



Reconstruction of the Euler pole of the Adriatic microplate from 35 Ma to now

Diana Schmid
LMU Munich

Reconstruction of motions of plates and Euler poles on convergent boundaries involving microplates require a compilation of available geologic data that were involved in the collision. Difficulties occur due to lacks of data concerning the geological information being destroyed in the collisional process. Previous studies assume the Euler pole position of today for their reconstruction of plate motions of the Adriatic microplate. A reconstruction of the Euler Pole for the Adriatic microplate with respect to stable Europe were presented by combining geological data, convergence velocities compared to the constructed instantaneous pole of rotation. This study shows estimated locations of the Euler pole path of the Adriatic microplate from 35 Ma to now in 5 time steps. The instantaneous poles of rotation were determined from two wander path of the Adriatic microplate. Furthermore, the location of the rotation pole were estimated by the deformation history of the Alps combining data from the Western, Central and Eastern Alps. A rotation tool from Inkscape was used. In general for both methods the locations of the rotation poles are estimated south-west of the Alps assuming a counterclockwise rotations. The instantaneous poles of rotation make a quantitative determination possible. For 35 to 33 Ma the Euler pole was located near Corsica and not within the Adriatic microplate. At 20 Ma the rotation pole shows an significant change in position and moved to the south and had its position west of Sardinia. The angular velocity increases from 35 Ma to 30 Ma from 5.75 ± 0.75 °/Ma to 6.25 ± 0.75 °/Ma. In contrast until 30 Ma the angular velocity decreases to 0.6 ± 0.1 °/Ma. The estimated rotation pole show a similar path but big errors are included and a determination of angular velocities is not useful.