

## U/Pb SHRIMP ZIRCON AGES OF MIGMATITES FROM THE BASEMENT OF THE EMBÚ COMPLEX, RIBEIRA FOLD BELT, BRAZIL: INDICATIONS FOR ~1.3-1.4 Ga Pb-Pb AND Rb-Sr "ISOCHRON" AGES OF NO GEOLOGICAL MEANING

Babinski, M.<sup>1</sup>, Tassinari, C.C.G.<sup>1</sup>, Nutman, A.P.<sup>1,2</sup>, Sato, K.<sup>1</sup>,  
Martins, P.R.<sup>1</sup> and Iyer, S.S.<sup>3</sup>

<sup>1</sup> Centro de Pesquisas Geocronológicas, Instituto de Geociências, Universidade de São Paulo, Rua do Lago, 562, São Paulo, SP, CEP 05508-900, Brazil; babinski@usp.br

<sup>2</sup> Research School of Earth Sciences, Australian National University, Canberra, ACT 0200, Australia

<sup>3</sup> Department of Physics and Astronomy, University of Calgary, Calgary, Alberta, Canada T2N 1N4

Rb-Sr and Pb-Pb Mesoproterozoic ages were determined on basement rocks of some geological units of the Ribeira Belt, and they were interpreted as the time of the metamorphism that affected these rocks. However, this Mesoproterozoic event (ca. 1.3-1.4 Ga) was not accepted by many researchers. The main objective of our work is to present additional data using multiple radiometric systematics to better constraint this event. The study was carried out on migmatites from the basement of the Embú Complex, in São Paulo State. The paleosome is made up by biotite-hornblende gneisses: two generations of neosome are recognized: an older of light gray colour, and a younger one of pink colour which is coarser and cuts the former.

The paleosome samples showed Pb-Pb and Rb-Sr isochron ages of ca. 2.3 and 2.0 Ga, respectively. Its Sm-Nd  $T_{DM}$  age of 2.95 Ga suggests that the paleosome was formed by melting of an Archean protolith. U/Pb SHRIMP ages from paleosome zircons showed ages of ca. 2000 Ma and 600 Ma indicating that this rock was formed in the Paleoproterozoic and was affected by a Neoproterozoic metamorphic event. The gray neosome samples yielded Pb-Pb and Rb-Sr isochron ages of ca. 1.3-1.4 Ga. The U/Pb SHRIMP zircon results can be separated into 3 groups: (a) Paleoproterozoic ages from homogeneous crystals; (b) Paleoproterozoic ages from shells of crystals with Archean cores; (c) Paleoproterozoic cores and Neoproterozoic metamorphic rims. Zircons from the pink neosome showed Paleoproterozoic crystallization ages with large Pb loss in the Neoproterozoic (lower concordia intercept).

The results of our study allow us to conclude that these migmatites do not record any Mesoproterozoic event. The Pb-Pb and Rb-Sr isochron ages (1.3-1.4 Ga) were calculated from pseudoisochrons formed due to the interposing of two different isochrons generated for two melt components of Paleo- and Neoproterozoic ages.