Mission outline of Space Environment Data Acquisition equipment - Attached Payload (SEDA-AP)

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In future space activities, it is very important that space environmental data about space radiation degradation of space parts & materials and space craft anomalies are acquired for space craft design and manned space activity.

JAXA's experimental spacecraft have installed Technical Data Acquisition Equipment (TEDA) and Space Environment Data Acquisition equipment (SEDA) for getting the above data on each satellite since Engineering Test Satellite-V (ETS-V).

Space Environment Data Acquisition equipment - Attached Payload (SEDA-AP) will be launched by Space Shuttle and attached to the JEM-EF. It will measure space environment data on the International Space Station (ISS) orbit. SEDA-AP is composed of common bus equipments that supports launch, RMS handling, power/communication interface with JEM-EF, an extendible mast that extends the neutron monitor sensor into space (1m), and equipments that measure space environment data.

SEDA-AP has seven measurement units as follows,

(1) Neutron Monitor (NM)
(2) Heavy Ion Telescope (HIT)
(3) Plasma Monitor (PLAM)
(4) Standard Dose Monitor (SDOM)
(5) Atomic Oxygen monitor (AOM)
(6) Electronic Device Evaluation Equipment (EDEE)
(7) Micro-Particles Capture (MPAC) and Space Environment Exposure Device (SEED)

All space environment data, which include the data of SEDA-AP, are opened to the public by Space Environment & Effect System (SEES; http//sees.tksc.nasda.go.jp) and will be used widely by academic and industrial users in laboratories, universities, and JEM experiment investigators, etc. in spacecraft operation, engineering field and scientific research.