



Geodynamic activity of modern structures and seismotectonic deformation parameters of the Northeast Arctic

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Active structures of the Arctic Asian and Okhotsk-Chukotka seismic belts, bordering the Kolyma-Chukotka crustal plate, were the subject of our complex study aimed at reconstructing the stress-strain state of the crust and defining the kinematic types of seismotectonic deformation (STD) in the study area. We analyzed the structural tectonic positions of the modern structures, their deep structure parameters, and the systems of active faults in the Laptev, Kharaulakh, Koryak and Chukotka segments and the Chersky seismotectonic zone, as well as the tectonic stress fields revealed by the tectonophysical analysis of the Late Cenozoic faults and folds. Based on the degrees of activity of geodynamic processes, the regional principles for ranking neotectonic structures were constrained, and the corresponding classes of the discussed neotectonic structures were substantiated. From the earthquake focal mechanisms we calculated the average seismotectonic strain tensors. Using the geological, geostructural, geophysical and GPS data and the corresponding average tensors, we determined the directions of the principal stress axes and revealed regularity in the changes of tectonic settings in the Northeast Arctic area. The regional structural-kinematic model of the major seismogenic structures was constructed.

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