of the same rock group in the Bor pluton. The Babylon granite is predominantly K-feldspar–porphyritic biotite monzogranite with medium-grained matrix. The matrix consists of plagioclase (An_{20}), quartz, biotite, K-feldspar, muscovite and accessory zircon and apatite.

The Variscan granites along the West Bohemian Shear Zone have compositions of calc-alkaline magmatic suites. Granites of the Bor pluton range from metaaluminous (the oldest tonalites) through weakly peraluminous (porphyritic monzogranite of main magmatic phase) to middle-peraluminous (dyke granites). The value of ASI (molecular ratios of Al_2O_3/K_2O+Na_2O+CaO) for the oldest tonalites in Bor pluton is 0.73–1.05. This value in the same rock group in the Mariánské Lázně granite massif ranges between 0.88 and 1.28. In granites of the Bor pluton this value ranges between 0.84 and 1.38, in granites of the Mariánské Lázně granite massif between 1.14 and 1.31 and in the Babylon granite between 1.09 and 1.20. In the Bor massif, Sr shows a general decrease and Rb an increase from the oldest tonalites through biotite monzogranites to the youngest dyke granites.

The oldest granodiorites, tonalites and diorites of the Bor pluton and the Mariánské Lázně granite massif are characterzed by higher content of TiO_2, which is very similar in both magmatic bodies. Tonalites and diorites of the Mariánské Lázně granite massif are characterized, relative to the same rock group in the Bor pluton, by higher content of Rb and Ba and lower content of Sr. The highest values of Ba and Sr in the group of biotite monzogranites are characteristic for monzogranites of the Bor pluton, the highest values of Rb for biotite monzogranites of the Babylon granite and granites of the Mariánské Lázně massif. Both small granite bodies also have lower contents of Zr, Th and TiO_2 relative to monzogranites of the Bor pluton. The highest REE abundances were encountered in monzogranites of the Babylon massif and tonalites of the Bor pluton. All types of Variscan granites are characterized by LREE/HREE enrichment, with typical values of $La_N/Yb_N = 27–35$ for monzogranites of the main phase of the Bor pluton. The presented study has been completed using financial support of the Institute of Rock Structure and Mechanics of the Academy of Sciences of the Czech Republic (Project No. 417/99).

AMS Fabric Study of Melt Migration from Metasedimentary and Orthogneiss Migmatites to Crustally Derived Granites: An Example from Southern Vosges

Karel SCHULMANN[1,2] and Jean-Bernard EDEL[1]

[1] *Ecole et Observatoire des Sciences de la Terre, 5 Rue René Descartes, Strasbourg, France*
[2] *Institute of Petrology and Structural Geology, Charles University, Albertov 6, Praha 2, Czech Republic*

Complex behaviour of solid-state rocks and granitic melts in fertile region of magma segregation and in domain of granite emplacement is examined in migmatites of the southern Vosges. In the study area, pervasive viscous flow is strongly dependent on lithology, i.e., on mechanical properties of migmatites during the melting and pre-melting anisotropy of solid-state rocks. Regions of metasedimentary metatexites and diatexites tend to be deformed homogeneously regardless of variable proportions of viscous granitic magmas. A complete continuity between pre-rheological critical melt percentage (RCMP) AMS fabrics and AMS fabrics associated with viscous magma flows can be observed.

In contrast, the orthogneisses with strong pre-RCMP anisotropy and low ability to melt behave as rigid bodies during partial melting. Their behaviour is strongly dependent on the amount of granitic liquid, so that in regions with low volume of melts the magma penetrates along planes of main anisotropy in the form of sills. The AMS fabric of solid-state rocks and penetrating granitic magma may be strongly discordant. In domains where the magma proportion is high, the rocks behave as rigid sheet-like bodies passively rotating towards the main direction of pervasive flow in surrounding diatexites and granites. The viscous flow in granites and diatexites is controlled by extensional tectonics which is responsible for complete adjustement of AMS fabrics of diatexites with those produced by homogeneous horizontal flow of granitic magmas. The AMS fabric of rigid, originaly steep orthogneisses is passively rotating in a book-shelf style towards the regional strike of maximum flattening and elongation.

The intrusion of leucogranite penetrates the layer of magma segregation along a regional large-scale vertical elongate zone that is almost perpendicular to the main extensional direction. The ascent of leucocratic magma is oblique with respect to the regional extensional axis and is responsible for modification of flow in diatexites parallel to the emplacement zone direction. The intrusion of this leucogranitic body is syntectonic with sinistral movements and is probably responsible for exhumation of deeper, more molten part of the area studied. The intrusion of leucogranite is thus associated with regional tilting of migmatitic fertile layer and, as a result, several structural levels of anatectic realm can be examined.