

Space Environment Data Acquisition Equipment-Attached Payload (SEDA-AP) on the International Space Station

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To support future space activities, it is very important to acquire space environmental data related to space radiation degradation of space parts and materials and spacecraft anomalies. Such data are useful for spacecraft design and manned space activity.

On several satellite of the Japan Aerospace Exploration Agency (JAXA) since the Engineering Test Satellite-V (ETS-V), Technical Data Acquisition Equipment (TEDA) and SEDA have been installed for obtaining the data described above.

In fact, SEDA-AP will be launched by the Space Shuttle and attached to the JEM-EF. It will measure space environment data on ISS orbit. The SEDA-AP comprises common bus equipment supporting launch, RMS handling, the power/communication interface with JEM-EF, an extendible mast that extends the neutron monitor sensor 1 m separate from the bus structure, and equipment that measures space environment data. Figure 1 portrays an artist's rendering of the Kibo and the Exposed Facility. Figure 2 depicts a perspective drawing of SEDA-AP.

This paper reports the mission objectives, instrumentation, and current status of SEDA-AP.