



Seismofocal zones and mid-ocean ridges - look outside of the plate paradigm

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Configuration of the seismofocal zones (SFZ), visible in a real position of the focuses of earthquakes, has a significant step component (jagged) expressed by the presence of several sub-horizontal "seismoplanes", which concentrates focuses of earthquakes (depths 10, 35 km and other). Orientation of seismolines inside of SFZ tends to 4 main directions: 0-5 dgr, 120-145 dgr, 40-55 dgr, 85-90 dgr.

These facts suggest significantly block, a terraced structure of the body of Benioff zone. The borders of blocks have orientation according directions regmatic net of the Earth.

In accordance with this, SFZ can be presented as the most active segments of the border of the crossing: «continent-ocean», having the following properties:

- block (terraced) structure;
- in some sites - dive under the continental crust (in present time);
- prevailing compression (in present time), perhaps, as the period of the oscillatory cycle;

Infinite "subduction" in SFZ is unlikely.

One of the areas where there is proof of concept of far "spreading" is the southernmost tip of the mid-oceanic Gakkel ridge in the Laptev sea (Arctic ocean). Here active "spreading" ridge normal approaches to the boundary of the continental crust - the shelf of the Laptev sea. On the shelf there are a number of subparallel NW grabens. NE fault zone Charlie, controlling the continental slope is established stepped fault without shift component. This means that the amount of extending of the offshore grabens does not significantly differ from the scale of spreading in the Gakkel ridge. However, the total spreads grabens (50-100 km) 6-10 times less than the width of the oceanic crust (600 km) in the surrounding area.

Conclusion: the oceanic crust in the Laptev sea was formed mainly not due to "spreading". It is very likely that here was sinking and the processing of continental crust in the ocean. Because of the Gakkel ridge is one of the usual "spreading" ranges, this finding casts doubt on the "spreading" and in other areas.

"Spreading" and "subduction" are the basics of the plate tectonics. As seen from above, the foundations of these rather doubtful. This is one of the reasons to think about alternatives for the plate tectonics.