

TECTONIC STRUCTURES, GRAVITY AND MAGNETIC DATA FROM THE RIBEIRA-BELT IN THE BORDER BETWEEN SÃO PAULO AND RIO DE JANEIRO STATES, BRAZIL

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The Ribeira Belt in the Bocaina Mountains exposes tectonic slivers of deep to mid-crustal levels within shallow- to steeply dipping, strike-slip to oblique ductile shear zones. The Juiz de Fora Complex is composed of charnockitic-gneisses, granitic gneisses-migmatites and quartzites of granulite facies metamorphism. The Paraíba do Sul/Embu Complex is composed of granitoids, biotite gneisses, hornblende-biotite gneisses, quartzites and sillimanite-garnet-biotite gneisses of high-amphibolite facies, the last ones also preserved as lenses of high grade metamorphism. A pervasive gneissic foliation, parallel to banding, strikes around N40-50E and dips between 20-80, dominantly 65 degrees to SE or to NW. Mylonitic foliation occurs preferentially along high-angle, dextral, ductile shear zones with non-coaxial strain. In shallow-dipping tectonites, typical mylonites are scarce and coaxial deformation is dominant. Stretching/mineral lineations are shallow-plunging and have strike-slip to oblique, rarely dip-slip character. An anastomosing network of ductile shear zones delineates a restraining bend, probably evolved from a left stepover, that links the Taxaquara and Além-Paraíba Shear Zones together. These coincide with an gradient increase on the map of Bouguer anomalies, where isogalic lines run parallel to the structural trend. The integration of magnetic, gravity and structural data indicate a crustal compartmentation of different densities that reflect the tectonic juxtaposition between distinct lithostructural units along crustal scale discontinuities. In that region, where the collisional Abre-Campo suture zone approximates the coast, it is difficult to distinguish its typical gravity signature from the increase in density due to the progressive thinning of the continental border.