

**U-Pb and Lu-Hf isotopic systems in zircon crystals within Ediacaran –  
Paibian granitoid “Taourirt”\* ring-complexes (Silet terrane, Tuareg  
shield, Algeria, West Africa): implications for tectonic setting and  
regional correlation**

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The Tuareg shield in North-West Africa is composed of an assembly of Neoproterozoic continental and oceanic terranes, as well as Archean terranes and Paleoproterozoic terranes separated by major continental shear zones. In the Silet terrane, the Silet Taourirts (Azzouni-Sekkal et al., 2003) are post-collisional ring-complexes with alkali-calcic and alkaline characteristics. Several of them are associated with mafic-ultramafic complexes, such as the Aguelmam mafic-ultramafic complex trapped between the two Taourirts ring complexes Tihouiarène and Iskel. Five new massifs have been dated (Ait Oklan, Tesnou 1, Issedienne, Tin Erit and Tihouiarene). In the Tioueiine massif, the only one having been already dated by the U-Pb zircon method, the external granite unit was emplaced 575 Ma ago and the circular syenite veins ( $523 \pm 1$  Ma, Paquette et al., 1998) intersecting the external unit developed 52 Ma later. The data set shows that emplacement of Taourirts complexes took place coevally to the Pan-African and Murzukian orogenies that shaped the Hoggar. This current study also shows that the Silet terrane was probably only partly overthrust onto the LATEA metacraton, contrary to what was previously thought (Azzouni et al., 2003). Origin, crustal contamination and emplacement of the Taourirts ring-complexes are not identical in all massifs. The oldest ones, which are alkaline, are directly related with the end of the Pan-African orogeny, whereas the other ring complexes were emplaced during the Murzukian orogeny.

\*"Taourirt": in the Tuareg language, a word defining an isolated mountain clearly visible in the distance. In the geological literature, refers to the last igneous ring complexes intruding all Tuareg Shield formations.