

Pre-Permian contrasting tectono-metamorphic evolutions in the Southern Steep Belt (Mortirolo area - Languard-Campo Unit – Central Alps)

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Relicts of pre-Alpine continental crust are preserved in the Southern Steep Belt (Italian Central Alps), between Valtellina and Val Camonica. A polymetamorphic rock association occurs, belonging to the Upper Austroalpine units, and includes lithotypes commonly attributed to the Languard - Campo nappe (LCN) and the Tonale Series (TS). Rocks belonging to LCN and TS are low to medium grade muscovite-, biotite- and minor staurolite-bearing gneisses and micaschists with interlayered garnet- and biotite-bearing amphibolites, marbles, quartzites and pegmatites, sillimanite-bearing gneisses and micaschists. The boundary between the two units is commonly recognised where large bodies of sillimanite-bearing gneisses (migmatitic) and amphibolites occur. Permian (260±10 Ma) intrusive (granitoids, diorites and minor gabbros) also occur and crosscut the penetrative S2 foliation, developed between 260 and 280Ma (zircon U-Pb geochronology). Two older contrasting tectono-metamorphic units (UTM), pre-dating Permian intrusives have been distinguished, one occurring at migmatitic conditions in metapelites, the other defined by staurolite-biotite-bearing assemblages. In this contribution we will discuss the geodynamic significance of these UTMs in the framework of the Variscan-Permian collision to extensional setting.