

Abstract of Dissertation presented to FEN/UERJ as a partial fulfillment of the requirements for the degree of Master of Science (M.Sc.).

## **GEODESIC REFERENCE SYSTEMS DEVELOPMENT AND ITS CONSEQUENCES ON BRAZILIAN TOPOGRAPHIC MAPPING SYSTEM.**

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All official cartographic document, must, obligatorily, to be associated to a geodetic system valid to the epoch of its realization. This system will define the elements absolute and relative positions of the earth surface represented in the cartographic document. Cartographic products existing in Brazil are based in different reference systems. Córrego Alegre, Astro Datum Chuá, SAD-69 (initial realization) and SAD-69 (1996 realization), are relative geodetic reference systems with thopocentric orientation, adopted in Brazilian Systematic Topographyc Mapping defined in accord with the technological development at its realization epoch. In this work, it will be done a accompaniment of the evolution of these geodetic references, up to the epoch, analyzing the difficulties encountered in the integration of the existing cartographic documents, presented by the excess or failure of linking elements. Nowadays, because the new referential adoption, the Geocentric Referential System of Americas (SIRGAS), with geocentric conception, that will valid after this year (2005) up to 2014, when all documents must be converted to it. By having a great quantity of cartographic documents in several references, it will be studied a better process for migration.

**KEYWORDS:** geodetic systems, geodetic references, systems transformation