Relation of Site amplification estimated from ground motion records with Apparent incident angle.

Daisuke Masui[1]; Saburoh Midorikawa[2]

[1] Tokyo Inst.Tech.; [2] Dept. of Built Environment, Tokyo Institute of Technology

http://www.enveng.titech.ac.jp/midorikawa/

Characteristics of amplification factors computed from the ratio of amplification on engineering bedrock divided by that on seismic bedrock were examined by Masui and Midorikawa (2004). The result showed that good correlation between the amplification factor and depth of seismic bedrock was observed while the large variation was also found in the relationship. Then, Masui and Midorikawa (2005) pointed that the variation is decreased by including apparent incident angle to the relation.

In this paper, relationship between ratio of amplification factor and apparent incident angle is evaluated. The ratio of amplification factor is defined as the ratio of the amplification of the observation records divided by the theoretical amplification were examined using the deep underground structure model in Kanto plain estimated by Yamada (2000). The result shows that good correlation between the ratio and the apparent incident angle is found. Moreover, distribution of the ratio of amplification factor and apparent incident angle differed for every basement depth and every evaluated period. It indicates that Relationship between ratio of amplification factor and apparent incident angle shows depth of basement and period dependability.