Geophysical Research Abstracts
Vol. 14, EGU2012-5827, 2012
EGU General Assembly 2012

DEMETER ULF observations of turbulence during the period before large earthquakes

S. N. Walker (1), M. A. Balikhin (1), O. A. Pokhotelov (2), and M. Parrott (3)

(1) University of Sheffield, ACSE, Sheffield, United Kingdom (simon.walker@sheffield.ac.uk), (2) Institute of Physics of the Earth, Moscow, Russia, (3) LPC2E, Orleans, France

During the period before a major earthquake, the electrical properties of the crust change as the stresses increase. These changes can generate perturbations in the electric and magnetic fields, generating waves which may propagate through the atmosphere, resulting in perturbations of the ionosphere. In this present paper, data from the DEMETER satellite is analysed to search for enhancements in ULF wave activity in the vicinity of earthquakes as a prelude to the seismic event. Results are presented for two seismic events, the Sichuan event in 2008 and l'Aquila 2009 which show enhancements in wave activity with frequencies f$\sim$0.05Hz during the build up to a major earthquake.