

## Measurement result of the neutron monitor onboard Space Environment Data Acquisition Equipment-Attached Payload (SEDA-AP)

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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 (&quot;Kibo&quot;).

The Neutron Monitor (NEM) is one of the detectors in SEDA-AP. There are three kinds of neutrons measured in space as follows,

1. Albedo Neutron

Caused by galactic cosmic ray and radiation react with atmosphere

2. Local Neutron

Caused by galactic cosmic ray and radiation react with spacecraft

3. Solar Neutron

Caused by accelerated particle in solar flare

Because the shield is difficult, and the influence is large to the human body, the neutron is very important for the astronaut's radiation exposure management. Moreover, it is important to measure the albedo neutron because it is thought that the proton that is generated by neutron decay is an origin of the radiation belt. This theory is called as CRAND (Cosmic Ray Albedo Neutron Decay).

The results of these analyses about radiation dose equivalent for astronauts and albedo neutron measurement are reported.