bimodal pile in the West Congo Belt, as compared to the scarce occurrences of the rift-related magmatism in the Araçuaí Belt, suggests that the rift was asymmetric, with a thermal axis located at the African side. Additionally, the age differences between the Salto da Divisa granite and the lavas of the Zadinian and Mayumbiam Groups suggest westwards migration of the thermal axis of the rift to the Brazilian side, ca. 40 Ma after the onset of the rifting process. Far south, rifting and oceanic spreading in the Damara, Gariep and probably in the Dom Feliciano belts took place from ca. 780-740 Ma, some 150 Ma later than in the Araçuaí-West-Congo Orogen. If the São Francisco-Congo paleocontinent was a Rodinia's component as well as the Kalahari and the Rio de la Plata paleocontinents, these age differences suggest a sequential opening from north to south.

284-29 Poster Fraga, Lêda Maria

A- AND C-TYPE GNEISSES OF THE CENTRAL GUYANA BELT, NORTH AMAZONIAN CRATON, BRAZIL

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Keywords: A- and C-type granitoids; Paleoprpterozoic; Central Guyana belt; Amazonian Craton

Paleoproterozoic A- and C-type gneisses and foliated granitoids in close association with norites and gabbronorites have recently been characterized along the Central Guyana Belt, in the Roraima State, Brazil. These rocks form the basement of a Mesoproterozoic Anorthosite-Mangerite-Rapakivi Granite, AMG Complex.Gneisses and granitoids showing A-type granites characteristics have been grouped in the Igarapé Branco Gneiss (IBG) and the Igarapé Miracelha Gneiss (IMG). The IBG corresponds to allanite bearing biotite hornblende granitic gneisses and the IMG includes titanite bearing hornbelnde biotite granitic gneisses and foliated granites. The IBG and IMG are metaluminous, subalkaline with high contents of alkalis and HFSE. The IBG shows higher HFSE contents and higher Ga/Al and FeO*/FeO*+MgO ratios in relation to the IMG, reflecting differences in the crustal sources.The Serra da Prata Suite (SPS) includes charnockites with subordinated quarz mangerites, quartz jotunites and quartz sienytes, showing igneous textures locally grading to a gneissic fabric. They are subalkaline, dominantly metaluminous and show chemical similarities with C-type granitoids. The IBG, IMG and SISP rocks include mafic enclaves with dropped alkali feldspar crystals, recording the coexistence of mafic and felsic magmas. The mafic magmatism is represented by foliated norites, gabbros and gabbronorites (NGGN). The IBG, IBM and the SPS rocks were synkinematicaly emplaced. They show very high temperature (650oC) solid state deformation fabrics also recorded in syn-plutonic dykes that cross-cut early-kinematic structural features. 207Pb-206Pb single zircon evaporation ages for two samples of the IBG and IMG and five samples of the SISP constrains the magmatism between 1933 ± 2Ma and 1943 ± 2Ma age ago. No traces of inherited Pb component have been detected. The IBG and IMG A-type gneisses and the SPS C-type rocks exhibits TDM model ages varying from 2.05Ga to 2.19Ga, and εNd(T) values between +0,67 and +2,46. The Sm-Nd data suggests paleoproterozoic juvenile crustal sources (with very limited crustal residence) for the A- and C-type granitoids of the Central Guyana Belt in Roraima. Archean components have not been identified. A transpressional post-collisional setting was envisaged for the synkinematic emplacement of the A- and C-type magmatic bodies.

284-30 Poster Fuck, Reinhardt

GEOPHYSICAL EVIDENCE FOR AMAZON CRATON SUBDUCTION IN CENTRAL BRAZIL: A NEW INSIGHT INTO TOCANTINS PROVINCE EVOLUTION

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Keywords: Amazon Craton; Tocantins Province; crustal structure; subduction

