



## **Finite-Fault Parameters of the September 1976 $M>5$ Aftershocks in Friuli (NE Italy)**

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On September 1976 four strong aftershocks with  $M>5$  occurred in Friuli area (NE Italy) adding more damage with respect to that caused by the  $M6.4$  mainshock occurred on May 6, 1976. Although many studies have been published on the 1976 Friuli seismic sequence only recently finite-fault models based on geological considerations (Galadini et al., 2005; Burrato et al., 2008) have been proposed for these aftershocks. The aim of our study is to model the September 1976 seismic sources as finite faults by computing finite-fault synthetic seismograms for several possible proposed fault models and nucleation locations. The seismicity distribution following each of the four events gives us some further information about the areal extent of the related fault and its rupture propagation. About 9,000 synthetic seismograms are computed for all the tested fault models adopting the reflectivity technique for an upper cutoff frequency of 1 Hz. A “trial and error” procedure is used to find the best fit between the recorded and computed PGA values, that identifies the final models. These are selected also on the basis of the existing knowledge of fault traces in the area. The four best-fit models seem to be well related to the main Barcis - Staro selo fault system, their spatial-temporal sequence evidencing an overall progressive East-to-West migration of the seismic activity related to the 1976 sequence.