

## **Sr and Nd SYSTEMATICS OF NEOPROTEROZOIC GRANITOIDS IN RIO DE JANEIRO STATE, BRAZIL**

1MACHADO, R., 2PEUCAT, J-J., 1McREATH, I., 3DEMANGE, M. 1IG-USP, São Paulo, Brasil; 2Géosciences Rennes, France; 3Ecole des Mines de Paris, France.

New results were obtained for five granitoids and four examples of basement rocks. I-type tonalites to granites which were intruded at about 600Ma have  $\epsilon_{\text{Nd}}(\text{T})$  between  $-2$  and  $-8$ ,  $\text{ISr}$  between 0.707 and 0.709, and Nd TDM model ages between 1.5 and 2.2 Ga. These rocks are clearly not juvenile, derived from either primitive or depleted mantle. S-type granites intruded at about the same time have  $\epsilon_{\text{Nd}}(\text{T})$  between  $-8$  and  $-11$ ,  $\text{ISr}$  between 0.715 and 0.719, and Nd TDM model ages between 1.9 and 2.0 Ga. All these results confirm previous findings for granites in other parts of the Paraíba-Ribeira belt in SE Brazil. Exposed paleoproterozoic high-grade intermediate to felsic basement rocks have  $\epsilon_{\text{Nd}}(600\text{Ma})$  between  $-17$  and  $-19$  and Nd TDM model ages between 2.4 and 2.9 Ga, while an amphibolite enclave has  $\epsilon_{\text{Nd}}(600\text{Ma}) = 1$  and  $\text{ISr} = 0.706$ . None of these rocks alone is a suitable source for the granites, but mixture of juvenile and recycled crustal material could produce the isotopic compositions observed.