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True or false GPS-derived deformations?

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Abstract

In this paper we focus on the question whether GPS networks born with cartographic aims can be safely used in crustal deformation control. We carried out a test on a network of five vertices located in the Rome district, comparing two data sets, the first coming from the adjustment of the survey carried out in 1994 in the frame of the IGM95 project, the second coming from the surveys carried out in 1996 and 1999 by the DITS of the "La Sapienza" University of Rome. Our analysis shows how the detection of crustal deformation becomes extremely critical in absence of significant seismicity or when deformation events are limited. In other words, it is possible to find false deformations due to residual systematic effects affecting the coordinate estimates

Keywords

Deformation analysis;GPS networks;igm 95;rome area

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
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