



Role of the Earth degassing (the core emission) for the global tectonics

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The main aim of any new concept in the global tectonics is to explain the origin of the observed regularities in the Earth structure and the sources of their formation. The first problem is to explain the continents and oceans formation and the differences in the structure of the Pacific and of other oceans. The edges of the continents around the Pacific Ocean form a proper arc along which a ring of the earthquake epicenters, the Benioff zones, are observed. The Pacific Ring intersects at the right angle another global ring of the earthquake epicenters – the Mediterranean-Asian belt. The Atlantic and Indian oceans are characterized by the mid oceanic rifts. The rifts and distraction zones form a regular symmetrical with respect to the South Pole system: the rifts drift apart along the meridians with about the same distance between them, 90° . The fracture zone from the western shelf of the Australian continent to the Sakhalin Island belongs to this system. The asymmetric Antarctica and Arctic ocean also reflect the regular structure of the Earth surface which contradicts the movements of the continents proposed by the plate tectonic for explanation of the paleomagnetic data on the magnetic pole mobility.

The fluids-rotation model of the global tectonics, proposed by the author, gave the following explanation to these features of the Earth structure. According to the petrology data, the continental crust was formed from the mantle matter saturated with fluids. The long process of the silica, alkalis, fluids and incompatible elements removal in the crust should lead to the depletion of mantle rocks, their crystallization and formation of the thick continental lithosphere. It is proposed that the formation of the thick continental crust and the continental “roots” in the upper mantle took place in the areas of the stronger fluid advection. In the modern oceans the fluid flows were weak and only some separate spots of the intermediate type crust appeared. The main source of the deep fluids advection and the resulting Earth degassing is the Earth’s core with the high content of hydrogen and helium. The regular system of rifts and of the global rings of the earthquake epicenters may be a result of the Earth expansion generated by strong core emission. This system is traced now as zones of the higher hydrogen degassing. The data on the movement of paleomagnetic poles was explained in the fluids-rotation model by rotation of the whole mantle around the liquid core. Such interpretation, however, is too problematic. It is more reliable to propose that there were no any large movements of the continents or of the whole mantle and the mobile magnetic fields were created by the irregular convection in the core.