

SHRIMP ZIRCON U-PB DATING RESULTS FOR GRANITOIDS FROM SOROCABA AND SÃO FRANCISCO MASSIFS, SÃO PAULO, SE BRAZIL

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The granitic massifs of Sorocaba (SG, 180 km²) and São Francisco (SFG, 150 km²), from the Itu Granite Province (IGP), SE Brazil, are located southeast of São Paulo State. They crop out near the Paraná Basin and intrude low-grade metavolcanosedimentary rocks from the São Roque Group (SRG). Both show an elongate geometry in the ENE direction, partially controlled by shear zones. The SG shows great faciological diversity; being formed by granodiorites, syeno- and monzogranites while the SFG is more homogeneous, being formed by syeno-, monzogranites and minor quartz-monzodiorites. In both massifs the granitoids are fine- to coarse-grained and show equi- to inequigranular or porphyritic textures. Both massifs display well-developed rapakivi textures in some porphyritic facies. Biotite is the main mafic mineral; hornblende occurs in granodiorites, quartz monzodiorites and some monzogranites. The main accessory minerals are titanite, apatite, zircon, ilmenite and topaz in some varieties from SFG. We report the first in situ dating results obtained in zircon mounts from the main granitoids, obtained at the University of São Paulo, with SHRIMP-IIe. The spot size was 30 µm in diameter and the ablation deepness ca. 1–2 µm. Analytical points were selected based on combined high-resolution TL, CL, SE and BSE microscopy. TEMORA zircon (ca. 417 Ma) was used as standard. Our results reveal concordant and 206Pb/238U ages in the range between ca. 590 and 600 Ma in samples from SFG, with late hydrothermal imprint. The SG crystallization history is more complex: the granodiorite facies samples are relatively older (617±4, 610±7 Ma), while the ages of the main syeno-monzogranites (585±4 and 603±4 Ma) suggest protracted evolutionary processes in the magmatic chamber. The data also indicate ~2.1 Ga inheritance, due to assimilation of SRG rocks. These results better constrain the timing of the IGP emplacement. Supported by CNPq.

