Evaluation of Nonlinear Dynamic Response at Subsurface Ground Applying GHE-S Model

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Many stress-strain models have been proposed for a dynamic response analysis of ground. Most of these models, however, are unable to express “S-shape” stress-strain relationship appeared in a large strain level, because these models apply the Masing's rule to build hysteresis curves. We, therefore, propose a new method to take into account the S-shape stress-strain characteristics. The model is consists of the skeleton curve expressed by GHE model and the hysteresis curves expressed by the modified Masing's rule. This model has eight parameters. These parameters should be decided by results of cyclic loading tests. Cyclic loading tests, however, is not always conducted at all soil layers. We, therefore, set the standard parameters derived from the data in the past experiment for this model.