observers to have been associated with the "ball lightning." "Ball lightning" which is in the form of a corona discharge makes very little sound, since the current carried is very low and the explosive heating effects on the air negligible. Lightning of the continuing-current type, with low-wavefront, will not produce intense sounds, and this is to be more at least expected, since of isolated luminous dart streamers (streamers) the character of preceding or succeeding lightning strokes. Such streamers have been included in the category of "ball lightning."

2. Chemical Effects

The color of smoke in connection with "ball lightning" has been reported by some observers. This is to be expected in cases where the phenomenon is a brush discharge which produces some ion air. When actual streak lightning is involved, the formation of smoke of nitrogen and ozone is a normal occurrence.

3. Thermal Effects

Fires have been caused in combustible material, such as straw, by discharges reported to have been "ball lightning."

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