

## Study on radiation pattern characteristics of strong motions Part 1: Epicentral distance and frequency dependences

# Shinichi Matsushima[1], Toshiaki Sato[2]

[1] Ohsaki Research Institute, [2] Ohsaki Research Institute, Inc.

In this study we examined frequency dependence of radiation pattern characteristics of strong motions using the November 3, 2000 aftershock (Mjma4.5) of the Tottori-ken Seibu earthquake of 2000, which observation sites exist surrounding the epicenter. First, we calculated theoretical waveform using a flat-layered model and a homogeneous half-space model. The radiation pattern characteristics varied according to epicentral distance and there were differences between results by both models. Next, we compared the radiation pattern of the Fourier spectrum ratio between radial and transverse components of the observed waveform and the theoretical waveform. It turned out that for frequencies lower than about 2Hz, the theoretical radiation patterns match the observed ones well.