

Errata

----- Oct. 4, 2014 Hiroto Nakagawa

There was an error in the expression of the element matrix, $[Y]^e$, for calculating transmitting boundary based on 2.5-dimensional thin layered element method (e.g. Nakagawa & Nakai, 2010a, b). We apologize and correct that as following:

Correct)

$$[Y]^e = \frac{H}{30} \begin{bmatrix} 0 & 4\lambda & 0 & 0 & 2\lambda & 0 & 0 & -\lambda & 0 \\ 4\mu & 0 & 0 & 2\mu & 0 & 0 & -\mu & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 2\lambda & 0 & 0 & 16\lambda & 0 & 0 & 2\lambda & 0 \\ 2\mu & 0 & 0 & 16\mu & 0 & 0 & 2\mu & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & -\lambda & 0 & 0 & 2\lambda & 0 & 0 & 4\lambda & 0 \\ -\mu & 0 & 0 & 2\mu & 0 & 0 & 4\mu & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \end{bmatrix}$$

Error)

$$[Y]^e = \frac{H}{30} \begin{bmatrix} 0 & 4\lambda & 0 & 0 & 2\lambda & 0 & 0 & -\lambda & 0 \\ 4\mu & 0 & 0 & 2\mu & 0 & 0 & -\mu & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & 2\lambda & 0 & 0 & 16\lambda & 0 & 0 & 2\lambda & 0 \\ 2\mu & 0 & 0 & 16\mu & 0 & 0 & 2\mu & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \\ 0 & -\lambda & 0 & 0 & 2\lambda & 0 & 0 & -\lambda & 0 \\ -\mu & 0 & 0 & 2\mu & 0 & 0 & -\mu & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 \end{bmatrix}$$

The calculations in the previous publications (e.g. Nakagawa & Nakai, 2010a, b) were conducted by using the “Correct” expression as shown above.

Nakagawa, H. & S. Nakai (2010a) "Propagation of Surface Waves in an Irregular Ground based on the Thin Layered Element and Finite Element Method", Proc. 5th Int'l Conf. on Recent Adv. in Geotech. Earthq. Eng. and Soil Dyn., Paper No. 2.17, 12pp.

Nakagawa, H. & S. Nakai (2010b) "Effect of an Irregular Ground on Microtremor H/V Spectra and Dispersion Curves -Based on the 2.5 Dimensional Analysis due to Incident Surface Waves-", J. Struct. Constr. Eng., AIJ (Architectural Institute of Japan), Vol. 75, No. 656, pp. 1827-1835 (in Japanese with English abstract)