



Present-Day Kinematics of Mozambique derived from Episodic GPS data

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This work focuses on the present-day kinematics of the Mozambican segment of the East African Rift. This major and complex plate boundary system crosses Africa from North in the Afar region (triple junction between Nubia, Somalia and Arabia tectonic plates) into the South West Indian Ridge (boundary between the Antarctica plate and the Nubia and Lwandle(?) plates).

If in the Afar region, the magnitude and location of the plate boundary is nowadays clearly established (about 6-7 mm/yr of opening), the reduced number of geologic, geophysical and geodetic evidences implies that the complexity of the southern component of the East African Rift is still less understood. As an example, the existence of the Lwandle tectonic block has been up to now supported by indirect observations (modeling).

We present here a consistent velocity field derived from episodic GPS observations for Mozambique. We use data from episodic data acquired in the framework of the KINEMA (KINEmatics of Margins of Africa) and other projects.

The estimated angular velocities are computed with respect to ITRF2008. We intend to discuss the interactions between the Nubia and the tectonic blocks of Rovuma and Lwandle in the Mozambican region in order to better establish the plate tectonic boundaries in this region and simultaneously model the expected relative deformations.