

عنوان مقاله:

Reliability Assessment of Vertical Cut by Limit Equilibrium and Finite Element Models

محل انتشار:

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نویسندگان:

Mohammad Owji - M.Sc. Student, Dept. of Civil Engineering, Estahban Branch, Islamic Azad University, Estahban, Iran

Ali Johari - Assistant Professor, Dept. of Civil & Environmental Engineering, Shiraz University of Technology

خلاصه مقاله:

Uncertainty in soil parameters comes from its inhomogeneity, including factors that reduce certainty in geotechnical analysis is considered. Accordingly, compared with a deterministic analysis, probabilistic analysis capabilities inherent variability and uncertainty in input parameters in geotechnical engineering has gained a special place. In this research, the reliability of a vertical cut in cohesion soil is assessed by limit equilibrium and finite element methods. In limit equilibrium approaches an analytical method is used and in finite element method PLAXIS 2D is utilized. The selected stochastic parameters are height, cohesion, unit weight and elastic modulus, which are modeled using a truncated normal probability distribution function. The angle of slope relative to vertical is regarded as constant parameter. Finally to evaluate the model response to changes in input parameters, a sensitivity analysis was carried out. Comparison of the results indicates the probability density functions of two methods are close to each other

کلمات کلیدی:

Reliability, Jointly distributed random variables, Monte Carlo simulation, Finite element, slope stability

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