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砂土的稳态强度固结不排水三轴试验研究

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摘要 稳态强度理论在土工抗震研究中具有重要意义。介绍了稳态强度理论的基本概念、稳态强度的固结不排水剪切试验方法及试验结果；论证了稳态线的存在性和唯一性；推求了e-p¢-q空间内的稳态线方程，揭示了稳态内摩擦角是土体变形最终可动用的有效内摩擦角的物理含义，同时得到了由围压s3、相对密度Dr确定稳态强度qss的方法。

关键词 土力学；稳态强度；稳态线；稳态内摩擦角；三轴试验

分类号

CONSOLIDATED-UNDRAINED TRIAXIAL TEST STUDY ON STEADY STATE STRENGTH OF SAND

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Abstract

The steady state strength theory is significant in earth structure aseismatic study. The steady state strength concepts，the consolidated-undrained triaxial shear test method and the test results are introduced. From the test and analysis，the existence and uniqueness of steady state line are demonstrated；and the steady state line equations are derived. An approach to determining the steady state strength qss from consolidation pressure s3 and relative density Dr is presented；and the physical implication of steady state friction angle is revealed.

Key words soil mechanics；steady state strength；steady state line；steady state friction angle；triaxial test

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