GEOCHRONOLOGICAL RESULTS ON SOME GRANITOIDS FROM BENIN AND THEIR BEARING ON THE CORRELATION BRAZIL/WEST AFRICA

U.G.CORDANI, K.KAWASHITA, K.R.B.VANCINI - Instituto de Geociências - USP, P.O.Box 20899 CEP 01498 São Paulo, Brazil; A.BORIANI, B.BIGIOGGERO, P. CADOPPI - Università di Milano, Italy; L.SACCHI - Università di Torino, Italy.

In the central part of the Territory of Benin, West Africa, deformed orthogneisses of granitic to granodioritic composition, with large feldspar megacrysts and frequent mafic inclusions, occur within the so called crystalline basement. They exhibit different petrographic facies, with predominant blastomylonitic gneissic varieties (augen gneisses of Dassa type), associated with fine-grained varieties (Tré type) with less pronounced planar orientation.

Samples from Dassa, Savé, Gomé, Assiyo and Lissa localities were analysed by the Rb-Sr method, in whole-rock systems. Although the individual augen-gneisses, whose megacrysts reach up to a few centimeters, may not have been chemically closed after the emplacement of the protoliths, the analytical points exhibit a clear colinearity in the isochron diagram, indicating their probable cogeneticity and an age for the original formation of the rock systems of about 660 M.A.

Later events of deformation, associated with neoformation and retrogression, are evident from thin section examination. Chemical mobility of Rb and/or Sr among the mineral phases is confirmed by isotopic analyses on separated feldspar megacrysts. An aplite dike indicated a conventional age of 580±20 M.A., if a $(^{87}Sr/^{86}Sr)_0$ of 0,705 is assumed for the calculation, and this value could correspond to the terminal phases of the granitic magmatism. Three K-Ar dates on biotites yielded cooling ages of about 510 M.A., associated with a final event of regional uplift.

The geochronological results of the granitoids are typical Pan-African, and confirm previous scattered radiometric determinations. Moreover, the Dassa and Tré granitoids seem to correlate closely with the Cahval granitoid within the Granja Complex, in the northwestern corner of the Boborema Province of Northeast Brazil.