

**COMBINED FFT AND U-Pb-Hf ZIRCON  
GEOCHRONOLOGY APPLIED TO THE PROTEROZOIC  
COVERS OF THE SÃO FRANCISCO CRATON**

DIAS, A.N.C.<sup>1</sup>, CHEMALE JR, F.<sup>2</sup>, OLIVEIRA, T. P. R.<sup>1</sup>,  
MASUYAMA, K. M.<sup>1</sup>

<sup>1</sup>DFQM, UFSCar, Sorocaba, Brazil, diasanc@ufscar.br;  
rosinha.thais@hotmail.com; kelvinmasuyama@gmail.com

<sup>2</sup>IG, UNISINOS, São Leopoldo, Brazil, faridcj@unisinios.br

Fission-Track Thermochronology (FTT), U-Pb and Lu-Hf (Figures 1A, B and C, respectively) analysis on detrital zircon grains from the southern portion of Craton São Francisco are used for determining the sedimentary provenance and thermotectonic events from Statherian to Phanerozoic. U-Pb zircon data suggest a large contribution of Rhyacian and subordinate Ediacaran, Mesoproterozoic and Archean sources. The combined Lu-Hf analyzes indicating the presence of juvenile is well documented in Archean to Mesoproterozoic metasediments, while the Neoproterozoic metasediments are dominated crustal recycled material. The FTT results allow to distinguish major peaks between 450 and 600 Ma and between 280 and 330 Ma, with subordinate groups between 160 and 200 Ma and another around 135 Ma. The oldest ages are associated with post-orogenic events of the Brasilian Cycle, while the Paleozoic ages may be related to deformation at the South American margin. Younger ages correspond to the denudation of the study area during the Mesozoic break-up of South America and adjacent plates.

**Acknowledgments**

The authors are grateful to the Brazilian foundation FAPESP (São Paulo Research Foundation, process number 2014/13792-5)

