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MEASUREMENT RESULT OF THE NEUTRON MONITOR ONBOARD SPACE ENVIRONMENT DATA ACQUISITION EQUIPMENT - ATTACHED PAYLOAD (SEDA-AP)

Abstract

To support future space activities, it is very important to acquire the space environmental data which causes the degradation of space parts and spacecraft anomalies. Such data are useful for spacecraft design and manned space activity. Space Environment Data Acquisition - Attached Payload (SEDA-AP) measures the space environment around the International Space Station (ISS) by being attached to the Exposed Facility(EF) of the Japanese Experimental Module ("Kibo"). The Neutron Monitor (NEM) is one of the detectors in SEDA-AP. This instrument was developed to measure the solar neutrons which are produced by solar flare event. The solar neutron is a good indicator to clarify the acceleration mechanism of charged particles at the solar flare. Because of the energy of solar neutron is not influenced by the interplanetary magnetic field, it has the information of the energy of the accelerated charged particle directly. We have been analyzing the neutron data at several M or X class solar flare from September 2009. The mission objectives, instrumentation and measurement status of the neutron monitor are reported.