

LASER EXTENSOMETER AND TIME VARIATION OF TIDAL DEFORMATION

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Laser measurement systems for displacement-deformation measurement have been used usually in geodesy. Investigations of present-day crust deformation are very important for using in spatial and time framework. Experimental laser measurement results collected at Talaya seismology station (Baikal region) presented in this article. Original laser systems have been used for permanent measurements in the underground gallery. Variation of tidal parameters received between 1995 and 2015 was analyzed using regional seismology data for local earthquake ($M > 5.5$). Anomaly

behavior of tidal parameters has been presented for strong earthquakes period. We discuss different models of these effects. Tidal reaction can reach 3 % ÷ 4 % for tidal amplitude and 3° for phase lag, which can be a result of deformed structure and hydrodynamic changes in epicenter earthquake zone, into Main Sayan Fault zone and along Talaya mountainous valley.

Key words: laser extensometer, anomaly, amplitude factor, tide, phase lag, earthquake, Baikal Lake, tidal models.

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