



## **High-frequency spectral shape of acceleration data recorded in case of Vrancea (Romania) intermediate-depth earthquakes**

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A set of 150 small-to-large earthquakes ( $10^{12} < M_0 < 10^{21}$  Nm) occurred in the Vrancea (Romania) seismogenic zone is considered in order to analyze the parameters which control the high-frequency decay of accelerations. To this aim, a large amount of new and high-quality earthquake data is considered. It includes multiple recordings recently obtained through the progress of seismic networks on the Romanian territory within the cooperation programme with the University of Karlsruhe (Germany): Collaborative Research Centre 461 programme (Bonjer et al., 2000) and temporary experiments, such as tomography experiment CALIXTO'99 (Wenzel et al., 1999) and urban seismology experiment URS (Ritter et al., 2005). The two relative methods are applied to pairs of collocated events and similar focal mechanism, in order to inspect the source and scaling properties over the seismic active depth domain generating Vrancea strong events (60-180 km). As our study shows, the high-frequency decay process is controlled and depends on distance, earthquake magnitude and site effects. Possible differences in the spectral characteristics in relation with Vrancea subducted lithosphere segments are also analyzed in correlation with the recent geodynamic modelling of the region.