Geophysical Research Abstracts,
Vol. 10, EGU2008-A-12435, 2008
SRef-ID: 1607-7962/gra/EGU2008-A-12435
EGU General Assembly 2008

Low-temperature post-rift evolution of the western South-Atlantic passive continental margin, Brazil -apatite fission-track thermochronology

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The SE of Brazil is a key-area to understand syn- and post- break-up processes of the South-Atlantic Rift that caused uplift and long-term landscape evolution. Major events are exhumation of the Serra do Mar and Serra da Mantiqueira Mountain range, the formation of the South American surface and NE-SW trending Cenozoic rift basins. The Ponta Grossa Arch (PGA) is a NW-trending anticline connecting the Paraná sedimentary basin with the South Atlantic offshore basins (e.g. Santos Basin). Main lithological units are Precambrian metamorphic rocks discordantly overlain by Jurassic to Devonian sedimentary rocks. In order to understand the post-Cretaceous landscape evolution of the PGA, apatite fission-track analysis was carried out on samples collected from the Precambrian crystalline basement as well as from the Jurassic to Devonian sedimentary rocks.

The low-temperature thermochronology based on apatite fission-track data allows the reconstruction of the cooling history over the last 60 Ma. The poster will present evidences for a long-term exhumation history since Upper Cretaceous – Paleocene time.