

[EE] Evening Poster | P (Space and Planetary Sciences) | P-EM Solar-Terrestrial Sciences, Space Electromagnetism & Space Environment

## [P-EM16]Dynamics of Earth's Inner Magnetosphere and Initial Results from Arase

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Earth's inner magnetosphere is a fascinating source of space research problems. There remain many fundamental questions concerning the physics of the radiation belts, the ring current, the plasmasphere and the ionosphere. The JAXA spacecraft Arase(ERG) was successfully launched in December 2016, and has since been providing excellent data on waves, particles and fields over a range of L-shells in the inner magnetosphere. This session particularly welcome submissions related to the Arase mission. As well, data from other recent missions to the magnetosphere are also welcome, including the Van Allen Probes, MMS, and THEMIS. Topics of interest include charged particle interactions with the predominant electromagnetic wave modes such as whistler-mode chorus and hiss, ion cyclotron waves, magnetosonic waves, and ULF waves. Projects involving the prevailing issues of particle acceleration and loss, and particle transport are also of interest. In addition, projects involving the coupling of plasma populations in the inner magnetosphere are also timely. Studies involving observations, simulations, theory and modeling are all invited.

## [PEM16-P26]Calibration of HEP instrument onboard Arase using Geant4

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High-Energy electron Experiment(HEP) instrument onboarded the Arase satellite has continuously observed since March 2017. The HEP instrument was designed to observe 70 keV - 2 MeV electrons of the radiation belts. The HEP instrument is affected from background particles such as SEP as well as the trapped proton, and careful calibration is necessary to obtain the data. In this study, using the Geant4 simulation tool, we conducted the Monte-Carlo simulation for incoming particles to estimate effects from background particles and to establish a guideline for calibration of the observed data. In the presentation, we will report characteristics of flux dropout of the outer belt during the storm main phase observed by Arase/HEP.