

ABSTRACT

The soil-structure interaction is important for cases of large structures such as dams, nuclear power plants, art work, and the high buildings ... which must be designed to withstand the earthquake.

Using the finite element method "Plaxis" in the geotechnical field is very common for the study of large projects. It allows for finite element analysis to check the stability of structures, determine its velocity and acceleration, taking into account soil-structure interaction, and we proceed to the design of structures. The main objective of this study was:

- Examine the factors that effectively summarize the characteristics of the seismic movement with particular attention to the effects of real and simulated earthquakes. In this evaluation the linear and nonlinear responses of a given soil layer were adopted. This study suggests the possibility of characterizing the earthquake by a minimum number of parameters.
- To study the effect of soil-structure interaction on seismic movement.
- To study the influence of foundation depth on the structure stability.

Keywords:

Earthquake, soil-structure interaction, behavior of soil-structure interaction, Plaxis.