

TLE study in South America using triangulation technique

A. Moraes¹, F. T. São Sabbas¹.

¹*Instituto Nacional de Pesquisas Espaciais - INPE, Av. dos Astronautas 1758, São José dos Campos, Brazil, 12227-010*

Ground observations of Transient Luminous Events — TLEs have been performed for roughly 20 years by numerous research groups around the globe. In this work we will analyze ground observations of TLEs in South America using the Latin American Collaborative Network for Transient Luminous Event Observation — LATINET with the objective of triangulating the recorded events. We will use data from low-light level CCD cameras installed in at least two different sites and combine the triangulated TLE locations with data from the Brazilian Lightning Detection Network to determine the parent lightning of the observed events. The results will be compared with previous triangulation studies from abroad. Specifically, we will investigate if the high energy particle precipitation in the South Atlantic Magnetic Anomaly has any significant impact in the local mesosphere that could affect the sprite top altitudes.