عنوان مقاله:

Reliability Analysis of Reinforced SlopesUsing Monte Carlo Simulation

محل انتشار:

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خلاصه مقاله:

Reliability analysis has gained special importance in geotechnical engineering in the past decades. One of the most important fields of geotechnical issues is the slopes stability. Slope stability analysis and their reliability analysis against slip and loading are important. Geotechnical engineers are also interested in improving and reinforcing weak slopes and increasing their factor of safety and reliability index. In this study, the uncertainties in soil strength parameters such as cohesion, internal friction angle and unit weight and force created in geogrid layers due to pull-out and bonding between soil and geogrid are considered. Then using Monte Carlo simulation Depending on the height of the slope, the reliability index is obtained in both of unreinforced and reinforced states. The critical slip surface of slope failure is also determined using PSO. The results of this analysis indicate the important role of reinforcements in increasing the reliability of soil slopes..

کلمات کلیدی:

Monte Carlo Simulation, Slope stability, reinforced slope, reliability analysis

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