

عنوان مقاله:

Finite Element Modelling of Liquefaction phenomena under cyclic loading

محل انتشار:

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خلاصه مقاله:

Soil liquefaction is a phenomenon where saturated soil temporarily loses its strength and behaves like a liquid due to increased pore water pressure during seismic events such as earthquake. Many researches have investigated this phenomenon through laboratory and numerical analysis. In this study, we have modeled a laboratory-scale model by using finite element method, which was previously modeled by various researchers through different numerical methods like discrete element method. Based on this, we have constructed a one-dimensional model that showed high degree of correlation with the output of centrifuge tests. Finally, we explain the procedure of creating the numerical model using finite element method, which can be used by researchers intending to work on liquefaction numerically, and study the excess pore pressure with time for different heights of soil column.

کلمات کلیدی:

Liquefaction, finite element, one-dimensional model, excess pore pressure, vertical effective stress

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