Hexagonal Fractals Generated by Deformations in the West Boundary of the South American Plate

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This present work was originated from: analyses and interpretations of images obtained by remote sensing, studies of seismic data and investigations of the stress in the South American Plate deformations.

We have introduced some information by using modern theories and methods: symmetries, remote sensing and geometry fractal. In this way was made a database for the relative movement between the Plate of Nazca and South American Plate to obtain knowledge on evolutions of structural geometric features, symmetry and seft-similarity.

Fractals were associated with the morphology, the seismic and gravimetric considerations. Besides the geometric aspects of analysis symmetry they evidenced tendencies in the direction, in the form and the propagation fronts. Hypothesis of geometric models is presented too.

The results obtained to show the behavior of the movements strike-slip faults on lines of propagation of the fronts of tensions, along of the angle $\phi = 0$ (eulerian plane).

As shown, the nature and positioning of the structures of the type strike-slip with preferential directions to the long of the axis of the range Andes that make 120º in the latitude of 18ºS. The distribution of the features along the fronts of tensions describes, in the area of the "Pantanal Matogrossense", forms hexagonal fractal with seft-similarity. The quaternary sediments of the river Taquari assume the format hexagonal.