

CRYSTALLIZATION AGES AND ZIRCON INHERITANCE IN THE ITAPEVI AND CAUCAIA GRANITES BY LA-MC-ICPMS: THE CAUCAIA FAULT AS THE NORTHERN BOUNDARY OF THE RIBEIRA BELT WEST OF SÃO PAULO, BRAZIL

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Resumo: The Embu Domain (ED) is interpreted as an allochthonous terrane associated with the Ribeira Fold Belt that was juxtaposed by right-lateral tectonics to the reworked margin of the Paranapanema craton at ~ 590 Ma. West of the city of São Paulo, the Caucaia Fault is considered as the probable location of the limit between the ED and the border of the Paranapanema craton, locally represented by the Apiaí-Guaxupé Terrane, mostly on the basis of a significant change in the character of the neoproterozoic granite magmatism.

U-Pb zircon dating by LA-MC-ICPMS was carried out in representative samples of the Itapevi and Caucaia granites, which share a series of petrographic and geochemical features, but are located, respectively, to the north and south of the Caucaia Fault.

Two samples of Itapevi-type granite yielded crystallization ages identical within error (PD2046, 607.4 ± 5.3 Ma; PD2419, 608.4 ± 4.5 Ma), attesting that they are coeval with the "syn-orogenic" calc-alkaline magmatism of the Agudos Grandes Batholith (Leite *et al.* 2007, *J. South Amer. Earth Sci.* 23:193-212). Inherited zircon cores show that an important source area for these magmas corresponds to post-transamazonian terranes (~ 1.7 - 1.8 Ga), apparently not exposed locally, but which may constitute significant portions of the local crust. Sample PD2419 also shows inheritance with transamazonian age (~ 2.1 Ga), besides neoproterozoic inherited zircons (concordant at ~ 630 and ~ 665 Ma; possibly cannibalized from earlier phases of the evolution of the batholith).

The Caucaia Granite sample (PD2448) yielded a significantly younger crystallization age (583.2 ± 3.6 Ma), consistent with the age pattern of the Embu Domain. A single inherited crystal has an Archaean minimum age (3.1 Ga), confirming that the Caucaia Fault separates geological domains with contrasted crustal structures and histories of neoproterozoic granite magmatism.

Palavras-chave: Ribeira Fold Belt; zircon inheritance; LA-ICPMS.