عنوان مقاله:

Effects of Foundation Flexibility on the Seismic Behavior of a Structure Retrofitted with RC Shear Walls

محل انتشار:

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خلاصه مقاله:

In this study, the effects of considering soil-structure interaction (SSI) on the seismic response of a flexible RC structure are investigated using ۳D analyses. The use of RC shear walls is one of the most efficient methods for retrofitting existing buildings. Considering the rigid base or neglecting SSI in the analysis may lead to an unrealistic estimation of seismic demand and load distribution. By applying the load-deformation behavior of foundations in structural modeling, we can more accurately assess the real behavior of structures. Nonlinear static analyses (pushover analyses) are performed on the ۳D model of a three-story RC structure retrofitted with RC shear walls surrounded by soil. The soilfoundation system is modeled using rigid footing spring constraints according to ASCE۴۱. The results indicate that the SSI has a significant influence on the period, target displacement, and performance of the .structure studied

کلمات کلیدی:

Soil structure interaction, RC shear walls, Seismic behavior, Nonlinear static analysis,Target displacement, Rigid footing spring constraints