

SOLID - STATE DEFORMATIONS IN THE METAGRANITOIDS OF SACAR. CHRONOLOGICAL MARKER IN THE POLIMETAMORPHIC EVOLUTION OF RODOPE MASSIF

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Lesovo gneiss - granites form linear intrusion with supposed Precambrian age. They contain xenoliths of amphibolites and migmatized gneisses. Their microstructure was reworked by crystal - plastic processes. No microstructures from the magmatic stage are found. An isotropic islands surrounded by zones with mylonitic fabric are visible (anatomising pattern of strain partitioning). Disintegration and dynamic recrystallisation of the primary minerals happened at the first stage, the pick of the crystallisation being in static environment. Later a new paragenesis of low temperature (greenschist) minerals was superimposed. Mesosstructural analysis confirmed overprinting of two deformation events. The direction of mass transport during the first (major) deformation was parallel to the schistosity S and, follows trajectories of a dome. Shear sense indicators show opposite sense of movement in local scale attributed to the mechanics of strain partitioning in general setting of progressive coaxial deformation. Heterogeneity of deformation and volume loss are exemplified by sheared sets of aplites. Deformation analysis indicated that the central part of the intrusion was less deformed and near the margins prolate ellipsoids exist. XY plane always situated in S but X axis varying in a chaotic way. Reconstruction of the undeformed geometry of dioritic dikes showed that the vector of compression was from south to north in a nearly horizontal plane. The more intensive is microstructural reworking, the stronger is deformation assessed by the shapes of the strain ellipsoids. Evidences prevail that the intrusion was reworked after the injection separating two major metamorphic events.