

**Simple Evaluation of the Vertical Distribution of the Horizontal Displacement
of the Liquefiable Ground with a Mode Analysis**

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This paper proposes a simple evaluation method for the vertical distribution of the horizontal displacement of the surface ground in consideration of soil liquefaction which is used for response displacement analysis of the seismic design of the foundations. In this method, non-linearity of soil associated with strain and excess pore water pressure can be considered using a mode analysis and the results of liquefaction assessment. The authors verified that this method can give almost the same results as those obtained from an effective stress analysis.