[EE] Evening Poster | S (Solid Earth Sciences) | S-SS Seismology

[S-SS05]Effective usage of PSHA

convener:Matt Gerstenberger(GNS Science), Danijel Schorlemmer(GFZ German Research Centre for Geosciences), Ken Xiansheng Hao(防災科学技術研究所 防災システムセンター, 共同), Kuo-Fong Ma(Institute of Geophysics, National Central University, Taiwan, ROC)
Tue. May 22, 2018 5:15 PM - 6:30 PM Poster Hall (International Exhibition Hall7, Makuhari Messe)
Seismic hazard models, including national seismic hazard models (NSHM) of most seismically active countries around the world are used by society for a wide range of applications, such as: optimising insurance rates, foundation of building design standards, large engineering projects and portfolio loss assessments. As such, these models need to be able to meet a wide range of end-user requirements. A crucial part of meeting those needs is to include a realistic assessment in the uncertainty in seismic hazard knowledge, and to translate that in a useful way to end-users and decision makers.

In this session we welcome presentations that address fundamental work in the development of seismic hazard models, particularly those that consider key uncertainties in the modeling and how these uncertainties can be modeled in a useful way for end-users. We have identified the following six dominant themes, but welcome topics from across the hazard and risk spectrum: 1) subduction-zone hazard is poorly understood but is significant source of uncertainty in many regions; 2) a focus on quantifying and including epistemic uncertainty is necessary, including uncertainty in fault and earthquake catalogue source models (and uncertainty due to data quality issues), as well as those in ground-motion prediction; 3) ground-motion simulations are becoming increasingly relevant for the NSHMs and require NSHM specific focus; 4) understanding how to include earthquake clustering and triggering will improve hazard forecasts; and 5) a focus on testing of hazard and model components will lead to improved NSHMs; 6) new approaches to seismic hazard and risk that will improve our understanding and the usefulness of hazard and risk models

[SSS05-P01]Meinon Reservoir Project: An improved seismic hazard analysis for Meinon reservoir by site-dependent GMPEs

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Keywords:site dependent, prediction model, uniform hazard response spectra, standard deviation

Lee *et al.* (1999, 2002) corrected relevant geomorphic and geologic data, earthquake catalogs, strong motion accelerograms and GPS network measurements to perform analysis and to evaluate the suitability and the sufficiency of previous design earthquake for the Meinong reservoir. They used the strong-motion data recorded (Mw greater than 4.0, R_{epi} smaller than 300 km, Depth smaller than 40 km) by stations within 50 km of Meinong reservoir to build the first “site-dependent ground-motion prediction model” in Taiwan. The results show that this method reduces the standard deviation of residuals effectively. Finally, they also used this standard deviation of the site-dependent ground-motion prediction model into uniform hazard response spectra of Meinong reservoir.

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