

Contribution of SAR interferometry to tectonic studies in the East African rift.

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Abstract

The last development of SAR interferometry and related tools offers new facilities for geological applications in regions where field access is limited or even not possible at all. Production of interferometric DEM and their geocoding without using of external data open new possibilities for geomorphological interpretations in remote areas. Our first test site is located in the tanzanian Rukwa rift between the Tanganyika and Malawi tectonic troughs. The Rukwa rift is a deep NW-SE trending sedimentary basin where both normal and strike-slip movements are to be recorded in the recent times. Last field campaign has evidenced the help of interferometric DEM for slight topographic features identification which are not visible on existing topographic maps. The second area is the Aswa lineament zone in Uganda and Sudan. This area previously considered as tectonically at rest has undergone an important seismic activity at the beginning of the 90's. The topographic information supplied with SAR interferometry combined with optical data will help the final geomorphological interpretation of possibly involved structures.

Keywords: SAR interferometry, geocoding, Tectonic, East african rift.