

GEOCHRONOLOGY OF THE GRANITIC ROCKS OF THE ITARIRI COMPLEX - MONGAGUÁ DOMAIN - COASTAL TERRANE - STATE OF SÃO PAULO

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The Mongaguá domain includes gneiss-migmatitic and granitic associations that occur in the south-southeast of the Ribeira Belt. The Itariri Complex comprises the oldest rocks of the Mongaguá domain, being composed of tonalite to syenogranitic orthogneiss and granodioritic to monzogranitic rocks. Medium to high K. Biotite tonalite-protomylonitic U-Pb analysis of zircon by LA-ICP-MS provided ages of 745 Ma, with nuclei indicating values around 790 Ma, characterizing the oldest rocks in the area. The rocks are peraluminous of medium potassium for which petrographic and geochemical data indicate a calc - alkaline magmatism. This magmatic association is considered pre-collisional. Zircon crystals exhibit nuclei and rims with oscillatory zoning hence representing successive zircon growths in an essentially magmatic environment with younger values indicating the age of the rock. TIMS and LA-ICP-MS U-Pb ages in zircons are ca. 640 Ma (mylonitic granites), 630 Ma in protomylonitic syenogranites, and values of 620 Ma and 603 Ma in peraluminous biotite monzogranites. Deformed monzogranites to syenogranites with migmatitic and mingled mafic rocks features, between Mongaguá and Itanhaém cities, provided TIMS U-Pb ages between 612 and 618 Ma. The data obtained allow characterization of the magmatic evolution of the Mongaguá Domain which lasted ca. 150 Ma, sustained by distinct magmatic events. The igneous overgrowth on zircon in granitic rocks of the Itariri Complex suggests that these rocks crystallized in different magmatic pulses while the inherited nuclei, found in several studied granitoids, suggest that the protholiths would be Paleoproterozoic (2200 Ma) and Mesoproterozoic (1200-1100 Ma). The isotopic data of Sr and Nd in whole rock (initial $^{87}\text{Sr}/^{86}\text{Sr}$ range from 0.708-0.720 whereas ϵNd from -7 and -14) and the presence of zircons with inherited cores confirm the crustal contribution in the genesis of the igneous rocks of the Mongaguá Domain.