

Thermochronological constraints on the tectonometamorphic evolution of the Meran-Mauls nappe stack (South Tyrol, Italy)

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Between Meran and Mauls in South Tyrol (Italy) the hanging wall of the Periadriatic fault system is built up by a stack of basement nappes with nearly no Alpine metamorphic overprint. Only in one location a small remnant of Mesozoic cover rocks is preserved on top of the basement. Since this nappe stack is bordered by important fault zones on all sides, its lateral continuation remains unclear. New Rb/Sr *bt* measurements along a ~ N-S transect across all four units of the MMB yield predominantly, pre-Alpine ages (140 to 346 Ma), while Zircon and Apatite fission track analyses show a narrow range of ages between 14 and 20 Ma (zircon) and 6 to 17.5 Ma (Apatite). Altogether, this results in a narrow window for thermal conditions during the Alpine evolution. Together with thermobaric constraints and petrographic observations, a comparison with other tectonic units of the Austroalpine domain is aspired to put the Meran-Mauls nappe stack in a wider tectonic context.