Polygonal oligoclasites as result of recrystallization of uran-bearing carbonate-albite metasomatites of fault zones

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At exocontact ot the Korsun-Novomirgorod pluton rapakivi of the Ukrain shield in the Kaetite massif uran-bearing sodic metasomatites – oligoclasites are known.

They contain tschermakite hornblende, diopside-augite, ferriferous biotite, apatite, garnet, sphene, scapolite, sometimes carbonate and uraninite. Mosaic-tabular (polygonal) microstructure of rocks is formed by plagioclase with distinct polysynthetic twins. Feldspathic individuals have almost rectilinear contours and joining angles about 120°.

It was determined by the author, that on the Ukrain shield such rocks are derivatives of thermal contact metamorphism of uran-bearing near-fault carbonate-alkaline metasomatites served for them as substratum. It is confirmed both by geological and geochemical data. Thus, the regular changing of TR and Y contents and lanthanoid spectra in accessory apatites from metasomatites in direction to pluton contact was determined. Simultaneously the intensification of recrystallization degree was noted, that was fixed according to degree of perfection of mosaic-tabular microsturctures, destruction of dark-coloured alkaline aluminosilicates – riebeckite, aegirine, neocrystallizations of biotite, diopside-augite, garnet, scapolite and decrease of carbonate and uraninite contents.

Lanthanoids spectra of apatites were examined on the triple diagram in coordinates Σ(Za-Nd)-Σ(Su-Nd)-Σ(Eu-Zu).

Genesis of polygonal oligoclasites in the Kaetite anticlinorium under the influence of granitoids of Brazilian tectonic cycle is suggested to be analogous.