Geophysical Research Abstracts,
Vol. 10, EGU2008-A-06805, 2008
SRef-ID: 1607-7962/gra/EGU2008-A-06805
EGU General Assembly 2008

Magnetic fabric relationship within an ultrabasic body embedded in high-pressure felsic granulite from the Moldanubian Zone, European Variscides: the effect of exhumation-related granulite-amphibolite facies metamorphism

F. Hrouda (1,2), **P. Jeřábek** (2,3), S. W. Faryad (2), M. Chlupáčová (1),

(1) AGICO Inc., Brno, Czech Republic (fhrouda@agico.cz), (2) Institute of Petrology and Structural Geology, Charles University, Prague, Czech Republic, (3) Czech Geological Survey, Prague, Czech Republic

About 11 x 5 m large body of serpentinized peridotite-clinopyroxenite, enclosed in felsic granulite, occurs in a quarry near the village of Bory (Moldanubian Zone of Western Moravia). Magnetic fabric, studied through the anisotropy of magnetic susceptibility (AMS), was used to investigate structural relationship between the ultrabasic body and the surrounding granulites. Through investigating low-field variation of the AMS, one could resolve the AMS into the field-independent component due to pure magnetite and the field-dependent component due to pyrrhotite in the ultrabasic body. In granulite the field-independent component is due to mafic silicates (and small admixtures of magnetite) and the field-dependent component due to pyrrhotite. The field-independent and field-dependent components are coaxial both within ultrabasite and within granulite. On the other hand, they show different orientations in ultrabasite and granulite, even though they experienced at least partially common structural history. The componental movements forming the granulite fabric were evidently not strong enough to overprint the magnetic fabric of ultrabasite. The ultrabasite therefore maintains its original fabric even at the high temperatures and pressures that are characteristic of granulite facies metamorphism.