



51º CONGRESSO BRASILEIRO DE
GEOLOGIA
13 A 17 DE OUTUBRO DE 2024
BELO HORIZONTE - MG
Centerminas Expo

ANAIIS



ID do trabalho: 1504

Área Técnica do trabalho: TEMA 20 - Mineralogia e Petrologia Metamórfica

Título do Trabalho: AN INTEGRATED ZIRCON GEOCHRONOLOGY INVESTIGATION OF UHT GRANULITES FROM THE CAPARAÓ COMPLEX, ARAÇUAÍ OROGEN

Forma de apresentação: Pôster

Autores: Alvarez, A U¹; Chung da Rocha, B¹; Rodrigues Cioffi, C¹; Rossi Vieira, P²; Tedeschi, M²; Hernandez Ortiz, L¹; Novo, T²;

Instituição dos Autores: (1) Universidad de São Paulo - São Paulo - SP - Brasil; (2) Universidade Federal de Minas Gerais - Belo Horizonte - MG - Brasil;

Resumo do trabalho:

Metamorphic rocks formed at extreme conditions under ultra-high temperature (UHT) are important records of processes acting in the lower continental crust during orogenesis. The in-situ dating techniques (i.e., LA-ICP-MS and SHRIMP/SIMS) have been widely applied in petrochronological investigations to constrain the timing of metamorphic processes. However, the large uncertainties (~1-2%) of the in-situ methods do not allow a precise and reliable definition of the P-T-t paths in Neoproterozoic samples hampering a comparison with more recent orogenic processes. The CA-ID-TIMS (chemical abrasion-isotope dilution-thermal ionization mass spectrometry) method allows geological processes to be assessed at a very high temporal resolution (0.01-0.05%), allowing a precise determination of metamorphic timescales in ancient orogenic belts. In this study, an integrated zircon U-Pb geochronology approach using both in-situ (LA-ICP-MS) and high-precision (CA-ID-TIMS) dating techniques combined with zircon trace element analyses, trace element thermometry and phase equilibrium modeling will be applied in UHT granulites from the Serra do Caparaó Complex (Araçuaí Orogen, SE Brazil) to establish more robust pressure-temperature-time (P-T-t) paths and obtain more reliable timescales of the metamorphic processes active in the Neoproterozoic lower continental crust.

Palavras-Chave do trabalho: Araçuaí orogen; high-precision geochronology; LA-ICP-MS; U-Pb zircon; UHT granulites;