

# Paleomagnetic Results from Northeast Anatolia: Remagnetization in Late Cretaceous Sandstones and Tectonic Rotation at the Eastern Extension of the Izmir–Ankara–Erzincan Suture Zone

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## Abstract

Paleomagnetic results obtained from Upper Cretaceous sandstones in Northeastern Anatolia demonstrate that the entire area from Erzincan to Kars has been remagnetised. The remagnetisation was acquired before the Middle Eocene collision between the Eastern Pontides and the Arabian Platform because Middle Eocene sandstones carry primary natural remanent magnetisations. The post-folding in situ mean direction of the Upper Cretaceous sandstones is compared with mean directions of younger, Middle Eocene to present rock formations. As a result, a two-stage antagonistic rotation mechanism is proposed. First, the collision between the Pontides and the Taurides between Late Cretaceous and Middle Eocene was associated by clockwise rotation of  $\sim 26^\circ$ . In the second stage between Middle Eocene and Middle Miocene and beyond, counter-clockwise rotations up to  $\sim 52^\circ$  of the Pontide and Anatolide blocks and clockwise rotations of the Van Block were characterised by regional shortening and westward escape.

**Key words:** Northeastern Anatolia, remagnetisation, Late Cretaceous, Paleomagnetic rotation, Middle Eocene.

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