



Towards the computation of the secular velocity field in Mozambique

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Nubia and Somalia are the major tectonic units constraining the tectonics of the African Rift. The existence of more tectonic blocks between these major plates has been already recognized. However, a large level of uncertainty still exists about the exact number, limits and kinematic behavior of such blocks.

Currently, GPS is recognized one of the best geodetic technique to, efficiency and accurately, determine the secular velocity of points on the Earth's surface. GPS campaign-type observations have been acquired all over the Mozambique territory since 1995. Since these data were acquired in the framework of several project not directly related with geodynamic studies, is necessary to rigorously evaluate the quality of the available dataset. In fact, the main goal of this work is to identify the set of available stations that will be used in near future to estimate a dense velocity field that will be used for geodynamic interpretation.

Solutions were computed for each station using the GIPSY software package. In this phase, several solutions were removed since they do not present enough quality.

The second step was to compute the velocity of each point with respect to the ITRF2005. Once again, some points were also excluded since their solutions were unreliable.

We evaluate here our methodologies and we present an initial velocity field for this region. The final selection of points to be reobserved are dependent of the quality of the present solutions and of the spatial distribution of the points in order to optimize the detection of possible relative displacements due to the opening of the African Rift in Mozambique.