Estimation of moment magnitude (Mw) for small-to-moderate magnitude earthquakes in metropolitan France

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Résumé

Reliable estimation of Mw for small seismic events is important to assess regional ground-motion attenuation and seismic hazard, however it is still a challenge and generally not performed routinely. Ml to Mw scaling are generally used for small seismic events, but can lead to inappropriate Mw scaled from ML due to lack of knowledge of attenuation. For the metropolitan French seismicity between 2014 and 2018 located by the BCSF-RéNaSS, we performed a computation of moment magnitude using a spectral fitting method, and carried out an exhaustive study of magnitudes at the stations used.

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