



## **Results of short-term earthquake precursors multiparameter monitoring during preparation phase of Van earthquake as manifestation of the crust, surface, atmospheric and ionospheric processes synergy**

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Recent studies have demonstrated that the Lithosphere-Atmosphere-Ionosphere Coupling (LAIC) can be considered as an open nonlinear complex system with hierarchy of subsystems and elementary processes responsible for different anomalies generation. The most striking is the fact that observed pre-earthquake anomalies in such different parameters as aerosols content and ionospheric variations are not independent but are parts of the common process of the system approach to the critical state. Using the data collected for the period of the Van earthquake preparation we also confirm the fact established earlier that the strong earthquakes ( $M > 7$ ) provoke anomalies not only in the epicenter vicinity but also at the periphery of the common tectonic plate. We report the results of remote ( $R > 2500$  km) radon measurements, local meteorological parameters variations, aerosol optical thickness, land surface temperature, outgoing longwave infrared radiation, GPS TEC anomalies which were registered around the time of the Van M7.2 earthquake in Turkey 23 October 2011 showing the coherence in time and space what confirms the precursor synergy during the system approach to the critical state.