STRESS AND STRAIN FIELDS BASED ON DATA ON CRUSTAL EARTHQUAKE MECHANISMS IN SAKHALIN ISLAND

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The article presents the results from the reconstruction of modern stress and strain fields in Sakhalin Island and the surrounding regions using the method of cataclastic analysis of paraclases as well as the method of recovery of seismotectonic strain based on data on mechanisms of crustal earthquakes with M = 3-7.1 recorded over the period from 1979 to 2014. The author used the method of cataclastic analysis to restore orientation of the principal stress deviations: tension and compression, the values of the Lode-Nadai coefficient, the type of the stress state and single-valued plane faults. The investigation revealed that the territory of Sakhalin Island is predominantly horizontal compression, as evidenced by the type of stress. Joint analysis of the current stress and strain fields revealed the complex structure and the fragmentation of the crust of the island.

Keywords: tectonophysics, earthquake focal mechanisms, stress, strain, Sakhalin.