

Neotectonic of São Pedro region (São Paulo, Brazil) revealed by recent fault and fracture inversion by Montecarlo approach

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The investigated region is located close to the Northeastern border of the Paraná Basin (Brazil) and includes the São Pedro and Botucatu ridges. According to the classical paradigm of plate tectonics the internal South America craton is considered tectonically stable. Nevertheless, the role of neotectonics on the shape of Brazilian landform has been demonstrated by several Authors. In fact, lineament domain analysis of the topographic morphology revealed the São Pedro and Botucatu region is involved in a strike-slip tectonics since Neogene.

In the present work we present the evidence of the effect of this Neotectonic as revealed by the brittle deformation associated to major strike-slip faults and characterized by the presence of systematic and non-systematic fracture sets as well as faulting affecting quaternary deposits.

Moreover, the results from an original methodology of fault and fracture inversion by Montecarlo approach to infer the recent stress field(s) is presented and compared with the regional geodynamic setting of the South America.