

Uniformization of geodetic data for deformation analysis

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Geodetic techniques for deformation monitoring such as levelling, GNSS, and InSAR are complementary in spatial density and coverage, temporal density and coverage, 3D (GNSS) or 3D-to-1D projection (levelling and InSAR), precision, datum, and cost.

In this study, we develop a standardized way to convert these original observations to a generic description of double-difference deformations. Combined with a description of its stochastic nature, the format can be used as a standard in the analysis or data inversion. We created software tools for this purpose which we share in the public domain