

GEOCHRONOLOGY OF THE NEOPROTEROZOIC GRANITOID COMPLEXES OF THE SERRA DO MAR, SOUTHERN BRAZIL

1CORDANI, U.G., 2KAUL, P.A.T. and 1SIGA Jr., O. 1 University of São Paulo, São Paulo, Brazil; 2 Brazilian Institute of Geography and Statistics, Florianópolis, SC, Brazil.

For the granitoid complexes of Agudos, Anhangava, Dona Francisca, Pirai, Graciosa, Guaraú, Mandira, Morro Redondo and Corupá, which occupy extensive areas in the States of Paraná and Santa Catarina of Brazil, about 200 radiometric age determinations were obtained in the last 20 years, by different methods. The most significant results (a few U-Pb conventional and SHRIMP zircon dates, some Rb-Sr isochrones, and some K-Ar determinations) point to the formation of the major complexes, metaluminous to weakly peraluminous, around 580 Ma, as post-tectonic bodies formed in distentional structures within the context of the Brasiliano Orogenic Cycle. Some younger events were also detected, associated to the formation of smaller intrusions of peralkalic character. These were accompanied by heating, hydrothermalism and rejuvenation of some isotopic systems, with apparent ages down to about 540 Ma., indicating successive tectonic reactivations along the main fault systems. The determination of $^{87}/^{86}$ initial strontium ratios in the granitoid samples indicated some mixing of juvenile mantle material and crustal components, and some Sm-Nd TDM model ages of about 2.000Ma. confirmed the possibility of crustal contamination within the Neoproterozoic granitoid magmas.