عنوان مقاله:

The Effect of Soil Type on Seismic Response of Tall Telecommunication Towers with Random Vibration Analysis

محل انتشار:

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خلاصه مقاله:

Random vibration analysis of tall structures faces multiple problems due to the large number of elements and high degrees of freedom; that is why this type of analysis is mostly used in simple structures and low degrees of freedom. In the past two decades, changes have been occurred in this type of analysis to be used in complex structures and the large number of elements. Pseudo-Excitation Method (PEM) presents a simple formulation for reducing the volume of operations. In this paper, a tall telecommunication tower is fully modeled as an example of such towers; it is analyzed by random vibration analysis with the help of the above method. Different conditions of the soil under the tower and different damping are used in modeling and analysis. The results show that structure response is strongly influenced by the soil conditions. In addition, higher modes have significant effects on the telecommunication tower response

کلمات کلیدی:

Telecommunication Tower, damping, Random vibration, Pseudo-excitation Method, Soil