SOME CONSIDERATIONS ABOUT THE PARANA BASIN BASEMENT STRUCTURE IN AN ISOSTATIC CONTEXT

1Quintas, M.L. & 2Mantovani, M.S.M.1UFPr - Curitiba, Paraná, Brazil, - 2Instituto Astronômico e Geofísico - USP, Rua do Matão, 1226, marta@iag.usp.br

The basement structure of the Parana basin in South America is thefocus of this study. Previous analyses have suggested the existence ofgravimetric and magnetometric anomalies trending NE-SW across the basin.In spite of the fact that the Parana basin is supported by a cratonicbasement since its inception, the basin has in its neighborhood collisionalbelts that could be related with the trend of these anomalies.In this study, isostatic modelling was applied to multi-institutionalsurveys comprising more than 7,000 gravity stations in order to correlatetopographic and gravimetric anomalies produced by sub-surface loads.The surface and sub-surface load effects were estimated through Bougueranomalies observed in the area. The stratigraphic information was derived from deep borehole logs drilled by PETROBRAS for oil explorationpurposes. The resulting gravity pattern suggests a mosaic of crustal blockswhich may be associated to the tectonic events that preceded the basinonset. A comparison between the gravity signature of the basin outcroppingbasement and the obtained pattern presently covered, is discussed.