that formed in the course of exhumation of the crystalline and coeval deposition of Carboniferous sediments. Cataclastic pebbles are present within the Carboniferous sediments and suggest exhumation prior to deposition of rocks. The pre-Carboniferous fault can be traced all along the eastern and southern margin oft he Pfannock Gneiss. (2) The Pfannock Schuppe includes an inverted suite of Permian to Mesozoic sediments. It is interpreted as a tectonic sliver with the Pfannock Gneiss in the core of a northwest vergent fold. Shearing and folding is correlated with Cretaceous northwestward nappe stacking. (3) The actual geometry of the boundary is result of bulk extension during the late Cretaceous. Extensional structures with E- to SE displacement dominate N-S trending segments, dextral strike-slip zone the W-E trending segments. The overall geometry can be described as eastward spreading units with normal faults forming extensional bridges between strike-slip domains.

3D thermo-kinematic modelling of a crustal-scale low-angle normal fault: the Katschberg detachment, Eastern Alps.

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In this study we investigate a low-angle normal fault of the Eastern Alps, the Katschberg detachment. This major structure developed during Miocene lateral extrusion and is largely responsible for the exhumation of the eastern Tauern Window. We investigate two E-W profiles that extend 25 km in the footwall and 20 km into the hanging wall. An extensive set of already published and new thermochronological data provides the basis for 2- and 3-D thermokinmatic models. We use a finite-element code (Pecube) to solve the heat equation in 3D and predict the thermal evolution around the Katschberg detachment under given spatially and temporally variable boundary conditions. An inversion routine is used to find the best-fitting parameter combination, which reduces the misfit between modelled and measured thermochronological ages.

According to our preliminary inversion the Katschberg normal fault was active from 21.4±2.2 Ma until 8.3±1.7 Ma with a mean slip-rate of 2.6±0.5 km/Ma, integrating to an offset along the fault of 33.8±4.1 km. This agrees with previous studies, that suggest that the Katschberg detachment was active between ~23 and 12 Ma.

Middle- to Late Miocene exhumation of the central Eastern Alps: new structural-, fission track and apatite (U-Th)He data.

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New structural-, fission track and apatite (U-Th)/He data refine the Eocene/Oligocene to Late Miocene exhumation history of the Seckauer- and Niedere Tauern in the Eastern Alps. Both areas belong to the Austroalpine basement units but experienced different temporal and