

## Prediction of Soil Liquefaction by Using UBC3D-PLM Model in PLAXIS

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**Abstract :** Liquefaction is a phenomenon in which the strength and stiffness of a soil is reduced by earthquake shaking or other rapid cyclic loading. Liquefaction and related phenomena have been responsible for huge amounts of damage in historical earthquakes around the world. Modelling of soil behaviour is the main step in soil liquefaction prediction process. Nowadays, several constitutive models for sand have been presented. Nevertheless, only some of them can satisfy this mechanism. One of the most useful models in this term is UBCSAND model. In this research, the capability of this model is considered by using PLAXIS software. The real data of superstition hills earthquake 1987 in the Imperial Valley was used. The results of the simulation have shown resembling trend of the UBC3D-PLM model.

**Keywords :** liquefaction, plaxis, pore-water pressure, UBC3D-PLM

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