Improved Soil Property Classification Through Automated Triaxial Stress Path Testing

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Abstract

Economical automated geotechnical testing systems are now available, allowing laboratory tests to accurately represent any given series of loading or unloading conditions from the environment such as slow, rapid, staged, drained, and undrained conditions. High quality path-dependant behaviors may now be investigated with comparative ease. Triaxial stress path tests can now be performed where specimens are subjected to states of stress that closely mimic the in-situ stress states with modest effort and cost. These techniques deserve wider deployment and regular use to significantly improve the quality of soil property assessments and hence geotechnical design.