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RESUMOS

RESUMENES

ABSTRACTS

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GEOCHRONOLOGY OF METAPLUTONICS AND THE EVOLUTION OF SUPRACRUSTAL BELTS IN THE BORBOREMA PROVINCE, NE BRAZIL

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The usage of felsic metaplutonics as structural and stratigraphic markers, started at Seridó region, has been extended to other sectors of the Borborema Province of Brasiliano age. In that area, ca. 2.0 Ga dates in the older intrusive orthogneisses ("G_2") allowed the proposal of a polycyclic evolution and an early Proterozoic age for the supra crustals. It is additionally discussed the anorogenic or synorogenic emplacement of these rocks.

In the assumed extension of that belt south of the large E-W Patos (Salgueiro-Cachoeirinha) and Pernambuco (Riacho do Pontal) lineaments, the hypothesis of synorogenic emplacement and polycyclic evolution is strengthened by the intrusion of similar orthogneisses also at the level of the flysch-type formations, as shown by recent mapping. In the central Ceará region, S-type leucogranites with an age ca. 1.8 Ga also suggest a similar evolution and tangential deformation in the Transamazônico cycle.

In Riacho do Pontal, syn-tangential deformation orthogneisses have "isochronic" dates ca. 970 and 720 Ma, again pointing to events older than the Brasiliano ones. Furthermore, stratigraphic relations with the undeformed Espinhaço Supergroup of middle Proterozoic age, more to the south, suggest that these rocks are also transamazonian, and that the dates obtained reflect partial or nearly complete resetting in the Brasiliano event. Other granitoids retain dates ca. 2.0 Ga, but their relations with the metasediments to the north are still unclear.

In the Orós region(SE of Ceará), orthogneisses with volcanic, subvolvanic and plutonic facies have dates ca. 1.7 Ga, interpreted as emplacement ages and marking the onset of supracrustal deposition in the middle Proterozoic. Their deformation, regarded as monocyclic brazilian, is not expressed radiometrically in these rocks. Such closed system behaviour is repeated in late Archean (2.5 Ga) granitoids of the basement of the Sergipe belt, which were more intensively deformed in the Brasiliano cycle.

It is finally discussed these different cases, their implications to the regional tectonic evolution (monocyclic vs. polycyclic belts), and information about the dating methodology and isotopic behaviour of the Rb-Sr system.