

# Investigation of the ULF geomagnetic anomalies in their possible relation to the major earthquakes

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The analysis of the ULF geomagnetic anomalies observed in geomagnetic observatories Teoloyucan, Juriquilla, Tlamacas and Nuevo Leon, in their relation to the major earthquakes (EQs) occurring in Mexico during 1999-2000 is presented. The methodology of study includes long-time analysis of the continuous part of the geomagnetic spectra by 2 methods: a study of the spectral values  $S_{H,D,Z}$  and their ratio  $S_Z/S_H$  as a part of the traditional analysis, and a study of the spectral ratio  $\beta$  for the fractal analysis. In the line spectrum structure, we prove the existence of local geomagnetic pulsations possibly generated by a crustal source, and the noticeable long-time changes in recently discovered ULF resonant structure before the EQs. The short-time analysis is given by detailed description of the near-seismic events. We complete our report by a short review of the perspective studies in the similar field made all over the world.