



## **Variations of deformation of the earth's crust in time of the Sumatra-2004 earthquake**

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The Sumatra-2004 earthquake, being the phenomenon of a global scale should be connected with global tectonic processes. Displays of these processes on the Earth surface before and after the earthquake must be universal and synchronous in different points of the Earth. The data from two space separated (2000 km) observation stations, equipped by geophysical laser interferometer (the station Baksan, the Northern Caucasus) and quartz strainmeters (the station Protvino, Russian plane) are analyzed in connection with this idea. The comparative analysis of deformation data of these observation stations in a range of the periods from 2 till 20 days shows that correlation of deformation perturbations increases some days prior to earthquake and remains within 1.5 -2 months after earthquake. The similar results were obtained for data of pair observation stations Protvino - Medeo (Tien Shan) and Protvino - Virgne (the Western Carpathians).

The considered stations locate at the distance of 2000-5000 km from each other and at the distance of 6000 – 11000 km from the earthquake epicenter. The area covered by these stations are of order 5 square km. Synchronisation of deformation variations begins some days prior to the earthquake and proceeds some weeks after. These results are considered in connection with new hypothesis about occurrence of the strongest earthquakes in the region of unstable state of the Earth crust.

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