

## **Paleomagnetic and Petrologic Study on Jurassic Gabbroic Rocks from the Central High Atlas, Morocco**

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Middle to Late Jurassic gabbroic bodies (and associated alkaline dykes) crop out in the present Central High Atlas, following the ENE-WSW trend of the chain and intruding Triassic and Jurassic sediments. Interpretation of the emplacement and deformation of these intrusive rocks related to the Central High Atlas folded sediments is still controversial. A very preliminar paleomagnetic (and geochronological) study was performed in the seventies in the Tassent intrusive area. The obtained paleomagnetic pole direction (after applying a tilt correction estimated from adjacent strata) has been used since then to contribute to the African “Apparent Polar Wander Path” for paleogeographical reconstructions, although the author also suggested a possible deformation (even if not observed at the field) within the gabbroic outcrop during the compressional folding and uplift of the High Atlas.

The scientific significance of the paleomagnetic analyses of these gabbros is then related to their contribution (i) to the understanding of their exhumation history and their relationship with the deformation of the intruded sediments and (ii) as a paleopole in one of the poorly constrained segments of the African “Apparent Polar Wander Path”. Following these objectives, paleomagnetic sampling was performed in the Tassent and Tirrhist intrusive areas (12 sites, around 100 independently oriented samples), to evaluate the tectonic applications of the magnetic signal of these gabbroic rocks (including 1 related-dyke and 2 sites in the sedimentary host-rock).

In this study we will discuss:

- the gabbroic geochemical signature and its relationship with the magnetic mineralogy;
- the rock magnetic results and the magnetic mineralogy characterization of the studied sites;
- the directional analysis of the different magnetic phases founded; and
- the implications of these new paleomagnetic results on the geodynamic evolution of the Central High Atlas.