

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

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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 $\epsilon_{Nd}(T)$ between -2 and -8, 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 $\epsilon_{Nd}(T)$ between -8 and -11, 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 $\epsilon_{Nd}(600\text{Ma})$ between -17 and -19 and Nd TDM model ages between 2.4 and 2.9 Ga, while an amphibolite enclave has $\epsilon_{Nd}(600\text{Ma}) = 1$ and $ISr = 0.706$. 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.