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# SESSÕES DA ACADEMIA BRASILEIRA DE CIÊNCIAS

## RESUMOS DAS COMUNICAÇÕES

### THE CERRO DO JARAU ASTROBLEME (RIO GRANDE DO SUL), BRAZIL: A CRETACEOUS CRYPTOEXPLOSIVE STRUCTURE

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The *Cerro do Jarau Astrobleme* (Rio Grande do Sul, Brazil) is a circular structure with a diameter of about five kilometers, centered at 30°12'26"S and 56°33'00"W. This geomorphological feature is located in the domain of lavas and sedimentary rocks of the São Bento Group in the Paraná Basin, close to the Brazil-Uruguay border. Initially, the structure had been explained as a tectonic dome formed after deposition of the Botucatu Sandstone and before the extrusion of the basalts of the Serra Geral Formation.

In this paper, the sandstones of the Jarau Hills are interpreted as remnants of a partially eroded crater rim escarpment caused by the impact of an Apollo-object on the basaltic plateau (*Cuesta de Haedo*). The fall is interpreted as having occurred in the Cretaceous sometime later than the lava flows.

Evidence for an impact structure includes:

- 1) the external circular contour;
- 2) the crater rim escarpment developed in deformed rocks;
- 3) a circular depression in which subjacent units appear as the result of the removal of the basalts;

4) microscopic structures usually found in shock-metamorphosed rocks;

5) post-depositional comminution of quartz grains;

6) localized silicification of the Botucatu Sandstone interpreted as due to the high impact pressure and temperature;

7) low intensity magnetic anomalies recorded in the interior of the circular depression. — (6 de dezembro de 1994).

### BOUNDING SURFACES OF SLOSS STRATIGRAPHIC SEQUENCES, IN INTRACRATONIC BASINS: A DISCUSSION BASED ON BRAZILIAN EXAMPLES

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Sloss (1963) sequences are based on the occurrence of successive events of subsidence and uplift of cratons related to distention phases between successive progeneses. By definition, Sloss sequences are bounded by regional unconformities. Vail *et al.* (1977) defined sequences produced by eustatic cycles as separated by unconformable bounding surfaces associated to correlative conformities. I believe this concept may be extended to Sloss sequences.

Four examples of bounding surfaces of sequences in Brazilian Paleozoic basins (Soares *et al.*, 1978) were selected for discussion: a) between Gama and Delta sequences in Solimões Basin (between lower and upper parts of Juruá Formation); b) and c) between Beta and Gama sequences in the Amazonas Basin (between Manacapuru and Maecuru formations), and in the