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

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In the framework of the EPOS (European Plate Observing System), new infrastructure and services are developed to support the dissemination and maintenance of Earth's science products. In particular, within the Thematic Core Service for Seismology, several hazard-oriented products are expected to be disseminated to scientists, public managers, and citizens. Among them, a regionalized logic-tree of ground motions models and a new Engineering Strong Motion (ESM) database, exploting 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 and required by the foreseen update of the probabilistic hazard map in Europe.
In this work, we present the main characteristics of the flat-file in terms of data and metadata distributions, residual distributions as computed with respect to GMPE models and comparing the EPOS flat-file with other existing flat-files (e.g., the NGA2-West one). The ongoing activities to improve and further qualify the flat-file are also presented, such as the revision of the event metadata (e.g., magnitude, hypocentral location, style of faulting, etc). Discussions about the data coverage between seismic active regions (e.g. Mediterranean area) and the low seismicity continental areas are presented as well.