

عنوان مقاله:

Reliability Assessment of Cohesive Vertical Cut Stability

محل انتشار:

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خلاصه مقاله:

Slope stability analysis is a complex engineering problem due to heterogeneous nature of soils and participation of a large number of factors involved. The inherent uncertainties of the parameters which affect slope stability dictate that problem is of a probabilistic nature rather than being deterministic. Probabilistic analysis of slope stability has received considerable attention in the literature, and has been used as an effective tool to evaluate uncertainty that is so prevalent in variables. In this research, the jointly distributed random variables method is used for probabilistic analysis and reliability assessment of the stability of cohesive vertical cut. The selected stochastic parameters are height, cohesion and unit weight, which are modeled using a truncated normal probability distribution function. The angle of slope relative to vertical is regarded as constant parameter. The results are compared with the Monte Carlo simulation and First Order Second Moment method. Comparison of the results indicates the superior performance of the proposed approach for assessment of reliability

کلمات کلیدی:

Reliability, Jointly distributed random variables, Monte Carlo simulation, First Order Second Moment method, slope stability

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