



Towards Earthquake Prediction Based on Electromagnetic Triggering Phenomena

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During the past few decades a large scope of data on ionospheric perturbation before strong earthquakes has been collected, which, according to opinion of many researchers, are caused by interaction of processes in the earthquake source with ionosphere. Nevertheless, the detailed mechanism of such lithosphere-ionosphere interaction responsible for ionosphere perturbations, which may be used in the earthquake prediction technology, is not clear yet.

Based on field and laboratory results on interaction of electromagnetic field with rocks under near-to-failure conditions and artificial electromagnetic earthquake triggering obtained to-date within the frames of research projects carried out in Russia an another approach to earthquake prediction is proposed.

Well monitored ionospheric perturbations due to space factors may induce in the seismogenic faults anomalous electric fields comparable with artificial fields provided by pulsed electrical power sources and resulted in triggering of earthquakes.

For verification of this hypothesis a statistical analysis of correlation of regular ionospheric excitation due to sunrise and seismic activity, as well as seismic noise monitored in the wells, has been carried out. Strong correlations were found for the region under study (Northern Tien Shan).

In addition, experimental laboratory research of simulated fault gauge behavior under electric and dynamic triggering actions was scheduled. Preliminary results on electromagnetic triggering of simulated seismic events and their implication to earthquake prediction problem are discussed.