African Seismological Commission (AfSC) - Asian Seismological Commission (ASC)
Preparatory Joint Working Group on Neo-Deterministic Seismic Hazard Assessment (pJWG NDSHA)

Newsletters

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More reliable physics in seismic hazard assessment (SHA) for disaster risk reduction (DRR)
(More reliable physics in SHA for DRR)

Physics-based seismic hazard assessment: recent progress and scientific debate

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In the last quarter of a century, physics-based seismic hazard assessment has attracted wide spreading attention in seismological and engineering communities. The emergence of neo-deterministic seismic hazard assessment (NDSHA) represents a new generation of deterministic seismic hazard evaluation, effectively capturing the tensor nature of strong ground motion using the latest advancements in seismology, data science, and computational technology. NDSHA relies on physical modelling of seismic waves propagation (no need for empirical ground motion prediction equations) from a broad set of plausible seismic sources (not a single scenario earthquake). The obtained results provide the basis for comparative studies, testing and validation by real earthquake cases with data intensive observations, and communicating with engineering and emergency management communities for its application. The research and its application play an important role in the endeavor of disaster risk reduction (DRR). In connection to the ASC-AfSC Preparatory Joint Working Group on Neo-Deterministic Seismic Hazard Assessment (pJWG NDSHA), the focus of the session is on the theoretical, computational, and application aspects of NDSHA, with a discussion of related science and a comparison with other approaches. Colleagues are invited to participate in the pJWG and its activities.

The text above is the revised version of the scope of the session in the 15th General Assembly of Asian Seismological Commission (ASC). Suggestions for its further revision are welcome. Please contact the secretaries of the JWG if you plan to participate the ASC General Assembly and/or contribute to the session.

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