

عنوان مقاله:

Slope Stability Analysis of Mahabad Dam Using Probabilistic Analysis Comparing Limit equilibrium Method

محل انتشار:

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خلاصه مقاله:

The new methods developed in the field of statistics and their applications in engineering have made probabilistic analysis as popular as definitive analysis. One of the important problems in dam design is the uncertainties associated with geotechnical parameters used for investigate the sliding surfaces. Usually these uncertainties are not accounted for. Mahabad dam is located around of Mahabad city in west Azerbaijan province in Iran. The Geostudio software is used for simulating Mahabad dam. This software is capable of analyzing earth dams stability by employing both definitive and probabilistic methods. Bishop, Morgenstern - Price and Janbu methods are used to investigate the stability of upstream and downstream Mahabad dam slopes after completion of construction (before priming) and during sustained seepage. Then, via quantizing the uncertain parameters (C , ϕ) generating random numbers from these parameters, a safety factor is obtained for each group of these random numbers. (C is cohesion and ϕ is internal friction angle of soil). Finally, safety factors are obtained for definitive and probabilistic (Monte Carlo) methods is comparing. Subsequently, the reliability of sliding surfaces for different cases will be investigated

کلمات کلیدی:

Earth Dam , Slope stability , Monte Carlo (probabilistic method) , Definitive Analysis

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