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

[P-EM12]Space Weather, Space Climate, and VarSITI

convener:Ryuho Kataoka(National Institute of Polar Research), Antti A Pulkkinen (NASA Goddard Space Flight Center), Kanya Kusano(名古屋大学宇宙地球環境研究所, 共同), Kazuo Shiokawa(Institute for Space-Earth Environmental Research, Nagoya University)

Thu. May 24, 2018 5:15 PM - 6:30 PM Poster Hall (International Exhibition Hall7, Makuhari Messe)

Past, Present, and Future of Solar-Terrestrial Environment is the keynote of this session. We share the latest scientific papers to understand how the solar-terrestrial environment changes in various time scales, and discuss the necessary international collaboration projects associated with VarSITI. More specifically, welcomed papers include space climate studies using tree rings and ice cores; cutting-edge observational and modeling studies of geospace, heliosphere and the sun; simulation and statistical studies to predict the future space weather and space climate.

[PEM12-P12]Estimation of Japanese economic impact of extreme space weather due to failure in electricity transmission infrastructure

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Keywords:Extreme space weather, GIC, economic impact

Extreme space weather due to very powerful CMEs may potentially cause high geomagnetic induced currents (GIC) and then damage electricity transmission infrastructures. The cut off electric supply can cause regional blackout, which can lead severe damage on the regional economic activities. Oughton et al. (2017) quantified such impact on an extreme space weather event on US economy and indirect losses in the global economy, applying several patterns of blackout zone due to aurora.

Recently we have been developing an estimation model of economic impact in Japan due to extreme space weather GIC. We utilize Input-Output table of Japanese economy applying several patterns of blackout zone due to GIC similar to Oughton et al. (2017). We will report the current status of the model development and present initial results of a simplified version of the estimation model.