Universität Stuttgart   IGS

Institut für Geotechnik

Boden- und Felsmechanik,
Erd- und Grundbau, Felsbau,
Spezialtiefbau, Tunnelbau,
Umweltgeotechnik

Prof. Dr.-Ing. habil. Chr. Moormann

Hochschule
für Technik
Stuttgart

Fakultät B,
Fachgebiet Geotechnik
Prof. Dr.-Ing. Th. Benz
Prof. Dr.-Ing. C. Vogt-Breyer

Geotechnik-Seminar

Montag, 05. November 2018, 17:30 Uhr

Hochschule für Technik Stuttgart
Hauptgebäude (Bau 1), Raum U 37 (Tiefenhörsaal)

Goals and uncertainties of modern probabilistic seismic hazard assessments: example of the probabilistic seismic hazard assessment of Germany—version 2016

Prof. Dr. Fabrice Cotton
Helmholtz-Zentrum Potsdam Deutsches GeoForschungsZentrum – GFZ und
Universität Potsdam, Institut für Erd- und Umweltwissenschaften
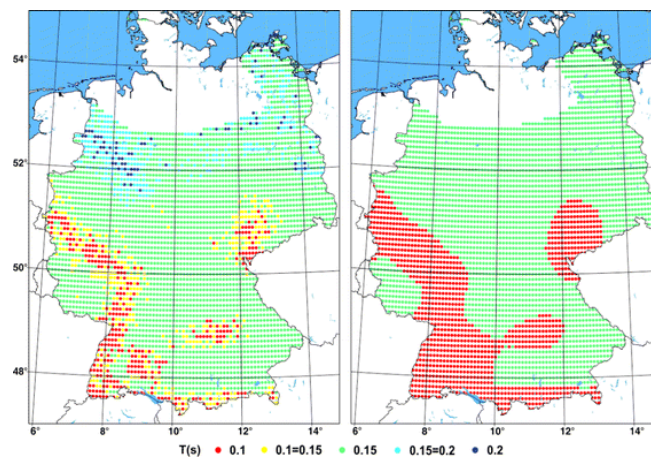
The new version of the national seismic hazard assessment for Germany (Grünthal et al., 2018) will be presented. This new version is based on a comprehensive involvement of all accessible uncertainties in models and parameters and includes the provision of a rational framework for integrating ranges of epistemic uncertainties and aleatory variabilities in a comprehensive and transparent way. The developed seismic hazard model incorporates significant improvements over previous versions. It is based on updated and extended databases, it includes robust methods to evolve sets of models representing epistemic uncertainties The output specifications were designed according to the user oriented needs as suggested by two review teams supervising the entire project. Seismic load parameters, for rock conditions of v_{S30} = 800 m/s, are calculated for three hazard levels (10, 5 and 2% probability of occurrence or exceedance within 50 years) and delivered in the form of uniform hazard spectra, within the spectral period range 0.02–3 s, and seismic hazard maps A broad analysis of resulting uncertainties of calculated seismic load parameters will be presented. The stability of the hazard maps with respect to previous versions and the cross-border comparison will be emphasized.