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## 论文摘要汇编

ABSTRACTS



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# INFLUENCE OF BASMENT STRUCTURES IN THE EVOLUTION OF THE MAJOR SEDIMENTARY BASINS OF BRASIL: A CASE OF TECTONIC HERITAGE

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The three large sedimentary basins of the Brazilian platform, the Amazonas, Parana and Parnaiba basins, occupy a global area of the order of  $3.6 \times 10^6 \text{ Km}^2$ . Their sedimentary sequences were deposited essentially from Devonian (and/or Silurian) to Triassic, during successive different episodes of vertical cratogenic evolution, associated with subsidence rates of the order of 15m/Ma in the main depocenters.

The present study deals with the possible correlation between the geotectonic features of the basement and the internal structure, shape, origin and geologic evolution of the sedimentary basins. A systematic petrologic and geochronological investigation on all available drill core samples was carried out, and the pertinent geophysical data regarding basement structure were taken into consideration.

At the same time, a specific geotectonic analysis was carried out along the borders of the sedimentary basins, within the adjacent basement. The main boundaries between Precambrian tectonic provinces, the main tectonic sutures with polycyclic evolution, and the ancient intercratonic rifts were specially characterized. Their extensions under the sedimentary basins were inferred, and the data obtained in the drill core samples were considered accordingly.

It was verified that many of the identified basement discontinuities had straight influence in the depositional history of any of the sedimentary basins, demonstrating the existence of a clear tectonic heritage. The Parana and Parnaiba basins, according with the results of this study, can be considered as cratonic basins, located on rigid lithosphere, tectonically stabilized in the latest Precambrian/early Paleozoic, with their subsidence attributed to the establishment of large rifted grabens. The Amazonian basin is more complex, and includes three large sub-basins with distinct evolution, each one located on a different tectonic province of the basement.