عنوان مقاله:

Effectiveness of Proposed Relationship for Increasing of Bending Stiffness of Circular Micropile Group in Sandy Soil

محل انتشار:

فصلنامه زلزله شناسی و مهندسی زلزله, دوره 16, شماره 3 (سال: 1393)

تعداد صفحات اصل مقاله: 11

نویسندگان:

Alireza Mortezaei - *Islamic Azad University, Semnan Branch, Semnan*

Keyvan Abdollahi - *Islamic Azad University, Semnan Branch, Semnan*

خلاصه مقاله:

The increase of effective period of structures results fromthe increase of foundation movement due to changes of soil stiffness. In high-rise buildings, due to the seismic motions, the bending moment in sub-structure will cause foundation rotation. The increase of rotation in the sites with different shear wave velocity will cause different behaviors. The increase of the site stiffness leads to the decrease of settlement and generation of uplift condition in the foundation. This circumstance will ultimately lead to the increase of structural movements and seismic response. Applying the circular micropile group as foundation will reduce and control the rotations of foundation. In this paper, by means of FLAC۳D software and by parametric study of the inclination angles, distance ratio, and slenderness changes in circular micropiles group, a new equation is developed. Developed expression is used for showing how to affect the decrease of foundation rotations in sites with high shear wave velocity and to decrease structural seismic responses .by presenting necessary diagrams

کلمات کلیدی:

Rocking stiffness, Effective period, Subgrade reaction modulus, Rotational angle of micropile foundation, Uplift