

***The 1800-1770 Ma Colider silicic large igneous province in the Amazonian craton: Crustal evolution using zircon in situ REE compositions, U-Pb ages and Hf isotope analyses.***

BRUNA SAAR ALMEIDA<sup>1</sup>, MAURO CESAR GERALDES<sup>2</sup>,  
CARLOS AUGUSTO SOMMER<sup>3</sup> AND ANTONIO JOÃO  
PAES DE BARROS<sup>4</sup>

<sup>1</sup>UERJ

<sup>2</sup>Rio de Janeiro State University

<sup>3</sup>Unissinos

<sup>4</sup>Mato Grosso Geological Survey

Presenting Author: gerald@uerj.br

*We presents zircon U-Pb, REE and Hf data for Paleoproterozoic felsic volcanic rocks from the Colider Group in the southwestern Amazonian Craton. It is estimated that these rocks cover an area of 85 000 km<sup>2</sup> with a volume of 2.7×10<sup>6</sup> km<sup>3</sup>. The Colider volcanics are comprised of basalts, andesites and a variety of felsic rocks. The felsic rocks are characterized by rhyolite, andesite and dacite lavas with frequent intercalated pyroclastic and epiclastic deposits. Effusive and pyroclastic rocks are intruded in places by hypabyssal porphyritic rocks. The U-Pb ages obtained for the northeastern domain (1782-1776 Ma) are younger than the ages obtained for the southern domain (1800-1787 Ma). The NE volcanic facies show Hf T<sub>DM</sub> ages between 2.3 and 2.5 Ga ( $\epsilon_{Hf}$  from +1 to -3) and greater fractionation (Ce/Yb – 0.03-0.06) than the younger facies that has T<sub>DM</sub> from 2.4 to 2.7 Ga ( $\epsilon_{Hf}$  from -3 to -6) with Ce/Yb values of 0.025-0.030. The Hf isotope compositions, REE contents and U-Pb analyses suggest geographic (north-south) variations in composition, crystallization ages, and T<sub>DM</sub> age zonation during the generation of the Colider large igneous province.*