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Electromagnetic research in the Vrancea active geodinamic

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ULF (ultra-low-frequency) electromagnetic emission is recently recognized as one of the most promising candidates for short-term earthquake prediction.
This paper reviews previous on the presence of ULF emissions before a few earthquakes. Then, I present my network of ULF monitoring in the Vrancea area by describing my ULF magnetic sensors and y finally present a few, latest results on seismogenic electromagnetic emissions for some earthquakes with the use of sophisticated signal processings.
It has been recently reported that electromagnetic phenomena take place in a wide frequency range prior to an earthquake, and these precursory seismo-electromagnetic effects are expected to be useful for the mitigation of earthquake hazards.
The method is based on the idea that there take place the anomalies in the atmosphere and ionosphere due to the seismicity, leading to the generation of propagation anomaly on the pre-existing transmitter signal characteristics (amplitude and phase). This paper deals with the ULF (ultra-low-frequency, with frequency less than 10 Hz) magnetic field variation. The study on seismogenic ULF emissions started in the early 1990s.
It is believed that the ULF emissions take place in the lithosphere in association with earthquakes, but the problem will be the elucidation of their generation mechanism. In this direction we first need much more convincing data for the study of generation mechanism on the basis of the definite distinction from man-made noise, geomagneric effect, other noises etc
Even though the radio emissions are generated as a pulse in the earthquake hypocenter, higher frequency components cannot propagate over long distances in the lithosphere due to severe attenuation, but ULF waves can propagate up to an observation point near the Earth's surface with small attenuation. This is the most important advantage of seismogenic ULF emissions.