

## **Emplacement conditions, from geophysical investigations and field observations, of the Paleoproterozoic Tinguicht pluton (Yetti domain, Eglab shield, Algeria)**

Nacer-eddine Merabet<sup>1</sup>, Yamina Mahdjoub<sup>2</sup>, Abdeslam Abtout<sup>1</sup>, Bernard Henry<sup>3</sup>,  
Said Maouche<sup>1</sup>, Mohamed Kahoui<sup>2</sup>, Atmane Lamali<sup>1</sup> and Mohamed Ayache<sup>1</sup>

<sup>1</sup> CRAAG, Alger, Algeria.

<sup>2</sup> USTHB, Alger, Algeria.

<sup>3</sup> Paléomagnétisme, Institut de Physique du Globe de Paris, France.

Corresponding author: N. Merabet: merabetn@yahoo.fr

**Abstract:** The Tinguicht granitic complex is part of the ~2.07 Ga post-collisional magmatic suites that intruded the Yetti Paleoproterozoic volcano-sedimentary series of the western part of the Eglab Shield (West African Craton, Algeria). It represents one of the most recent units of these suites and is in fact partly in contact with an earlier intrusion. This NW-SE pluton, with an elliptic shape, is unfoliated, and its deformational structures are practically restricted to fracturing and faulting. New structural, microstructural and aeromagnetic data are presented in order to analyze in particular the relationship between the Tinguicht pluton emplacement and the related NNW-SSE major mega-shear zone, separating the Yetti and Eglab domains. To constrain the context of the regional post-collisional evolution of the Eglab shield, a magneto-structural analysis was performed by mapping the magnetic structures (foliation and lineation) using AMS. The results of the different used approaches were combined to obtain a new and enriched image of this granitic pluton and of its tectonic emplacement context. The elliptic shape of the granitic body and the AMS strain pattern are consistent with the presence of a NNW-SSE major structure. This study thus evidences the role of the NNW-SSE pre-existing major shear zones in controlling emplacement of post-collisional Paleoproterozoic plutons like Tinguicht. The presented results are compared with those obtained for the Drissa complex, equivalent of Tinguicht in the Eglab domain (Merabet et al., 2014).

**Keywords:** Plutons, Paleoproterozoic, AMS, Emplacement, Shear zone

### **Reference :**

- Merabet, N., Mahdjoub, Y., Kahoui, M., Maouche, S., Abtout, A., Henry, B., Lamali, A. and Ayache, M. , 2014. The Paleoproterozoic Djebel Drissa ring complex (Eglab shield, Algeria): post-collisional intrusions in a transtensional tectonic setting. *Tectonophysics*. [doi.org/10.1016/j.tecto.2014.01.005](https://doi.org/10.1016/j.tecto.2014.01.005).