



A paleomagnetic study from Mesozoic rocks in the Crimean Peninsula; Evidence of Albian/Aptian remagnetization

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We dedicate this work to the memory of Svetlana Kravchenko

The northern margin of the western Black Sea includes the Crimean Mountains, which are part of the southern margin of the East European Platform. The Crimean peninsula is a tectonically active compression orogene that is made up of the Triassic and Lower Jurassic Tauric series, Upper Jurassic carbonate platform sediments, and rift-related sediments of Aptian to Eocene age. To better constrain the paleogeographic evolution of the peninsula during the Mesozoic, a paleomagnetic study has been carried out in a wide area including 87 sites of different ages and lithologies. Triassic and Lower Jurassic rocks from the Tauric series, and Middle to Upper Jurassic limestones, sandstones and siltstones carry a single component magnetization in both AF and thermal demagnetization after the removal of a weak viscous component. Rock magnetic tests indicate pseudo-single domain (PSD) titanomagnetite as the carrier of the magnetization for most sites. Fold and conglomerate tests from the Jurassic rocks are negative, indicating that the tightly grouped characteristic directions of normal polarity record a remagnetization event. On the other hand, conglomerate tests from Lower Cretaceous rocks are positive. Comparison of the pole position for the pre-Cretaceous sites with the expected reference APWP of Eurasia suggests that widespread remagnetization occurred in Albian/Aptian, before deposition of the Lower Cretaceous conglomerate. The timing of these events are in agreement with rifting of the Black Sea.