

## **CORONITIC GABBROS FROM THE NEOPROTEROZOIC ARAÇUAÍ-RIBEIRA OROGEN: EVIDENCE OF A CONTAMINATED MANTLE SOURCE.**

<sup>1</sup>LUDKA, I.P. and <sup>2</sup>WIEDEMANN, C.M.-<sup>1</sup>Geology Department, Federal University of Rio de Janeiro. <sup>2</sup>Geosciences Institute, National University of Brasília, Brazil

Isolated small bodies of Neoproterozoic coronitic gabbros crop out along the states of Espírito Santo (Jacutinga and Itaoca) and Rio de Janeiro (Amparo). The common primary mineral assemblage consists of olivine, opx, cpx, plagioclase, ilmenite, Ti-magnetite and sulfides. Coronitic overgrowths related to the olivine-plagioclase reaction form concentric rims of opx, amphibole and symplectitic amphibole-spinel around an olivine core. Those from Jacutinga, Itaoca and Amparo are very similar in shape and composition pointing towards similar physical-chemical crystallization conditions. Low forsterite contents (fo70) of olivine together with very high anorthite contents (An94) in plagioclase suggest high grade of Mg diffusion during corona reaction or modification of a primary, mantle-derived melt by a complex magma differentiation process. Different geothermometric measurements yielded crystallization temperatures around 800°C. These temperatures are close to those calculated for primary opx-cpx pairs (800/940°C). The absence of regional deformational and metamorphic paragenesis in these rocks is compatible with their intrusion into the middle to lower crust during a late collisional phase. A long lasting cooling environment at a late magmatic stage induced the sub-solidus reactions. Low K sub-alkalic signatures with clear enrichment in some incompatible elements as Ba, Sr and LREE associated with high Sr87/Sr86 initial ratios (around 0.706-0.708) are evidence of a highly contaminated mantle source which could correspond to a large-scale Dupal-like anomaly in the Southern Hemisphere.