

STRUCTURAL FEATURES OF ALKALI FELDSPARS FROM THE RAPAKIVI GRANITES AND MONZONITES OF SALMI AND BERDIAUSH BATHOLITHES

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The origing of KFsp from monzonites of rapakivi granite massives is yet an open problem. These KFsp may be phenocrysts, xenocrystals or metacrystals.

Numerous KFsp ovoid-xenocrystals were found in the diabase dike, which crosses ovoid-bearing rapakivi granites of the Salmi massif. Monzonites associated with rapakivi granites contain large KFsp-crystals of unknown origin. The ovoid-like KFsp-metacrystals (from 2 to 5 cm in diameter) were found in the exocontact hornfels of the Salmi massif. In the Berdiaush massif (the Urals) there are ovoid-like KFsp-metacrystals in the hybridic monzonites from metasomatic granitization zones of metagabbroid xenoliths.

X-ray studies of KFsp from these objects show following structure features:

1. KFsp of core ovoids from rapakivi granites and from monzonites of the Salmi and the Berdiaush massives have the same structure. They are represented by orthoclase-perthite and contain 10-26% of Ab-molecule in orthoclase structure (AbOr).

2. The ovoid-like KFsp-metacrystals from exocontact hornfels of the Salmi massif are represented by orthoclase-perthite as well and have 0-3% of AbOr.

3. KFsp ovoid-xenocrystals included by the diabase dike are represented by orthoclase-perthite without of AbOr. It may be caused by the heating of KFsp ovoid-xenocrystals within basaltic melt to a temperature about 900⁰C or higher and subsequent cooling. As the result KFsp have undergone exsolution and new additional coherent cryptoperthites have been formed.

4. All KFsp samples from above mentioned rocks were heated at 900⁰C during the 8 hours. The content of AbOr in KFsp-xenocrystals only has been increased to 22% as the result of coherent cryptoperthites dissolution. The AbOr content in all other KFsp has not been changed.

So, KFsp-xenocrystals from the hybridic monzonites of mingling zones differ markedly in structure from KFsp-metacrystals from monzonites and basic rocks metasomatically altered. Therefore ovoid-like crystals from the Salmi's and Berdiaush's monzonites are not xenocrystals and most probably they have metasomatic origin.