

SCOPE AND STRATEGY OF RISING SATELLITE OBSERVATION WITH GROUND-BASED NETWORK

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RISING satellite, the project name of SPRITE-SAT, was successfully launched by HIIA rocket from Tanegashima, Japan on 23 Jan., 2009 and inserted into the geosynchronous (01-13h meridian) low altitude (660km) orbit. It was developed and fabricated in-house by Tohoku University team supported by several universities and institutes. The total weight of the satellite is about 50 kg, including 5 kg science mission payloads, that is, two CMOS imagers with interference filters, a fish-eye CCD imager, a gamma-ray detector and a VLF receiver with 1-m deployable mast antenna. There are two scientific objectives in this micro-satellite mission: the first is to identify the generation mechanisms of sprites by investigating their horizontal structures, and the second is to identify the generation mechanisms of TGFs by investigating their location of parent lightning discharge. Though the start of the regular observation is delayed due to the trouble in telemetry, here we show the scope and strategy of planned spacecraft observation including operation of the ground-based Asian VLF and the worldwide ELF networks installed by Japanese team.

sprite, TGF, microsatellite

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