

## **The granitic complex of Kan (center of Côte d'Ivoire): petrography and mechanisms of deformation**

**Koffi K. Pria**<sup>1,\*</sup>, Y. Coulibaly<sup>1</sup>, S. Mrabet<sup>3</sup> M. Allialy<sup>1</sup>, N. Houssou<sup>1</sup>, L. Boya<sup>1</sup>  
<sup>1</sup>*University Félix Houphouët-Boigny, Abidjan Cocody, Côte d'Ivoire*, <sup>2</sup>*University Ibn Tofail of Kénitra, Morocco*

\*E-mail: geokosspria@gmail.com

The Kan granite complex belongs to the Proterozoic basement of Côte d'Ivoire. It is located in the center of the country, precisely in the Toumodi region, at the eastern limit of the volcano-sedimentary sulcus of Toumodi-Fetekro and at the western edge of the Comoé basin. The aim of this work is to show the mechanisms of deformation through a structural analysis. This analysis extends from the macroscopic to the outcrop to the microscopic scale in thin plates (polarizing microscope).

At the petrographic level, we have identified granodiorite, oriented granodiorite, gneiss, mylonitic gneiss, migmatitic gneiss, amphiboliproxenite, basic metavolcanites, gabbro, greece-pelitic metasediments, mafic xenolith and aplite, pegmatite and quartz wire. The metamorphic formations evolve in the amphibolite facies.

At the structural level, two deformation mechanisms were observed in the study area. It is flattening and shearing (ductile and brittle). The generally oriented foliation N10° and similar folds are the markers of the flattening. On the other hand, the shear is materialized by intrafoliar folds, strands, step slits, mineral stretch lines, sigmoid figures, S/C' and S/C structures and fractures. Five mains directions of the shear bands are shown in the study area: these are N10°, N110°, N170° directions (sinistral) and N90°, N50° directions (dextral). The mains directions of fractures are NNE and ENE.

**Keywords:** Côte d'Ivoire, Proterozoic, Granitic complex of Kan, mechanisms of deformation.