# Current Status of the Lightning and Sprite Measurements from International Space Station

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Current status of the lightning and sprite measurement from international space station is reported and discussed. In 2007, a project to put the sprite and lightning measurement sensor on the Japanese exposure module in international space station was firstly proposed to the Japan Aerospace Exploration Agency and was selected as one of the eight candidates in 2011 launching mission. After the Mission Definition Review in August 2007, this proposal was reviewed and was selected as one of the five final candidates. After taking the System Requirement Review and the System Definition Review, this mission (JEM-GLIMS) has moved to the developing stage in the fall 2008, and will be launched in 2011 with the H2B rocket.

In this mission, we have several different sensors on th same platform. These sensors consist of two optical imagers at two different frequencies, photo meters at six frequencies, and the VHF antennas to detect, locate and identify the lightning process which produces sprites. Our goals are (1) to detect and locate lightning and sprite within storm scale resolution over a large region of the Earth's surface along the orbital track of the ISS without any bias, (2) to clarify the sources of the sprite, and (3) to identify the sources of the terrestrial gamma ray flash. In addition to these, the ASIM mission is now planned and expected to begin the observation at the same time. The ASIM mission will have gamma ray flash detector and the TRMM/LIS type sensor which can detect and locate the lightning flash during daytime and nighttime. By combining the result from these sensors, the mechanism how the sprite occurs will be investigated.