

## SPRITE-SAT 搭載オンボードトリガシステムの開発

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### Development of onboard trigger system of SPRITE-SAT

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PRITE-SAT is now being developed in-house by the Tohoku University team, which will be launched in January 2009. The total weight of the satellite would be less than 50 kg, including 4-5 kg science mission payload. 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 source location and relationship to lightning discharges. The science instruments onboard SPRITE-SAT consist of two CMOS cameras (LSI), one all-sky CCD cameras (WFC), one CCD camera (HSS), gamma-ray detectors (TGC), and one VLF receiver. These instruments will be operated by different operational modes at the orbit. SPRITE-SAT has three operational modes, MODE-1, MODE-2, and MODE-3. In the MODE-1 operation, LSI and VLF are operated. Though these two sensors equip each trigger function, we select only one sensor which is responsible for the triggering and generates triggering signal by using the commands. In the MODE-2 operation, VLF, TGC and WFC will be turn on. In this mode VLF or TGC is responsible for the triggering. At the presentation, we will show the specifications and performances of the onboard trigger system and will discuss expected science output more in detail.

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