

RECONNAISSANCE GEOCHRONOLOGY ON GRANITOID ROCKS FROM THE OSSA-MORENA ZONE OF PORTUGAL

1CORDANI, U.G., 1SATO, K., 2ANDRADE, A., 2SANTOS, J.F., 2AZEVEDO, M.R.M, and 2SERRANO PINTO, M.1University of São Paulo, São Paulo, Brazil; 2University of Aveiro, Aveiro, Portugal.

The Ossa-Morena Zone is considered to be polyorogenic, affected at least by two major tectonothermal events of Cadomian and Variscan age. Geochronological control is still incipient, especially in the northwestern Portuguese sector. In this work, Rb-Sr and Sm-Nd isotopic determinations were obtained in many granitoid complexes of pre-Variscan and Variscan age (Albuquerque, Monforte, Figueira de Barros, Évora, Arraiolos, Reguengos de Monsaraz, Redondo, and others), and indicated mantle sources with some evidence of crustal contamination. In particular most Sm-Nd TDM model ages fell in the 1.0 to 1.4 Ga. interval, and the samples yielded slightly negative initial epsilon (Nd) values. Zircons from an orthogneiss located near Alagoa, within the Badajóz-Cordoba ductile shear belt, were analysed by SHRIMP. The age obtained was 495 +/- 10 Ma., interpreted as the age of the magmatic protolith, formed during a Lower Ordovician distentional event. Zircons from the Alcaçovas orthogneiss, collected near the border with the South Portuguese Zone, also dated by SHRIMP, resulted highly heterogeneous in age, indicating a complex geological history. Some grains are clearly relics of older rocks, the oldest exhibiting an Archean age. Two crystallisation events are indicated at about 535 and 460 Ma., one of these to be considered as the age of the magmatic protolith. Finally, two overgrowths yielded an age of about 360 Ma., attributed to the Variscan metamorphism.