

STRAIN AND KINEMATIC PATTERNS OF DEEP CRUSTAL SHEETS IN THE PRECAMBRIAN GUAXUPÉ SYNTAXIS, MINAS GERAIS, SE-BRAZIL

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The Precambrian Guaxupé Syntaxis is a wedge shaped block delimited by two strike-slip shear belts: the WNW-ESE trending, sinistral, Campo do Meio and the NE-SE trending, dextral, transpressive Rio Paraíba do Sul. Both are the late orogenic expression of two oblique collisions (Brasília and Ribeira) which took place between three paleocontinents. Strain analysis underwent in 80 samples of gneisses and quartzites help understanding the structural framework and how local deformation accommodated large scale deep-orogenic deformation. Gently-dipping sheets of granulitic to amphibolite facies gneisses exhibit a broad distribution of strain. The contrast in strain intensity between feldspar and quartz is less pronounced than in higher levels or in shear zones. Dominant are oblate strain ellipsoids, flattening fabrics, planar S or S-L-tectonites, the lack of consistent movement senses, quasi-coaxial deformation with minor component of simple shear, low values and low disparity of strain intensity and prevalence of vertical shortening and horizontal flattening. Interleaving those packages exist narrow slivers of high shear strain which record strong dynamic recrystallisation, retrograde metamorphism, high strain ratios and asymmetric fabrics. They represent detachment zones along which the former and much thicker sheets have been displaced and imbricated. Strike-slip shear zones record later, shallower, down-going temperature deformations, the highest strains, oblate to prolate finite ellipsoids, asymmetric fabrics and non-coaxial deformations. A stronger partitioning between mylonitic zones of high shear strain and cross-shortening upright folds exists. Deep-crustal structures reveals a weaker partitioning between zones of coaxial and non-coaxial strain and a distribution of strain intensity that is more homogeneous than in shallower crustal levels.