Geophysical Research Abstracts,
Vol. 10, EGU2008-A-00054, 2008
SRef-ID: 1607-7962/gra/EGU2008-A-00054
EGU General Assembly 2008

Analysis of magnetic field polarization parameters before and after Koyna earthquakes

F. Dudkin (1), **O. Leontyeva** (1), B. Arora (2), G. Rawat (2), A. Sharma (3)

(1) Lviv Centre of Institute of Space Research of National Academy of Sciences of Ukraine and National Space Agency of Ukraine, Ukraine (olyaleon@isr.lviv.ua/Fax-380 322 63 91 63), (2) Wadia Institute of Himalayan Geology, India (arorabr@wihg.res.in/Fax-91 135 2625212), (3) Shivaji University, Physics Department, India (sharma_ashokkumar@yahoo.com)

Measurement of natural magnetic field in ULF frequency band (0.001-10 Hz) is very perspective for study of the earthquake (EQ) precursors. One of magnetic field generalized representation is polarization ellipse (PE), which allows the simplifying of localization task for EQ electromagnetic (EM) precursor source. For looking for precursor candidates the data from 3-component magnetometers LEMI-30, located in measuring sites near Kolhapur and Koyna (both are in Maharashtra, India) were taken. These sites have low enough magnetic interference and placed in seismoactive region. LEMI-30 magnetometers have a very low noise and work in frequency range 0.001-32 Hz. During observation time 1 April, 2006 - 5 June, 2006 two clustered EQs occurred: 1) April, 17 at 16.39.58.87 (M=4.7, h=10 km, 17.07 N, 73.69 E); 2) May, 21 at 20.29.00.29 (M=3.7, h=10 km, 16.9 N, 73.61 E). The distance to both measuring sites from EQ epicentres was in the range 33-63 km. The wave form, dynamical, wavelet spectra and polarization ellipse parameters of ULF magnetic field signals during period two weeks before and after EQ events have been analyzed. The results on looking for precursor candidates and analysis of signal peculiarities will be given in presentation. This work is partially supported by STCU grant 3165.