



## **Structure function analysis of changes found in the ELF electric field prior to the strong earthquakes and in other highly perturbed regions.**

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We report the structure function analysis of changes found in electric field in the ELF range plasma turbulence registered by the DEMETER satellite in the ionosphere over epicenter region of three earthquakes. First one took place on 16th of December 2006 in Ping Tong Region with magnitude 7.1. Second was earthquake with magnitude 6.3 in L'Aquila on 6th April 2009. The last one took place on 27th of February 2010 in Offshore of Chile with magnitude 8.8. The structure functions were calculated also for the Polar CUSP region and equatorial spread F region. Basic studies of the turbulent processes were conducted with use of higher order spectra and higher order statistics. The structure function analysis was performed to locate and check if there are intermittent behaviors in the ionospheres plasma over epicenter region of the earthquakes. These registrations are correlated with the plasma parameters measured onboard DEMETER satellite and with geomagnetic indices.