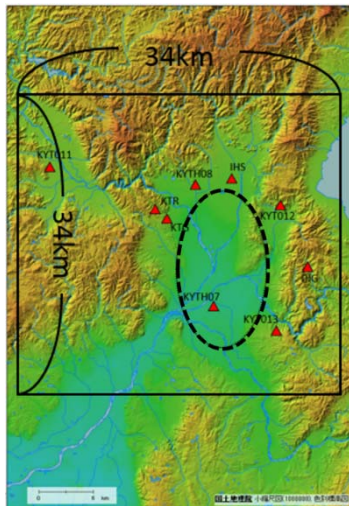


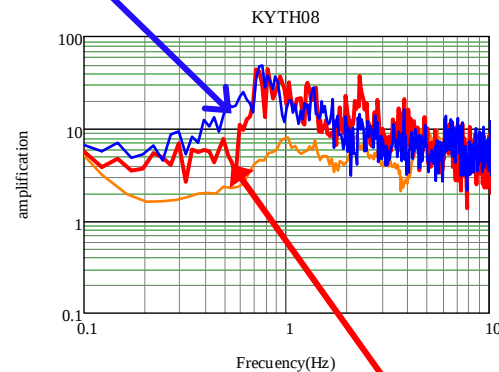
NAGAO Laboratory Kobe University

Evaluation of earthquake ground motion and site amplification factor

Earthquake ground motion is strongly affected by amplification characteristic at each site. We conduct 3 dimensional finite difference method earthquake response analysis considering deep subsurface profile in order to evaluate site amplification factor at the site of interest. We conduct stochastic Green's function method in order to evaluate earthquake ground motion at each site considering source, path and site characteristic.



site amplification factor(empirical)

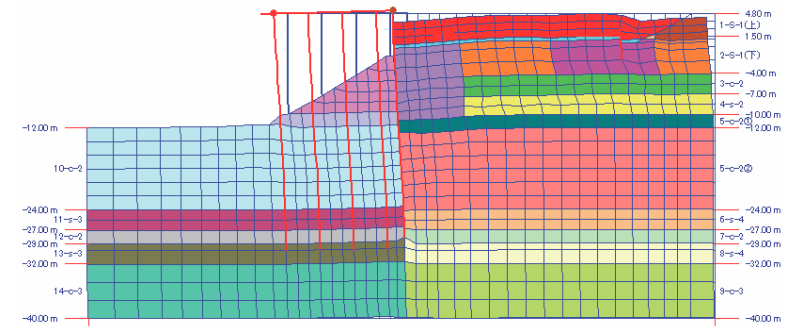


site amplification factor(analysis)

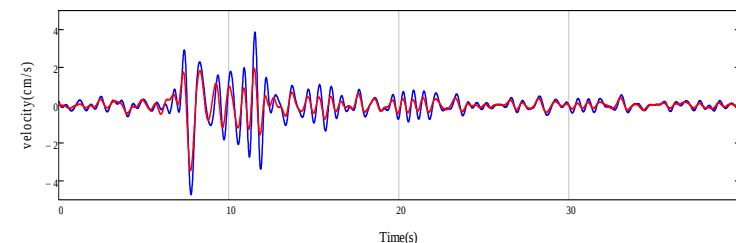
3 dimensional earthquake response analysis Evaluation of site amplification factor

Evaluation of earthquake resistance of structures

Earthquake response of structures is affected not only by input seismic motion but also by earthquake response of the ground and dynamic interaction between soil and the structure. We conduct finite element effective stress earthquake response analysis and evaluate the earthquake response of structures. The figure below shows an example of the result of analysis on open-type wharf.



Evaluation of earthquake response of open-type wharf



Analysis & Empirical

Evaluation of earthquake ground motion