

CRUSTAL EVOLUTION OF THE SOUTHERN SOUTH AMERICAN PLATFORM AND CENTRAL PORTION OF THE PATAGONIAN, BASED ON Sm-Nd ISOTOPIC DATA

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In a general way and in agreement with the Sm-Nd isotopic signatures, TDM, the major event of the continental crust - mantle accretion can be synthesized in following ways: a) during the Archaean (3.1-2.5Ga) the juvenile crust represents about 30% in volume. Such areas correspond to parts of the Luis Alves cratonic fragment, the eastern Curitiba domain, the Taquarembo tectonic block, and the Tijucas belt; b) for the Paleoproterozoic the juvenile materials represents about 45% of the total volume. The main accretion areas for this period are: the Ribeira belt (São Roque and western Curitiba domain), the Paranagua domain, the Dom Feliciano middle belt (western Pelotas batholith) and the Rio of La Plata cratonic fragment; c) for the Mesoproterozoic the accretions corresponds to about 20% in volume. The main areas of occurrences of juvenile materials in this period correspond to the eastern Pelotas batholith and old outcrops of the central portion of the Patagonia domain; d) for the Neoproterozoic the accretions are less than 5% of the volume and for the southern South American Platform. Therefore the main event mantle - continental crust happened during Paleoproterozoic. This pattern also happens for the remainder of South American Platform.