The Tocantins Province is a large Neoproterozoic Brasiliano orogen developed in central Brazil during convergence of Amazon, São Francisco/Congo and Paranapanema cratons. The province's central part comprises the Araguaia Belt, bordering the Amazon Craton, and the Brasília Belt, at the western margin of the São Francisco Craton. From west to east, the Brasília Belt includes the Neoproterozoic Goiás Magmatic Arc, Archean and Paleoproterozoic terrains of the Goiás Massif, and a foreland fold-and-thrust belt. Deep seismic refraction experiments across the province, deployed in northern Goiás, provided evidence in dept for a former Amazon plate subduction zone in central Brazil. It dips from NW to SE and is marked by superposition of lower crust segments of Amazon Craton and Goiás Magmatic Arc, with a 7 km step in the Moho discontinuity, and by uplift of the juvenile arc rocks. Due to crustal uplift, mantle ascent has lead to a regional gravimetric high, that traces the limit of Amazon plate. The gravimetric high is 800 km long, smoothly convex to ESE, and depicts the former mountain range in central Brazil. It underlies the juvenile arc terrain and, towards the north, the Paleoproterozoic granulites of Porto Nacional, Tocantins, which were also uplifted due to Amazon plate subduction. Discontinuities in the shape of the gravimetric anomaly suggests differential movement of the Amazon subduction front, which moved farther east in its central part, due to resistance offered by the Archean block southwards and by the Paleoproterozoic basement of the foreland fold-and-thrust belt northwards. Residual aeromagnetic and high frequency Bouguer anomaly maps reveal that this movement rotated the layered mafic-ultramafic complexes and several granite bodies in the Goiás Massif and bended the shear zones that separate juvenile arc rocks from older terrains. The Pirineus fault system probably resulted from the rotation of Barro Alto layered complex. The final movement of the Amazon Craton seems to be represented by a slight escape to SW, shearing the western portion of the magmatic arc and giving birth to the Transbrasiliano Lineament in central Brazil. Later dextral movement along this lineament is suggested by the presence of several small pull-apart basin pairs observed in aeromagnetic maps. The proposed NW-SE Amazon plate subduction was the last convergent process to operate in central Brazil, strongly influencing the crustal geometry of western Tocantins Province.

284-31 Poster Horn, Heinrich Adolf

NEW AGE DETERMINATIONS ON ROCKS OF THE INTRUSIVE COMPLEX IBITUBA-ITAPINA, MINAS GERAIS, BRAZIL AND ITS GENETIC IMPLICATION

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Keywords: Brazilian Orogeny; U-Pb Determinations; Intrusive rocks; Magmatic Evolution

Between the cities of Baixo Guandu end Colatina in the Minas Gerais and Espírito Santo states crops out an intrusive magmatic complex formed by a variety of magmatic rocks, principally granites, hy-granites and intermediate and gabbroic rocks. These rocks, formed by granulites, migmatized gneisses, quartzites and amphibolites, are situated in high grade terrains of amphibiotic to granolithic metamorphism. The contact between these host rocks and the intrusive rocks are often sharply formed by faults or by a wide aura of partly funded gneisses migmatized, caused by the intrusion. From the rocks of all suites of this Complex were made U-Pb determinations mineralogical, geochemical investigations. The field observations, the chemical and mineralogical features show the near parenthesis between the intrusive rocks and the rocks of the underlying double crust and the processes of mama mixing, mingling and the change of fluids during the ascension of the different magmatic associations. The age determinations in monazite (U-Pb; granite), zircões (U-Pb; granites, gabro, hy-granites, migmatite) and fieldspars (Rb/Sr;pegmatites) shows clearly the time relation between the formation of the different igneous rocks and their processes of fusion, crystallization, refusion end reintrusion in the different levels of the regional structure.

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284-32 Poster Machado, Romulo

NEOPROTEROZOIC EXTENSIONAL TECTONICS IN THE MANTIQUEIRA PROVINCE, SOUTHEASTERN OF BRAZIL

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Keywords: Extensional structures; Mantiqueira Province; Neoproterozoic III /Cambrian; Crustal thinning; Rifting processes

This work describes the well-preserved extensional structures set in different tectonic segments - the Quadrilátero Ferrífero region, and the northern and central parts of the Mantiqueira Province - of the Proterozoic terranes in the southern Sanfranciscana plate. The structures in the three studied domains are mutually compatible in geometric and kinematic terms, indicate have quite consistent top-down-to E/SE movement, and were developed during continental scale extension after the collisional phase of the orogeny. The petrotectonic assemblages were developed under conditions of anatexis. The sparse geochronological data indicate a range of ages between 600 Ma and 560 Ma. The structures seem to have developed diachronically along the Mantiqueira Province. In the South, they controlled the emplacement of plutons of the Serra do Mar alkaline granite suite, whereas in the north, they would have formed by the time of transition between the Rio Paraíba do Sul and the Rio Doce magmatic arcs. Tectonic modelling shows that these structures cannot be simply related to post-orogenic gravitational collapse. Their origin would probably involve crustal thinning and/or rifting processes possibbly related up to the stage of oceanic basin formation in the southern Sanfranciscana plate. These structures were important in the emplacement of voluminous granitic magmatism occured in the Mantiqueira Province between the end of Neoproterozoic III and the early begining of the Cambrian. Besides, they probably played an important role in the aglutination of the Gondwana supercontinent in the southern part of the South American Platform.

