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不同应力路径下结构性土的力学特性

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收稿日期 2005-9-20 修回日期 2005-11-11 网络版发布日期 2006-12-15 接受日期

摘要 天然土在受荷过程中会经历不同的应力路径, 开展结构性土在不同的应力路径下的力学特性的试验研究可以为建立复杂应力路径下的合理结构性本构模型提供试验依据。对结构性土样在不同应力路径下的力学特性进行试验研究。所用土样是人工室内制备的结构性土试样, 共进行不同的固结应力状态下常围压、减小围压和增大围压时施加竖向应力直至土样破坏的固结排水和固结不排水三轴试验, 对结构性土样在不同的应力路径下的强度特性、破坏特性和变形特性进行探讨和分析。

关键词 [土力学](#) [不同的应力路径](#) [人工制备结构性土](#) [三轴试验](#) [力学特性](#) [强度特性](#)

分类号

MECHANICAL BEHAVIOR OF STRUCTURED SOILS UNDER DIFFERENT STRESS PATHS

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Abstract

Natural soils are often structured because of weak bonds between their particles and subjected to many different stress paths in the field. By conducting experiments on structured soils with changes in stress paths, the mechanical behavior can be investigated on which the establishment of proper constitutive model for structured soils is based. The results are presented for drained and undrained triaxial tests on structured soil specimens under different stress paths. The soil specimens are artificially prepared in the laboratory. Under different consolidated stress conditions, the specimens are gradually loaded axially to failure while the confining pressures are constant, increase or decrease step by step. The mechanical properties, strength properties and deformation mechanism of structured soils are investigated and analyzed.

Key words [soil mechanics](#) [different stress paths](#) [artificial structured soil](#) [triaxial tests](#) [mechanical behavior](#) [strength properties](#)

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