



The possible nature of the spreading and traps magmatism with point of view nonlinear lithospheric medium and whirling motions in it

E.G. Mirlin and Yu.V. Mironov

Vernadsky State Geological Museum, Moscow, Russia (egm@sgm.ru)

In accordance with concept of the nonlinear lithospheric medium its main peculiarities are nonlinearity of proceeding processes and physical properties, richness of energy, discreteness of its structure, instability, high sensitivity to the external influence. Geological-geophysical materials on most in detailed studied spreading zones and trap provinces which connected with evolution of oceanic forming whirling rift-spreading systems of tectonosphere are analysed. The primary magmatic centres are formed as in the field of their greatest whirling (provinces of Northern Atlantic, East African and Deccan), also near of the continental margin ledges which formation is connected with whirls (Parana- Etendeka). Specific character of movements of the given pattern is change of geodynamic conditions from a tension (with shear) to compression (with shear) in each point of an accretion zone of lithosphere, and the gradient of transition from compression to a tension increases in process of a whirling of whirl system. According to offered model, the primary magmatic centres appear as a result of dissipation of energy in the nonequilibrium nonlinear lithospheric medium owing to influences on it, due to specific character of the whirling motion of lithosphere.