

## **Fault-plane solutions and stress orientation in the greater region of Northern and Central Dinarides**

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We present a newly compiled database of fault-plane solutions (FPS) for 230 earthquakes which occurred in the Northern and Central Dinarides and the surrounding regions (mostly Croatia and Bosnia-Herzegovina), computed from the first motion polarity data as manually read from available regional seismograms (6517 onset amplitudes) and bulletin reports (4164 polarities, mostly for the pre-digital era). The program used minimizes the misfit between the theoretical radiation pattern amplitudes and the ones assigned to each reading by the analyst. It also allows the use of amplitude ratios of direct P and S-waves in inversion. Such an approach enabled definition of confidence limits (and quality assignment) that are based on the shape of the misfit function. The solutions indicate compressive regime throughout the region. Reverse and thrust dip-slip faulting is predominant in the Central External Dinarides (Dalmatia south of Zadar and the Montenegrin coast), in the central Adriatic, and in NW Croatia. Mostly strike-slip solutions were obtained in the transition zone from the External to Internal Dinarides in southwestern and central Bosnia-Herzegovina, and in the border region between Croatia and Slovenia NW from Rijeka. Mixed styles of faulting are seen primarily in the Banja Luka area in NW Bosnia-Herzegovina, and in the vicinity of Novi Vinodolski (to the North of Mt. Velebit). The P-axes for the best solutions strike on average SW–NE, i.e. perpendicularly to the trend of the Dinarides in their southern part, and turn counter-clockwise further to the NW. In northwestern and northern Croatia the stress is on average oriented SSW–NNE to S–N. We also present spatially smoothed angular histograms of the P-axes direction, considering all individual solutions within the 75% confidence limits. These new fault mechanism solutions considerably enlarge rather sparse existing dataset documenting the style of faulting and the stress regime in the region.