



Dynamic modeling of normal faults of the 2016 Central Italy earthquake sequence

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The earthquake sequence of the Central Italy in 2016 are characterized mainly by the Mw6.0 24th August, Mw5.9 26th October and Mw6.4 30th October as well as two Mw5.4 earthquakes (24th August, 26th October) (catalogue INGV). They all show normal faulting mechanisms corresponding to the Apennines's tectonics. They are aligned briefly along NNW-SSE axis, and they may not be on a single continuous fault plane. Therefore, dynamic rupture modeling of sequences should be carried out supposing co-planar normal multiple segments. We apply a Boundary Domain Method (BDM, Goto and Bielak, GJI, 2008) coupling a boundary integral equation method and a domain-based method, namely a finite difference method in this study. The Mw6.0 24th August earthquake is modeled. We use the basic information of hypocenter position, focal mechanism and potential ruptured dimension from the INGV catalogue and Tinti et al., (GRL, 2016), and begin with a simple condition (homogeneous boundary condition). From our preliminary simulations, it is shown that a uniformly extended rupture model does not fit the near-field ground motions and localized heterogeneity would be required.