

Geometrical Versus Physical Aspects of Deformations in Designing Monitoring Schemes

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ABSTRACT:

Geometry of a deformable object and geometrical strength of monitoring schemes have been the main characteristics used, especially among geodetic engineers, in designing geodetic monitoring schemes. Physical prediction analysis of deformations based on principles of continuum mechanics shows that two similar structures of similar geometry may behave very differently what may require different accuracy of observations, different density of observed points, and different instrumentation to be used in monitoring. Two examples are given regarding two open pit mines and two large dams of similar geometry.