عنوان مقاله:

A Finite Element Modelling of behavior of expansive soils

محل انتشار:

اولین سمینار ملی مسائل ژئوتکنیکی شبکه های آبیاری و زهکشی (سال: 1387)

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خلاصه مقاله:

This paper presents the implementation of a constitutive model for expansive soils in a fully coupled transient hydro-mechanical finite element model, UNSATEX. The model considers the effects of the changes that occur at the micro structural level that corresponds to minerals of the clay and the effects of its physicochemical interactions, and a macro structural level that corresponds to the large-scale structure of the soil. The model is validated by application to a number of experiments on expansive soils involving various combinations of drying, wetting, loading, unloading and reloading paths. The results of the numerical model predictions are compared with the experimental results reported in the literature. The merits and limitations of the model are highlighted.

کلمات کلیدی:

numerical modeling; constitutive relations; expansive soils, unsaturated soil; plasticity; finite element

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