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ORFEUS Strong-Motion services and products for engineering seismology

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ORFEUS (Observatories and Research Facilities for European Seismology https://www.orfeus-eu.org/) is a collaborative non-profit foundation that promotes seismology in the Euro-Mediterranean area through the collection, archival and distribution of digital seismic waveform data, metadata and derived products. ORFEUS organizes thematic services through Service Management Committees (SMC) that presently coordinate the European Integrated Data Archive (EIDA) and the European Strong-Motion (SM) services.
Current efforts of the SM SMC focus on providing users with the most complete and qualified earthquake data, available from two main infrastructures: i) the Rapid Raw Strong-Motion database that, after fully automatic processing, makes peak-motions and spectral amplitudes available within minutes of the occurrence of any event with M>= 3.5; ii) the Engineering Strong-Motion database that, after manual processing and expert revision, makes available event-based waveforms, peak-motions, response spectra, earthquake and station metadata of events with M >= 4.0. The full integration of the two infrastructures is achieved through a unique access point (https://www.orfeus-eu.org/data/strong/) that redirects the users to one or the other database depending on the status of the manual / expert revision of seismic events in the ESM.
Emphasis is also given on improving machine-friendly access to data and services and interoperability with widely used community software (e.g. ObsPy) and
the EPOS infrastructure. The USGS-style ShakeMap input services, available at ESM and RRSM (http://esm.mi.ingv.it/esmws/shakemap/1/ and http://www.orfeus-eu.org/odcws/rrsm/1/shakemap?id=ID) extract the peak-motion parameters from the two databases in a machine friendly format. The two input can be combined in the USGS ShakeMap software in order to assign the priority to the manually processed data.
Manually processed event-based waveforms and response spectra are available at ESM through a webservice (http://esm.mi.ingv.it/esmws/eventdata/1/) after specifying the event-id's of several seismic catalogues (ESM, EMSC, USGS, ISC and INGV).
Finally, ESM is the source of a flat-file that is targeted to the project EPOS (collaboration between Task 8.6.3 European Ground Motion Prediction Equations Database & Task 8.4.2 Strong Motion Data and Products Services). The flat-file is a parametric table containing metadata and intensity measures of manually processed waveforms recorded by accelerometers, fundamental for the selection of the ground motion prediction models for the future seismic hazard maps of Europe.