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## **ANALYSIS OF DEFORMATIONS IN CARTOGRAPHIC PROJECTIONS USED IN CADASTRAL WORKS PERFORMED IN THE CITY OF IASI**

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### **Abstract**

The geodetic, photogrammetric and topographic works necessary for the introduction of cadastre were performed in the city of Iasi in a series of various coordinate systems depending of the cartographic projections used in different periods of time. In a first phase (1951-1973) the creation and the organization of topographical plans relied on the coordinate system of the Local Stereographic Projection - Iasi with the central point at Golia and the Gauss - Krüger Conformal Transverse Cylindrical Projection. From 1973, the 1970 Stereographic projection on unique secant plan was adopted. The cadastral works performed between 2005 and 2009 in the territorial administrative unit of the city of Iasi were drawn up using the 1970 Stereographic projection system. For the study of specific deformations when different projection systems are used, they were first determined and then followed the comparative analysis due to the cartographic representation of a curve surface on a plane one. For this, the values of linear and areolar deformations were calculated based on the plane geographical and rectangular coordinates of the extreme points of cartographic framing for the territory of the city of Iasi.

*Key words:* areolar deformation, cartographic projection, geographic shaft, linear deformation

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