Geophysical Research Abstracts
Vol. 14, EGU2012-7888, 2012
EGU General Assembly 2012

The Northern segment of the External Dinarides (Croatia) in relation to stable Adria: paleomagnetic constraints

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In recent years, the (mid) late Jurassic–Eocene segment of the APW path for stable Adria became well constrained by paleomagnetic results obtained directly from the northern part of stable Adria (foreland of the Southern Alps and autochthonous Istria). Thus, a well-defined reference system is now available which facilitates the quantitative description of the displacements having taken place in the External Dinarides with respect to stable Adria through coeval paleomagnetic results from the External Dinarides. Such comparison does not reveal any difference between stable Adria and the Northern Adriatic islands, which belong to the external zone of the External Dinarides. In contrast, the internal belt represented by Gorski Kotar and the Velebit Mts. exhibits an about 30° CW rotation with respect to Adria. So far, direct comparison between the external and internal belts of the External Dinarides is not possible, since the paleomagnetic results from the two belts are not coeval. Thus, the significant difference in the rotation of the two belts may be interpreted as due to the existence of two carbonate platforms, an Adriatic and a Dinaric which moved independently before the Paleogene or could have taken place when the NE belt of the External Dinarides were trusted over Adria.