

THE CENOZOIC STRESS FIELD IN SOUTHERN MINAS GERAIS - BRAZIL

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The Cenozoic stress field of southern Minas Gerais in SE Brazil was investigated based on the study of 415 striated planes in the regolith of precambrian rocks (gneisses and migmatites) collected at 57 stations. Striated planes parallel to the metamorphic foliation reveal the reactivation of older structures during younger events and the development of new ones parallel to them. The analysis of 34 stations using the Arthaud-Method shows a subvertical Y-axis related to strike-slip deformation. Analysis using the Normal Dihedral Method indicate two distinct stress fields. Based on the integrated analysis of that data with morphological observations and published information a tectonic evolution in two steps is envisaged. The oldest, with sub-horizontal NE-SW σ_1 and sub-horizontal NW-SE σ_3 , is related to the opening of the regional Tertiary basins. The youngest, with sub-horizontal NW-SE σ_1 and sub-horizontal NE-SW σ_3 , correspond to the actual and active stress field. Both events correspond to a strike-slip regime which may be explained by an E-W trending shear strain binary, that was first sinistral and later dextral. Acknowledgments: FAPEMIG process CEX-837/96 and FAPESP process 95/04417-3 for funding this research. CAPES for a doctoral grant to the first author.