

SEISMIC SOIL STRUCTURE INTERACTION STUDIES ON MULTISTOREY FRAMES

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ABSTRACT

The Soil Structure Interaction(SSI) effects refer to the influence of the supporting soil medium on the behavior of the structure when it is subjected to various loads. The structure chosen for the present study is a reinforced cement concrete multistorey frame supported on pile foundations. The surrounding soil medium has been modeled using discrete elements. Linear elastic analysis has been conducted using the commercial package NISA. It has been observed that increase in founding depth enhances the responses in the frame upto a certain depth. Soil structure interaction effects increases the responses in the frame upto the characteristic depth and decreases when the frame has been treated for the full depth.

KEYWORDS: Soil structure interaction, Linear elastic analysis, Discrete model, Multistorey frames, Founding depth.