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Terrestrial Gamma-Ray Flash Intensity Distribution

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The most probable source lightning discharges associated with TGFs detected by the RHESSI satellite are determined from WWLLN data. Of the 972 TGFs considered, matches were found for 93 events. For these the causative lightning was found to occur at distances between 51 and 769 km, with a mean distance of 314 km. The average delay between the matched WWLLN events and the corresponding TGFs was found to be $\Delta t = -0.773$ ms, indicating that the TGFs preceded the lightning peak power. The distribution of matched TGFs indicates that WWLLN is more likely to identify lightning strokes associated with weaker TGFs.