

Abstract

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The earthquake is the most dangerous natural phenomena, with different effects due to several parameters (eg intensity and magnitude ... etc).

The work presented in this thesis deals with deformations resulting seismic wave sine data type depending on the direction (vertical and inclined) to the site, and propagation of surface waves in a free field through observation deformations resulting from some points distributed in that surface.

The memory supported two parts, bibliographic synthesis and simulation or numerical application:

- ✓ The literature review contained in the characterization of seismic motion and soil behavior, as well as the seismic response of soil layer.]
- ✓ The numerical simulation contains, first a detailed description of the digital calculation tool used "PLAXIS" and the implementation of the calculations, and finally the presentation of results obtained calculations and interpretation.]

Keywords

Earthquake, seismic movement, free field, sinusoidal stress, seismic wave, seismic acceleration, numerical simulation, PLAXIS.