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Abstract title

THE CUBATÃO - ITARIRI SHEAR SYSTEM AND THE SERRINHA SHEAR ZONE: THE LIMITS OF THE PRE-CAMBRIAN TERRANES, SOUTHEASTERN SÃO PAULO STATE - BRAZIL

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Abstract

Tectonic domains limited by significant shear zones compose the southeastern part of São Paulo State. The present tectonic situation, where four major tectonic domains were defined, is the product of Neoproterozoic Brasiliano collages.
The Embu Domain, north of the Cubatão Shear Zone (CSZ), is mainly composed of metasedimentary rocks of medium to high metamorphic grade, locally migmatized, intruded by peraluminous granites (ca. 620-600 Ma), associated to the syn to late collisional stage of this sector of Ribeira Belt (RB), which were controlled by E-NE shear zones (Cubatão - Itariri Shear System - CISS).
Gneiss-migmatite rocks (612 Ma) and related granites (580 Ma), with E-NE main trend, predominate in the Mongaguá Domain, which is limited by CSZ and Itariri Shear Zone (ISZ). The structural evidence provides a compressional setting to the generation and emplacement of the Mongaguá Domain rocks, and the recorded deformation is related to the juxtaposition of this domain to the Embu and Registro Domains.
Metasediments and granitic rocks with different degrees of assimilation by dioritic material and migmatitic features form the Registro Domain, between CISS and the Serrinha Shear Zone (SSZ). Represents a Paleoproterozoic unit (1.9 - 2.2 Ga) intensely affected in Neoproterozoic times (750 - 580 Ma). The domain has a NW-SE structure, which swings to E or NE under the influence of the CISS.
Rocks of the Iguape Domain, limited to the north by the SSZ, include granites (ca. 600 Ma) intruded in low grade metasediments with a dominantly NE structural orientation.
It is probable that all these tectonic blocks were juxtaposed during a short time interval at the end of Neoproterozoic. The joining of the Registro to the Embu Domain occurred along a sinistral E-W shear zone at about 596 Ma (maximum age for the CISS principal deformation phase), with a compression direction component at N20E-N40E. The 598 Ma peraluminous granites (Embu Domain) may register the docking of the Mongaguá Domain against the newly formed Registro-Embu Domain, through a dextral shear zone (CSZ) and a sinistral shear zone (ISZ), associated to an E-W compression component. The welding of the Iguape and Registro domains probably occurred at 575 Ma, as suggested by the U-Pb (monazite) age of the protomylonitic granites of the SSZ.

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