
[JJ] Evening Poster | M (Multidisciplinary and Interdisciplinary) | M-IS Intersection

[M-IS09] Electromagnetic phenomena associated with seismic and volcanic activities

convener: Tetsuya Kodama (Research Unit I, Research and Development Directorate, Japan Space Exploration Agency), Toshiyasu Nagao (Institute of Oceanic Research and development, Tokai University), Yasuhide Hobara (電気通信大学 大学院情報理工学研究科)

Tue. May 22, 2018 5:15 PM - 6:30 PM Poster Hall (International Exhibition Hall7, Makuhari Messe)

This session deals with reviews and contributions on the recent studies of electromagnetic (EM) phenomena associated with earthquakes and volcanic eruptions. One of the main targets of the session is to clarify the mechanism of seismo-EM emission and Lithosphere-Atmosphere-Ionosphere (LAI) coupling.

[MIS09-P04] Effect of temperature to stress-induced charges in gabbro

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Keywords: TEC: Total Electron Content, stress-induced charges, Earthquake

Preseismic ionospheric disturbance have been found repeatedly since the 2011 off the Pacific coast of Tohoku Earthquake (Heki, 2011, 2017). In order to understand the mechanism of this phenomenon, we investigate stress-induced charges from silicate rocks at more than room temperatures. As a result for gabbro with the temperature from 293K to 393K, the stress-induced current increased as an exponential function of temperature. This result shows that stressed rocks at seismic zone (ca. 620K) would produce more stress-induced charges before earthquakes.