

AlpArray & 4DMB Scientific Meeting Prague 2022



INSTITUTE OF GEOPHYSICS
OF THE CZECH ACADEMY OF SCIENCES



DFG Deutsche
Forschungsgemeinschaft
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AlpArray & 4DMB Scientific Meeting

Prague 2022

Wednesday, 12th of October 2022



08:45 Registration (Name Badges)

09:15 Opening

Jarka Plomerová & Mark Handy

09:30 Daniel Boateng

The effects of diachronous surface uplift of the European Alps on regional climate and the isotopic composition of precipitation

09:45 Veleda A. P. Muller

Exhumation response to climate and geodynamic forcing in the Southern Patagonian Andes and analogies with the Western Alps

10:00 Eline Le Breton

Subsidence analysis of the Eastern Molasse Basin

10:15 Lucas Eskens

The effect of lithospheric scale processes on foreland basin development: a case study of the Northern Alpine Foreland Basin

10:30 Coffee Break

11:00 Irene Bianchi

Crust and Uppermost mantle structure at the European-Adriatic and Pannonian junction as seen by receiver functions

11:15 László Fodor

Transition of the Eastern Alps, Carpathians, Pannonian Basin and Dinarides

11:30 Dániel Kalmár

The crustal structure of the Pannonian Basin region from P receiver function analysis

11:45 Eszter Békési

Present-day stress field and geodetic strain rate in the Circum-Pannonian region

12:00 Lunch

13:15 Magdalena Scheck-Wenderoth

How far does the internal configuration of the crust and upper mantle drive the deformation of the Alps?

13:30 Benedikt Braszus

Towards a high-resolution 3D P- and S-wave crustal velocity model for the Alpine mountain chain using local earthquake data

13:45 Rainer Kind

Moho and sub-Moho in the larger Alpine area from S-to-P conversions

14:00 Poster Session

16:30 Breakout session (Posters cont.)

Eastern Alps (Chairs: Paul Eizenhöfer and Christoph Glotzbach)

17:30 AlpArray Steering committee

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Thursday, 13th of October 2022



09:15	Controversies Sessions	Introduction by Mark Handy & Todd Ehlers
09:30	Emanuel D. Kästle	Votemaps of the Alpine upper mantle
09:50	Thomas Meier	The Alpine slab controversy - interferences from surface wave tomography and receiver functions down to 300 km depth
10:10	Claudia Piromallo	Constraints on the Moho and LAB across the Western Alps from P and S receiver function analysis and joint inversion at AlpArray stations
10:30	Coffee Break	
11:00	Stefan Mroczek	Strengths and limitations of receiver functions in the Alps
11:20	Stefan Schmid	How far east can we track the still attached S-dipping European slab? A comparison of available data along a selected series of sections within and east of the Tauern window
11:40	Mark Handy	Different views of indenter tectonics in the Alps, a new twist and some implications
12:00	Lunch	
13:30	Poster Session	
14:30	Coffee Break	
15:00	Breakout (Posters cont.)	AdriaArray Update (Chairs: Petr Kolínský & Thomas Meier)
16:30	Breakout (Posters cont.)	Alps-Dinarides-Pannonian Junction (Chairs: Christoph Grützner & Peter McPhee)
17:30	4DMB Steering Committee	

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Friday, 14th of October 2022



09:00	Ajay Kumar	Consistent features of the upper-mantle shear-wave tomography models in the Alps and their physical plausibility to explain surface observations
09:15	Jiri Kvapil	Anisotropy of the Bohemian Massif lower crust from ANT
09:30	Dorian Soergel	Bayesian analysis of azimuthal anisotropy in the Alpine lithosphere from beamforming of ambient noise cross-correlations
10:15	Coffee Break	
09:45	Amr El-Sharkawy	Shallow Asthenospheric Volumes Beneath Cenozoic Volcanic Fields in the Circum-Mediterranean: Evidence From Seismic Tomography And Thermomechanical Modelling
10:00	Matteo Scarponi	New absolute-vS constraints on the shallow Ivrea geophysical body in Val Sesia: evidences from seismic ambient noise tomography
10:45	Closing Remarks	Jarka Plomerová & Mark Handy

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Poster Session



Valentina Argante	Application of Electron Spin Resonance thermochronometry on Central and Eastern Alps
Armelle Ballian	Miocene stable isotope based paleoelevation for the Alps
Miroslav Bielik	Integrated geophysical study of the Carpathian-Pannonian lithosphere
Arthur Borzi	Major Neogene shifts in the structural and sedimentary evolution of the Eastern North Alpine Foreland Basin
Sofia Brisson	Implicit modeling of the Subalpine Molasse triangle zone and topology analysis
Judith M. Confal	Seismic Anisotropy Patterns, Splitting Intensity, and SWS Tomographic Images in the Alps and Apennines Subduction Environments
Kristian Csicsay	Tectonic movements under the Vihorlat Mountains based on the earthquake of 24.4.2020
Anke Dannowski	Lithospheric structure of the Ligurian Basin
Paul Eizenhöfer	Thermo-kinematic and geomorphic evolution of the Eastern European Alps
Sarah Falkowski	Surface response to the lithospheric evolution of the Alps from zircon fission-track tracer thermochronometry - Proof of concept and preliminary results
Dominika Godová	Integrated geophysical study of the Carpathian-Pannonian lithosphere
Hans-Jürgen Götze	3D density modelling of the lithosphere around the Alps and Ligurian Sea
Christoph Grützner	Remote sensing of active tectonics in NE Italy, eastern Southern Alps
Rens Hofman	Distribution of Seismicity in the Eastern Alps Using Swath-D
Dániel Kalmár	S receiver function analysis in the Pannonian Basin and wider region

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Poster Session



Emanuel D. Kästle	Crustal Structure in the eastern Alps from ambient-noise tomography
Thomas Klotz	New insights into the internal deformation of the Dolomites Indenter from low-temperature thermochronology, eastern Southern Alps
Petr Kolínský	AdriaArray Seismic Network - Status in October 2022
Dietrich Lange	3D Travel Time Tomography of the Ligurian Sea
Francesco Pio Lucente	Shear waves velocity model of the crust in the eastern Alps from Receiver Functions Pseudo-Tomography
Giridas Maiti	Foreland Basin Evolution: Insights from 3D Numerical modelling
Najmieh Mohammadi	3D Vp, Vs, and density imaging of the crust and upper mantle beneath the Alps by Full Waveform Inversion of the AlpArray teleseismic data
Andrea Piccolo	The upper mantle controls on the slab detachment process and its surface expressions
Erick Prince	Quaternary seismicity in the Eastern Alps: Dating of earthquakes along the Periadriatic Fault System via trapped charge methods
Julia Rudmann	Integrating different geological interpretations in a N-S transect through the western Tauern Window
Christian Schuler	Initial results of modelling 3D plate dynamics in the Alpine-Mediterranean area
Martin Šugár	Integrated geophysical study of the Carpathian-Pannonian lithosphere
Luděk Vecsey	MOBNET stations in Romania and Bulgaria
Iris Wannhoff	Peak pressure estimates of Koralpe-Saualpe-Pohorje Complex based on Raman Spectroscopy
Helen Werner	Glacial and Erosional Contributions to Late Quaternary Uplift of the European Alps