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Late Panafrican thrust reactivations of the Ubende belt in Western Tanzania: a distant effect of the Lufilian Arc collisional orogeny

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The Ubende belt in Western Tanzania and its continuation in the DRC (Ruizian belt) has a long tectonic history with repeated reactivations since its initial emplacement in the Paleoproterozoic. The tectonic boundaries between the terranes forming the Ubende crustal blocks have been affected by prominent semi-ductile shear zones associated with alkaline magmatism, 750-725 Ma ago. Since then, the subsequent reactivations have been in progressively shallower brittle conditions. The first brittle tectonic event recorded occurred before the deposition of the late Carboniferous-Permian Karoo sediments and is well expressed all along the Ubende belt in the Rukwa region and along the shore of Lake Tanganyika. Detailed structural analysis of brittle faults in selected outcrops and paleostress reconstruction using the Win-Tensor program allowed to determine the crustal stress field regime and directions for a consistent tectonic stage that we interpret as related to the last stages of the Pan-African tectonic deformations in this part of Africa. By combining data away of the Ubende Belt, from Central Tanzania, North Zambia and SE DRC (Katanga), a regional scale consistent stress trajectory can be highlighted for this tectonic stage. This suggests that the Ubende belt was reactivated as a far-field effect of the Lufilian Arc (RDC/Zambia) orogeny formed as a consequence of the collision of between the Kalahari craton and the large Congo-Tanzania continental mass.