284-33 Poster Teixeira, Wilson

GEOCHRONOLOGIC DATABASE OF THE ARAÇUAÍ BELT, NE MINAS GERAIS STATE, BRAZIL

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Keywords: Araçuaí Belt; Brasiliano Pan-African; Geochronology; Database

This work presents the geochronologic database made for the Araçuaí Belt, east Brazil. The area comprises a space from parallel -16o to -20o, and from meridian -44o to the coast, with approximately 200000 km2. The database was constructed in EXCELL format, with one sheet for each methodology (K-Ar, Rb-Sr, Sm-Nd, Pb-Pb and U-Pb), and their respectively age information. It also includes a sheet for the references and one for the samples. All the samples are georeferenced, with latitude and longitude. An order number, that doesn't repeat, links the sheets.Six hundred and thirty (630) isotopic analyses were compiled, the major number of it comprising K-Ar and Rb-Sr analyses (73%), whereas Sm-Nd, U-Pb and Pb-Pb are 27% of them (166 analyses). Sm-Nd analyses are only 40. These data were analyzed by histograms studies.Age histograms from different methodologies have been applied for the different rocks of the studied area. The K-Ar ages are concentrated between 500-400 Ma, indicating the cooling stages of the Brasiliano orogeny. Rb-Sr isochronic ages between 0.85-0.5 Ga partially represent the regional metamorphism and different episodes of plutonism (625-500 Ma), in agreement with U-Pb and Pb-Pb data. However the isotopic inheritances due to incomplete homogenization are certainly recorded by the values older than 625 Ma. The U-Pb and Pb-Pb data from the country rocks and Neoproterozoic metasediments are concentrated between 2.5-3.0 Ga, 2.2-1.8 Ga and 1.1-1.0 Ga, indicating the important role of the crustal thickening processes, as well as the policyclic nature of the geologic evolution. The metamorphic events are depicted by K-Ar and Rb-Sr data in two intervals: 2.1-2.3 Ga (Transamazonic event) and 0.65-0.55 Ga (Brasiliano event).The Sm-Nd TDM ages indicate periods of material accretion or the age of parental magma differentiated from mantle. The main periods are >3.0 Ga, 2.7-2.9 Ga, 2.5-2.6 Ga, for the Archean complexes, 2.1-2.0 Ga, 1.8-1.9, for the Paleoproterozoic complexes and 1.2-1.0 Ga, for the Mesoproterozoic oceanic crust. Sm-Nd TDM ages of 1.8-1.3 Ga were obtained from the Neoproterozoic metasediments and indicate mixed source ages.For the granitic suites, the U-Pb and Pb-Pb ages indicate that emplacement took place between 625 Ma and 500 Ma. The Sm-Nd TDM model ages of these rocks may indicate either protolith age (3.0-1.8 Ga) or mixed source ages (1.8-1.3 Ga). This work helps to improve the geochronologic data interpretations.

284-34 Poster Mendes Guimarães, Edi

TECTONIC SETTINGS INDICATED BY PHYLLOSILICATES IN PARANOÁ AND BAMBUI GROUPS, BRAZIL

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Keywords: chlorite; illite; tectonic settings; proterozoic; Paranoá and Bambuí groups

In the Central Brazil the Mesoproterozoic Paranoá Group underlies the Neoproterozoic Bambuí Group through unconformity. Between them, the most important stratigraphic marker is the Jequitaí Formation, a thin and discontinuous glaciogenic unit, characterised by diamictites. The Paranoá Group is a clastic sequence, with pelite-carbonate rocks on the top. Bambuí Group has a basal pelite-carbonate unit, overlain by silty and very fine grained clastic rocks. The carbonate levels of each group can be distinguished through different types of stromatolites: Conophyton and Gymnosolen, characterise the Paranoá