
[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-P11]Inclined Zenith Aurora over Kyoto on 17 September

1770: Graphical Evidence of Extreme Magnetic Storm

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Keywords:magnetic storm, aurora

Red auroras were observed in Japan during an extreme magnetic storm that occurred on 17 September 1770. We show new evidence that the red aurora extended toward the zenith of Kyoto around midnight. The basic appearance of the historical painting of the red aurora is geometrically reproduced based on the inclination of the local magnetic field and a detailed description in a newly discovered diary. The presence of the inclined zenith aurora over Kyoto suggests that the intensity of the September 1770 magnetic storm is comparable to, or slightly larger than that of the September 1859 Carrington storm. We show some more supportive graphical evidence of extreme magnetic storms.

Reference: Kataoka, R., &Iwahashi, K. (2017). Inclined zenith aurora over Kyoto on 17 September 1770: Graphical evidence of extreme magnetic storm. *Space Weather*, 15, 1314-1320.
<https://doi.org/10.1002/2017SW001690>