

L.V.Dmitriev, S.Yu.Sokolov, A.A.Plechova, W.G.Melson, T.O'Hearn. The new data on petrology and geodynamics of the World Mid-Ocean ridge

basalt system // Russian-RIDGE Abstract volume. VII Okeanologia. St. Petersburg. 6-8 June 2005. P P 16-17.

The new data on petrology and geodynamics of the world mid-ocean ridge basalt system

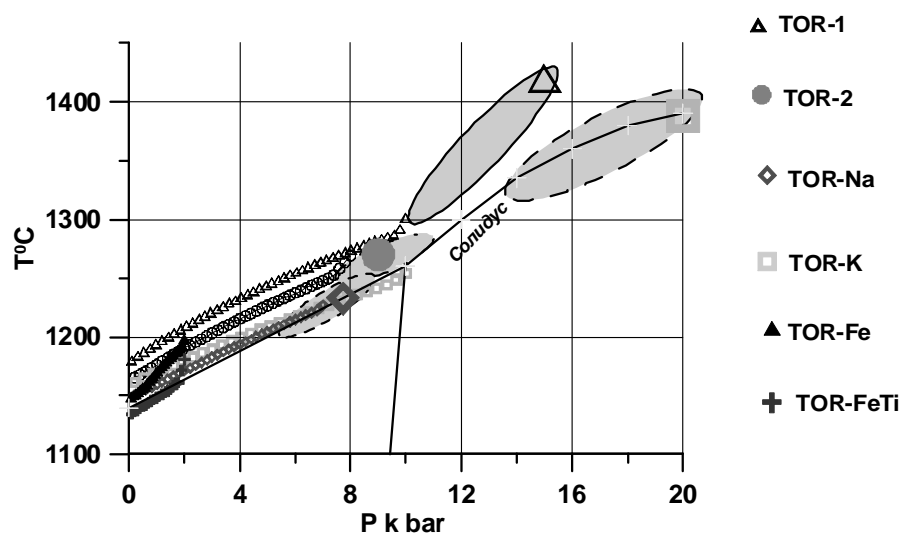
L.V.Dmitriev¹, S.Yu.Sokolov², A.A.Plechova¹, W.G.Melson³, T.O'Hearn³

¹ Vernadsky institute of geochemistry and analytical chemistry RAS

² Geological institute RAS

³ Smithsonian institute, USA

The actual material is represented by the full data base on the abyssal glass composition of the world mid-ocean ridge system. The base includes Smithsonian Catalog, Lamont Data Base, published and original data and consists of 19000 analyses calibrated by the single standard. The formal statistical calculation includes cluster analysis, discriminant analysis, analysis of histograms and key parameters covariations. The new information on the petrological parameters of mantle magmatism evolution and the character of its products distribution in space depend of geodynamic condition has been obtained. These results permit to estimate the common degree of mid-ocean ridges study and to determine the certain goals of the following investigations. The new data for the elaboration of petrological-geodynamic model of 6 main basaltic groups is now available.



Trends of the fraction crystallization of 6 main groups of TOP (MORB) and the fields of their parental melts

L.Dmitriev et al, Russian Journal of the Earth Sciences, 1999, v.1, # 6, 457-476

L.Dmitriev, S.Sokolov, Petrologiya, 2003, v.11, # 6b, 655-672

RIDGE Petrological Data Base, LGEO, 1999.

Smithsonian Volcanic Glass Data File, <http://www.nmnh.si.edu/minsci/research/glass/index.htm.2000>.

The work is supported by RBSF, project # 04-05-64905 and Federal agency on science and innovation IIII-1831.2003.5