

Neotectonic rotations in the Orava–Nowy Targ intramontane basin (Western Carpathians):
an integrated palaeomagnetic and fractured clasts study

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The objectives of this contribution are: (1) promotion of application of fractured clasts analysis in conglomerates for regional stress reconstructions and (2) to advance reconstruction of the Western Carpathians structural development. Our results show that the Neogene fill of the Orava-Nowy Targ Intramontane Basin underwent CCW rotation of over 20°. We infer that the rotation terminated after 8 Ma and was related to dextral shift along NW-SE to NNW-SSE trending faults at the NE termination of the Mür-Žilina Fault Zone. Our results show that, fractured clasts can be good tool for regional tectonic reconstructions. The tool is especially useful when other tectonic tools are scarce or absent. Results of our palaeomagnetic study and fractured clasts analysis verify and supplement each others. In the studied case, palaeomagnetic results allow to distinguish between regional stress field rotation and rotation of the Orava-Nowy Targ Basin Neogene fill, whereas, results of fractured clast analysis help to constrain the age of rotation.

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