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# BOOK OF ABSTRACTS



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of Geomagnetism and Aeronomy



IASPEI

International Association of Seismology  
and Physics of the Earth's Interior

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## The OSCARS seismic hazard data products for the Western Gulf of Corinth and the Central Ionian Islands, Greece

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The Open Science Clusters Action for Research and Society (OSCARS) is a Horizon Europe initiative to promote open science by integrating achievements of European Research Infrastructures into sustainable, interdisciplinary, Findable, Accessible, Interoperable, and Reproducible (FAIR) data and services. This study presents seismic hazard data products for two of the most seismically active regions in Greece: the Western Gulf of Corinth and the Central Ionian Islands. These include simulated Peak Ground Acceleration (PGA) and Peak Ground Velocity (PGV) data for dense grids for return periods of 475 and 950 years, as well as hazard curves and Uniform Hazard Spectra (UHS) for key population centers, all based on the probabilistic method of Cornell and McGuire. These data products use region-specific data, including a Greek earthquake catalogue, which provides seismicity data like the b-value of the Gutenberg–Richter Frequency Magnitude Distribution (FMD), the magnitude of completeness, annual exceedance rates, maximum expected earthquake magnitude, and Ground Motion Prediction Equations (GMPEs) obtained for Greece. A multi-logic tree approach with sub-logic trees for each GMPE was used to reduce epistemic uncertainties, taking into account percentages of normal and non-normal focal mechanisms in each source area to minimize biases in seismotectonic models. Data utilized at the initial compilation level, including source area models from ESHM13 and ESHM20, the earthquake catalogue, GMPEs, and software for simulating PGA, PGV, and UHS, are publicly accessible.

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