



Tuesday, June 23 - 2020

Time 15.00

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Nappe-scale sheath folding in a subduction-exhumation channel (Tauern Window, Eastern Alps)

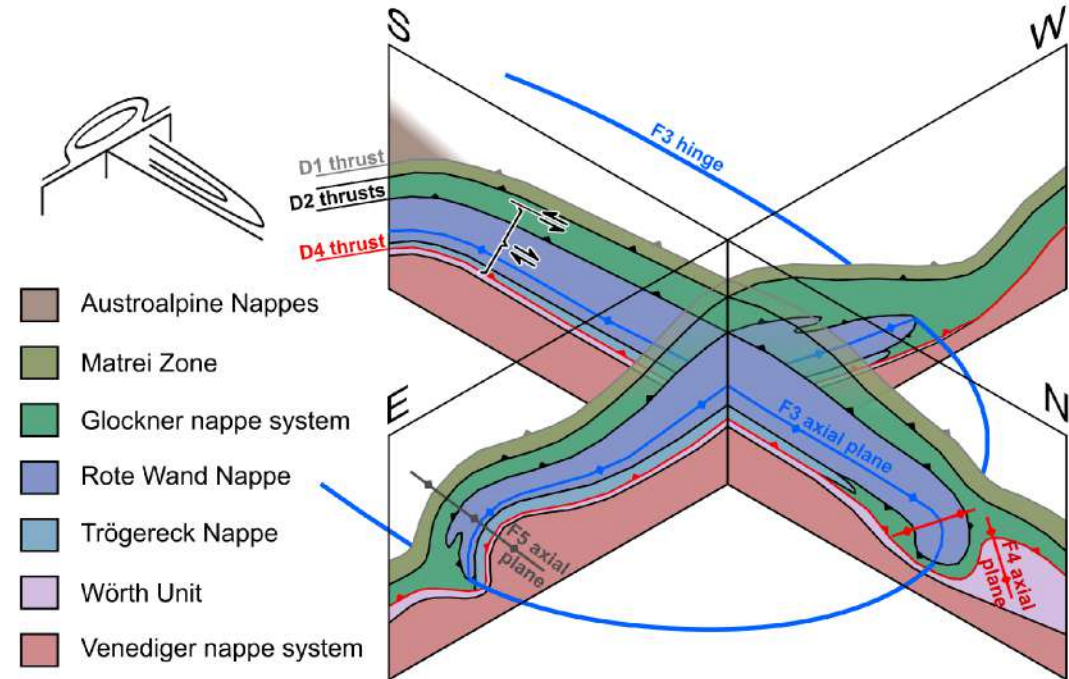
Philip Groß

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Abstract

Structural and petrological observations in the central Tauern Window reveal a sheath fold with an amplitude of some 20 km that formed under high-pressure conditions (ca. 2 GPa). The fold is a composite structure that isoclinally folded the thrust of an ophiolitic nappe derived from Alpine Tethys

Ocean onto a unit of the distal European continental margin, also affected by the high-pressure conditions. Using Raman spectroscopy on carbonaceous material, we are able to reconstruct the subduction-related peak temperature distribution in the sheath fold despite late thermal overprint. These observations document the evolution of the sheath nappe fold from its nucleation to its diapir-like ascent in the Alpine subduction-exhumation channel.



Speaker

Philip Groß currently is a PhD student at the Freie Universität (Berlin). He is involved in a project related to the exhumation of high-pressure rocks in the Tauern Window under the supervision of Jan Pleuger, Mark Handy and Timm John. Using field-based structural geology (mapping, cross-sections, microstructures) and thermobarometry (RSQI, RSCM, thermodynamic modeling) the project is aimed to reconstruct the geometry and exhumation mechanisms of the high-pressure nappes in the central Tauern Window.

He obtained, in the 2012, the Bsc at FU Berlin with a thesis concerning the tectonic analysis of the external Dinaric fold-and-thrust-belt in northern Albania. In the 2015 he obtained the MSc at FU Berlin, with a thesis focused on the retrogression of the Metamorphic Sole Rocks on the Mirdita Unit, in Northern Albania.

