

## Statistical Green's function based on the K-NET strong motion data and its application to strong motion prediction in Fukuoka City

# Shigeo Itoh[1], Hiroshi Kawase[2]

[1] Grad. School of Human-Env. Studies, Kyushu Univ., [2] Grad. School of Human-Environ. Studies, Kyushu Univ.

To predict strong ground motions based on the statistical Green's function, we first extract statistical characteristics of strong motion records for small or moderate-size earthquakes observed by K-NET. Then using that statistical properties we simulate strong motions observed during the Kagoshima-ken Hokuseibu earthquake of 1997 and check the validity of the statistical Green's function method. Finally we apply the method to the hypothesized Fukuoka earthquake and estimate the strong motion distribution in the whole Fukuoka City area. We found that the highest value in terms of the peak ground velocity reaches 100 cm/sec, which is much less than those observed in Kobe during the Hyogo-ken Nanbu earthquake of 1995, primarily because of much stiffer sediments here in Fukuoka City.