

围压升降过程中岩体渗透率变化特性的试验研究

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摘要 通过试验研究了围压升降过程中砂岩和单裂隙花岗岩岩样渗透率的变化特性。试验结果表明,在围压升降过程中,砂岩和单裂隙花岗岩的渗透率均随有效应力的增加呈负指数规律减小,但单裂隙花岗岩的渗透率对有效应力的敏感程度远大于砂岩,而砂岩渗透率的恢复程度则远大于单裂隙花岗岩。在围压下降过程中,砂岩和单裂隙花岗岩渗透率的恢复均存在明显的应力滞后效应。

关键词 [岩体力学](#),[围压升降过程](#),[渗透率](#),[滞后效应](#)

分类号

TESTING STUDY ON VARIATIONAL CHARACTERISTICS OF ROCKMASS PERMEABILITY UNDER LOADING-UNLOADING OF CONFINING PRESSURE

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Abstract

Based on permeability test, the varitional characteristics of rockmass permeability under loading- unloading of confining pressure are studied. The test results show that both the permeability of sandstone and that of granite with a single fracture declines with the increasing effective pressure, following the law of exponential decay. The permeability sensitivity of granite with a single fracture to effective stress is much stronger than that of sandstone, but the recovery capability of permeability of sandstone is more stronger than that of granite with a single fracture. Moreover, for sandstone and granite with a single fracture, there is obvious hysteresis effect for the restitution of permeability in the process of unloading of confining pressure.

Key words [rock mechanics](#),[process of loading-unloading of confining pressure](#),[permeability](#),[hysteresis effect](#)

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