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## Geodynamic activity and seismotectonic deformations of neotectonic structures of the Arctic-Asian seismic belt (Russian Arctic region)

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The present study is focused on determining regular patterns of seismotectonic destruction of the crust in the zone of interaction between the North American and the Eurasian lithospheric plates. We have analyzed a set of different parameters: structural-tectonic position, deep velocity structure, systems of active faults and tectonic deformation fields calculated on the basis of focal mechanism solutions of strong earthquakes and types of late Cenozoic folded and disruptive deformations. Average seismotectonic deformation tensors have been estimated from the data on focal mechanisms of strong earthquakes that together with structural-tectonic and geologic-geophysical data allowed us to reveal the areas with pure and combined regimes of the stress-strain field of the crust. Thus, we have determined that the investigated region is influenced by different geodynamic processes: rifting is observed along the spreading Gakkel ridge and throughout the territory of the Laptev Sea shelf, a suture of the midocean and Continental structures of the crust (the Kharaulakh segment) are a transition zone, and a compression regime dominates in the Cherskiy seismotectonic zone.

### Biography

Imaev V S is a Doctor of Geological-Mineralogical Sciences. He is a Professor and Head of Laboratory of Seismogeology of the Institute of the Earth Crust Siberian Branch Russian Academy of Sciences. In 1975, he graduated from the Geological Faculty of Moscow State University. After graduation, he was sent to the Institute of Geology of the Yakutsk, Siberian branch of the Soviet Academy of Sciences, where he passed the way from Senior Laboratory Assistant to a leading Researcher. In 1983, he defended his thesis "the Mesozoic-Cenozoic tectonics, stress fields and seismicity of the South Yakutia" at the Institute of Geology and Geophysics SB RAS (Novosibirsk), in 1994 he worked on his Doctoral thesis on "Active faults and seismotectonic North-East Asia" in the Institute of Geology and Geophysics SB RAS (Novosibirsk). In 1995, he was the Head of the Department of Arctic Studies, 1996-1998, Head of Foreign Relations Department of the Academy of Sciences of the Republic Sakha (Yakutia). In 1999, he became Professor of the Department of Geophysical Methods of prospecting and exploration of mineral deposits prospecting faculty of the Yakut state University. From 2002-2006 he was Senior Researcher of the Laboratory of Seismology, and in 2006, Head of the Laboratory of Seismogeology of Institute of Earth Crust SB RAS. Since 2016, he is the main Researcher of the Laboratory of Engineering Seismology and Seismogeology at the Institute of the Earth Crust RAS.

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