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Calculating Shear Strength Parameter from Simple Shear Apparatus

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Abstract : The shear strength of soils is a crucial parameter instability analysis. Therefore, it is important to determine reliable values for the accuracy of stability analysis. Direct shear tests are mostly performed to determine the shear strength of cohesionless soils. The major limitation of the direct shear test is that the failure takes place through the pre-defined failure plane but the failure is not along pre-defined plane and is along the weakest plane in actual shearing mechanism that goes on in the field. This leads to overestimating the strength parameter; hence, a new apparatus called simple shear is developed and used in this study to determine the shear strength parameter that simulates the field conditions.

Keywords : direct shear, simple shear, angle of shear resistance, cohesionless soils
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