

HISUI STATUS TOWARD FY2019 LAUNCH

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Hyperspectral Imager Suite (HISUI) is a future spaceborne hyperspectral Earth imaging system being developed by Japanese Ministry of Economy, Trade, and Industry (METI). It is METI's fourth spaceborne optical imaging instrument mission, after Optical Sensor (OPS) onboard Japanese Earth Resource Satellite 1 (JERS-1) operated in 1992 - 1998, Advanced Spaceborne Thermal Emission and Reflection Radiometer (ASTER) onboard NASA's Terra satellite launched in 1999, and Advanced Satellite with New system Architecture for Observation 1 (ASNARO-1) launched in 2014. In 2015, METI decided the deployment of HISUI on International Space Station (ISS) rather than a dedicated polar orbiting sun synchronous satellite.

HISUI project is currently being promoted by two organizations each of which has a contract with METI: Japan Space Systems, and National Institute of Advanced Industrial Science and Technology (AIST). In addition, several scientists from domestic universities and national research institutes are participating in the HISUI project.

HISUI consists of a reflective telescope and two spectrometers which cover the visible and near infrared region (VNIR) and the shortwave infrared region (SWIR). Each spectrometer consists of a grating and a two-dimensional detector. SWIR spectrometer has a Stirling cooler for the SWIR detector. Manufacturing and testing of HISUI Flight Model were almost completed, design of HISUI Exposed Payload System is being conducted. The HISUI system will be ready for launch by Space X's Dragon in FY2019.

Around 2020, there will be several advanced earth observation instruments on ISS other than HISUI: DLR Earth Sensing Imaging Spectrometer (DESI), ECOsystem Spaceborne Thermal Radiometer Experiment on Space Station (ECOSTRESS), Global Ecosystem Dynamics Investigation (GEDI), and Orbital Carbon Observatory 3 (OCO-3). Simultaneous operation of these instruments will provide unprecedented opportunities to use diverse remote sensing data acquired at the same time from the same platform.

HISUI data policy and research announcement are being discussed. For more details, contact hisui_application@jspacesystem.or.jp

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