



Statistical property of the ULF magnetic emissions in relation with Izu Island earthquake swarm in Japan

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ULF magnetic anomalies in relation with major Earthquakes have been reported in recent years. Previously reported anomalies are studied mainly by physical methods such as polarization and fractal analysis. In this paper we focus on the statistical property of the magnetic signal around Izu Island earthquake occurrence time. The cumulative distribution functions (CDF) of the magnetic power spectrum density (PSD) were calculated for different frequency band defined by so-called MP index in the year of the earthquake as well as other years (one year before and after the earthquake year) to exclude seasonal trend. As a result significant increase of PSD particularly above 80% (CDF) is observed before and during the earthquake only in year of earthquake for the frequency band including 0.01Hz. On the contrary the results from other years do not indicate systematic changes shown in the earthquake year.