

DEFORMATION – METAMORPHISM RELATIONSHIP DURING THE EMPLACEMENT OF PERMIAN INTRUSIVES IN LANGUARD - CAMPO NAPPE (SOUTHERN STEEP BELT – CENTRAL ALPS)

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Along the Southern Steep Belt of the Central Alps, in the Languard Campo Nappe (Austroalpine domain), Permian intrusives are emplaced in metapelites recording a HT-LP pre-Alpine metamorphic imprint. In this contribution we show a detailed map of field relationships between these Permian intrusives and their country rocks around the southern side of M. Varadega, near Passo del Mortirolo (in Upper Val Camonica, just south of the *Sondalo gabbro*); through this map, which graphically represents the superposed trajectories of successive foliations, we investigate the pre-Alpine deformation-metamorphism interaction between these two rock groups. We selected this area because of the weak Alpine metamorphic and structural reactivation under HP-LT metamorphic conditions, followed by greenschist facies re-equilibration (GAZZOLA et al., 2000).

The Languard-Campo Nappe consists of low to medium grade muscovite-biotite and minor staurolite-bearing gneisses and micaschists with interlayered amphibolites, marbles, quartzites and pegmatites (BONSIGNORE & RAGNI 1966, 1968, VENZO et al. 1971). In biotite-sillimanite-cordierite-bearing metapelites, the S2 regional foliation is marked by Bt + Sill, in films, while Pl + Qtz + Grt ± Tur occur in lithons; these metapelites are the country rocks of the Permian intrusives (GAZZOLA et al. 2000). Relics of St are preserved in And porphyroblasts. Radiometric estimates on the intrusives yielded a range between 298 and 224 Ma (BORIANI et al. 1985, DEL MORO et al. 1981, TRIBUZIO et al. 1999) and are interpreted as igneous cooling ages. Meso-

and microstructural analysis suggest that the emplacement of granitoids occurred during S2 development; in addition the *Gneiss Listati del M. Varadega* (BONSIGNORE & RAGNI 1966) which are recognised to be locally affected by a pre-Alpine high-T lineation are re-interpreted as the deformed equivalent of the *Tremoncelli Granodiorite* (BOCKEMUEHL & PFISTER 1985).

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