

ISS 搭載可視分光器 IMAP/VISI による大気光観測：初期結果報告

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Initial result of airglow observation with a visible spectrometer ISS-IMAP/VISI

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The ISS-IMAP is a science mission which will observe the thermosphere, ionosphere and plasmasphere from the international space station (ISS) at an altitude of 400 km. This mission is one of the Multi-mission Consolidated Equipment (MCE) installed on the exposed facility (EF) of the Japanese experiment module (JEM), scheduled to be launched on July 21, 2012 with HTV3 (Konotori). The ISS-IMAP consists of a visible imaging spectrometer (VISI) and extra-ultra violet imager (EUVI). VISI will measure three nightglow emissions; O (630 nm, altitude 250 km), OH Meinel band (730 nm, altitude 87km), and O₂ (0-0) atmospheric band (762 nm, altitude 95 km) with the two field-of-views looking forward (+45 deg. to nadir) and backward (-45 deg. to nadir) to make a stereoscopic measurement of the airglows to subtract background contaminations from clouds and ground structures. Each field-of-view is faced perpendicular to the orbital plane, and its width is about 550 km mapping to an altitude of 100 km. We will obtain a continuous line-scanning image for all emissions line from + 51 deg to -51 deg. in geographic latitude by the successive exposure cycle with a time interval of 1 - several sec.

After the launch on July 21, the HTV3 will be docked on ISS on July 27, and MCE is scheduled to be installed on JEM/EF on August 9. Further, the initial check out of VISI will be carried out on August 11 - 14. We will start nominal operation from the end of September or October. In this presentation, the initial results of VISI and the current status of operation will be given.