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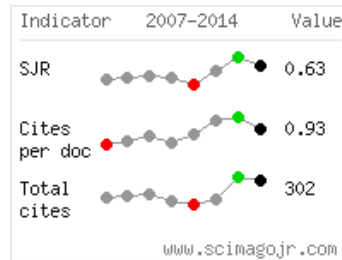
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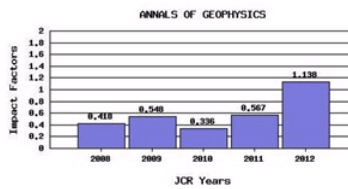
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Seismic strain and stress field studies in Italy before and after the Umbria-Marche seismic sequence: a review

S. Pondrelli, A. Morelli

Abstract

The seismic sequence that hit Umbria and Marche during 1997 and 1998 was particularly significant because it dramatically marked the evolution of analysis tools and the development of our geophysical knowledge of the region. Since September 1997, we have had a growing, coherent catalogue of source moment tensors that provides reliable information on earthquake sources in Italy and the surrounding regions. Together with borehole and other tectonic data, this has conspicuously improved our knowledge of the regional strain and stress fields. The main impact of these new data that include local information consists of the possibility to change the scale of the regional geodynamic frame. The simple description of extension tectonics that dominate the Apennines belt has evolved into the present-day maps of the strain and stress fields, where the active tectonics involve compression in the eastern Alps, extension and compression fronts in the northern Apennines, extension and strike-slip structures in the southern Apennines, and a compressional front along the southern Tyrrhenian Sea. This recent geodynamic evolution and the present-day seismotectonic sketch of the Italian peninsula are here described on the basis of the recognition of these tectonic features.

Keywords

moment tensor; seismotectonics

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