

Methodological Framework for Monitoring the Deformations of Deteriorated Structures *

Dr. Eng. Aref TARABICHI**

Abstract

The methodological framework for Deformation Monitoring presented in this research paper aims at rationalizing the stereotypical costly engineering practices, which ignore the phases of measurement and interpretation. These two phases are indispensable and should be based on a proper methodology – proposed in this paper- by using the geometric modelling as a geodetic-structural-geotechnical interdisciplinary instrument for quantitative description of the structure shape, dimensions and position: its *Current State*, *Distortions* and *Deformations* with time. This methodology is based on the prerequisite of supposing the expected general forms of the expected geometric models before initiating measurement operations , in order to avoid turning the engineering monitoring process for each structure to a sophisticated scientific research process.

This paper recommends to adjust the scope of deformation monitoring practice: expanding it beyond the traditional borders of “surveying measurements, but simultaneously without intercalation in the issues of structural-geotechnical analysis.

Keywords: Buildings, Deformation, Geometric Modelling, Measurement, Methodology, Monitoring, Structures, Surveying & Geodesy Engineering..

* For the paper in Arabic see pages (59-75)

** Technical Consultant - Damascus