



S21C-0462: Spatial variation of radiation efficiency during the 2016-2018 Central Italy seismic sequence

Tuesday, 11 December 2018 08:00 - 12:20

Walter E Washington Convention Center - Hall A-C (Poster Hall)

The 2016 central Italy seismic sequence is a multiple mainshock sequence whose largest events of the 24 and 26 August and 30 October (Mw 6.1, 5.9, and 6.5, respectively) ruptured a 60-km-long Apenninic-trending normal-fault system. This sequence presents a unique opportunity to study source parameters of a multiple mainshock sequence whose terminal segments to NW and SE were already ruptured by the 1997 and 2009 earthquakes, respectively. We estimate static stress drop, apparent stress and radiation efficiency to reconstruct the evolution of the stress release during the sequence. We observe a systematic increase of apparent stress and stress drop with seismic moment. The largest part of the investigated earthquakes is characterized by radiation efficiency values in the range expected for self-similar ruptures. However, we identify anomalous events with low seismic efficiency showing spectral signatures differing from the other events. We obtain a detailed spatial mapping of seismic efficiency variations along the complex ruptured faults, and an interpretation is sought in terms of crustal and fault properties.

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