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Characteristics of the EPOS strong-motion flat file for Ground Motion Prediction Equations selection in Europe

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Within the Thematic Core Service for Seismology of EPOS-IP (European Plate Observing System Implementation Phase), several hazard-oriented products are expected to be disseminated to different stakeholders, such as scientists, public managers, and citizens. Among them, a regionalized logic-tree of ground motions models and the Engineering Strong Motion (ESM) database (http://esm.mi.ingv.it), exploiting EIDA compliant services for strong-motion and acceleration data distribution, are realized. The data and metadata included in ESM are the basis for compiling and disseminating a strong motion flat-file which is, in turn, used to develop the regionalized GMPE logic-tree required by the foreseen update of the probabilistic hazard map in Europe.
In this work, we present the characteristics of the strong motion flat-file in terms of event and station metadata distributions, and we discuss the characteristics of the Intensity Measure of engineering interest included in the flat file. Residual distributions with respect to predictions from previously derived European or global models are performed and presented in order to provide a first order assessment of the data quality and consistency.