



New data of the Gakkel Ridge seismicity

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250 earthquakes were recorded in the Gakkel Ridge during the period 2012-2014 by Arkhangelsk seismic network. The magnitude M_l of these earthquakes is 1.5 - 5.7, 70% of them have M_l up to 3.0. Seismic events are arranged along to a narrow center line of the Mid-Arctic Ridge, most of the earthquakes are confined to the southern board of the Ridge. Presumably it's connected with the reflection of spreading processes. The high seismic activity zones, which we associate with the volcano-tectonic processes, have been identified. Have been recorded 13 events per day in the Western Volcanic Zone. The largest number of events (75%) is confined to the Sparsely Magmatic Zone. About 30% of all recorded earthquakes with magnitudes above 2.9 have a T-phase.

We divided the Gakkel Ridge's earthquakes into two groups by using spectral-time analysis. The first group: maximum energy of the earthquake is observed from 1.5 to 10 Hz, values of magnitudes M_l 2.50-5.29. Earthquakes are distributed along the Gakkel Ridge. The second group: maximum energy of the earthquake is observed from 1.5 to 20 Hz, clearly expressed a high-frequency component, values of magnitudes M_l 2.3-3.4. Earthquakes 2 groups focused only in the Sparsely Magmatic Zone.

The new seismic data shows an unique information about geodynamic processes of the Gakkel Ridge.