



Computation of strain rate fields from geodetic velocity data: different approaches and related problematics

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Basic insights into the tectonic loading of seismogenic structures may come from computation of crustal strain rate fields. Due to the development of space geodesy techniques, most of such computations currently derive from geodetic measurements. For instance, in recent years a number of geodetical strain rate fields have been proposed for the Central Mediterranean region. Such estimates are based on geometrical approaches, such as polygonization of the GPS network or interpolation of geodetic data. However, such methods cannot take into account the mechanical properties of the crust in the studied zone, implying that the strain rate field so computed may differ from the real one. Numerical experiments have allowed to quantify the possible effects of the above problem in the Central Mediterranean region.