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Undrained behaviour of volcanic soils under monotonic and cyclic loading

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In this study, we focus on the undrained behaviour of volcanic deposits under monotonic and cyclic loading in order to define the susceptibility to liquefaction of granular volcanic deposits.
We assume that, in the case of saturated granular volcanic deposits susceptible to liquefaction, an undrained unstable behaviour can be responsible for both, the evolution of flowslide due to rainfall and liquefaction under seismic loading.
Starting from these considerations we define a complex experimental program to analyze their undrained behaviour through laboratory testing on reconstituted specimens of cohesionless volcanic soils.

The first part of the experimental program is devoted to the use of the steady state concept to evaluate the influence of void ratio and effective confining pressure on the undrained behaviour of Cervinara pyroclastic soils (Italy) under monotonic and cyclic loading.

The second part of the experimental program is devoted to the analysis of the influence of particles crushing of pumice soils from Rangiriri (New Zeland) in both monotonic and cyclic undrained triaxial tests.