Dynamic Slope Stability Analysis and Methods to Stabilize

One of the most important subjects which is considered by researchers is the Stability of slopes during earthquake and methods to stabilize it. Every year many landslides subjected to earthquake because considerable damages in the world. Among many landslides, Manjil earthquake in 1990, Kobe earthquake in 1995 and Ezmit earthquake in 1999 have caused damages to structures. More than 10 landslides in Manjil earthquake of Iran caused considerable damages to pipelines and electric transmission lines and roads. Therefore natural slopes stability evaluation is very important before the occurrence of earthquake. In this research, That had been done on a given slope the stability in two ways of pseudostatic (Bishop) and dynamic (Finite element method) had been studied by means of Manjil earthquake’s record. Furthermore the effect of supporting embankment on the stability of slope had been measured due to the above methods. GeoSlope software is used in this research for the purpose of analyzing stability and creating the sufficient models, and also to state their analysis procedure. Finally, all of the obtained results had been discussed via several graph and as the last step, they had been compared with each other.

Keywords:
Pseudostatic Analysis, Dynamic Analysis, Limit Analysis, Manjil Record

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