

# The final closure of the Vardar Ocean: paleomagnetic, AMS and structural results

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## The final closure of the Vardar Ocean: paleomagnetic, AMS and structural results

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The Vardar zone divides units of African affinity from units of the European margin. It is characterized by extensional opening of an oceanic domain during the Triassic and Jurassic followed by divergent simultaneous obduction of the oceanic lithosphere over the continental units in the Upper Jurassic. However, a stripe of the oceanic domain persisted till the Cretaceous and Paleogene convergence. The remnants of the last closing part of the Vardar ocean are found in the Sava zone.

In this paper recently published and new paleomagnetic, AMS results in combination with structural observations will be presented from Upper Cretaceous sediments and Oligocene–Lower Miocene igneous rocks representing the areas bordering the Sava zone from the western and eastern sides, respectively and from the upper Cretaceous flysch deposited in the Sava zone.

In the areas W and E of the Sava zone, respectively, the primary remanences of the igneous rocks point to post-Oligocene CW rotation of about 30°. The sediments carry secondary magnetizations, imprinted during magmatic activity. Compared to the areas flanking it, the sediments of the Sava zone were intensively folded during the Upper Cretaceous and Paleogene and the paleomagnetic signals, which exhibit smeared distribution close to the present N, are of post-folding age. The AMS foliation and bedding planes are sub-parallel, thus the deformation must have been weak. Fold axes and AMS lineations are roughly N-S oriented, pointing to the deformational origin of the AMS lineations. These observations from the Sava zone will be discussed in the context of the post-Oligocene CW rotation of the flanking areas and the general NE-SW orientation of the compressional stress field outside of the zone.

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