PROVENANCE OF ARC RELATED METASEDIMENTS OF THE COSTEIRO DOMAIN/ORIENTAL TERRANE, RIBEIRA BELT, SE BRAZIL: NEW LA-ICPMS AND TIMS DATA

LOBATO, M. [1,2]; HEILBRON, M.[1,3]; RAGATKY, D[1]; TORÓS, B.1,4; DANTAS,E.[5]; NETO, C.C.A. [1]

1-TEKTOS-LAGIR/Faculdade de Geologia/UERJ, 2- Bolsista Faperj, 3-Bolsista Produtividade CNPq,4-Bolsista IC-CNPQ, 5-Laboratório de Estudos Geocronológicos, Geodinâmicos e Ambientais/Instituto de Geociências/UNB

The Oriental Terrane comprises the arc-related rocks of the belt and was subdivided into three structural domains. The intermediate thrust sheet is the Costeiro domain, composed of paragneiss with lenses of orthogneisses of the São Fidelis group (SFG) and by rocks of the Rio Negro Arc (*ca*. 790-605 Ma), both intruded by syn-to-late collision granites.

The SFG group comprises itself three units: basal kinzigitic gneiss with lenses of hbl-biotite gneiss and a top unit of sillimanite-garnet-biotite banded gneisses with feldspatic quartzites.

The hbl-biotite leucogneiss yielded crystallization ages of 618 ± 4.1 Ma, while a cluster of the older zircons rendered a concordant age of 696 ± 5.8 Ma, related to oldest phases of the arc development. The other grains are discordant at *ca.* 593-585 Ma (M1 episode).

The detrital zircons of the quartzites indicate a large spectrum signature: a) *ca*. 2.85, 2.84 and 2.70 Ga.; b) ca. (2.3 to 1.7 Ga., with maximum concentration around 2.2 Ga, represent the second modal contribution; c) ca. 1.5 and 1.3 -1.1 Ga ages dominate data spectrum; d) *ca*. 0.95-90 Ga and 0.86-0.61 Ga with metamorphic overgrowths of *ca*. 602-570 Ma. The youngest zircon of *ca.* 0.61 Ma constrains the sedimentation of the top unit coeval with the Rio Negro Arc development. Similar Mesoproterozoic sources are very common for intrusive magmatic rocks in the Archaean basement of Angola, thus indicating a mixing provenance with arc and African signatures.

An intrusive granitoid (Desengano Suite) yielded crystallization ages of ca. 599 Ma and a metamorphic overprint of *ca.* 574 Ma. Monazite ages of *ca.* 537-532 Ma are coherent with the M2 metamorphic episode of the belt.

New U-Pb data for the SFG constrains the age of sedimentation of the SFG that encompass the development of the magmatic arc of the Ribeira belt with also African contribution.

Key words: *Neoproterozoic, Ribeira belt, Western Gondwana, African signature*