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

[S-SS14]Strong Ground Motion and Earthquake Disaster

convener:Masayuki Kuriyama(Central Research Institute of Electric Power Industry)
Tue. May 22, 2018 5:15 PM - 6:30 PM Poster Hall (International Exhibition Hall7, Makuhari Messe)
Strong ground motion has social impacts as it induces earthquake disasters. We solicit contribution on any seismological topics related to strong ground motion that includes, but are not limited to, source processes, wave propagation, and site effects. We also welcome contribution on earthquake related disaster mitigation.

[SSS14-P07]Evaluation of strong ground motion based on 3-D gravity basement structure in the Mashiki, Kumamoto, Japan

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The 2016 Kumamoto earthquake of April, 2016 brought serious damage to Kumamoto area, Japan. There are few information on seismic bedrock. To discuss the structural damage, many researchers carried out various surveys to identify the ground structures for estimation of ground motions. Gravity survey has been carried out around central part of Mashiki, Kumamoto, Japan, where was severely damaged (Araki et al., 2018). We determined a gravity basement by using this study gravity data with reference to the underground structure by microtremor survey and seismic records (Hayashida et al., 2017) As a result, the central part of Mashiki was located immediately above of the one of the small basins. Furthermore, a simulation of strong ground motion was performed by three-dimensional finite difference method. According to the simulation results, the strong ground motion was large in the depressed area of the basement surface located Mashiki area. Also, it was found that the seismic waves were trapped and the duration was prolonged.

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