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Remote Sensing of Lightning Ground Strokes Using the Toga of Sferics

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A novel approach of measurement of the Time Of Group Arrival (TOGA) of sferics produced by lightning is used by the World Wide Lightning Location Network (WWLLN), to locate the occurrence of cloud-to-ground (CG) flashes around the globe.22 Universities/Institutes around the globe including the University of South Pacific are participating in this programme. Two year records of lightning incidence in the two large islands of the Fiji group are presented in this paper. Spatial distribution of CG strokes in the largest island showed a peak of $>$ 160 CG lightning incidences/year in an area of 20 km square. The seasonal variation showed enhanced lightning incidences during November-April and the diurnal variation showed peak activity from 14:00 hrs- 16:00 hrs local time. Five-year data of the Lightning Imaging Sensor (LIS) aboard the NASA Tropical Rainfall Measuring Mission (TRMM) satellite are also presented which show good correlation of seasonal and diurnal variations with those obtained from TOGA measurements.