عنوان مقاله:

Numerical Modelling of Impedance Functions For Embedded Square Foundations

محل انتشار:

ششمین کنفرانس بین المللی مهندسی عمران (سال: 1382)

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نویسنده:

Amir M Halabian - *Department of Civil Engineering, Isfahan University Technology, Isfahan, Iran*

خلاصه مقاله:

The definition of the impedance functions of different types of foundations is given and the physical meaning of various terms is discussed. The methods available for their calculation are presented, and the values obtained for a square embedded foundation from different solutions that have been developed in recent years are compared. Special attention is placed on the recent novel scaled boundary finite-element method (the consistent infinitesimal finite-element cell method) in which the advantages of the boundary-element and finite-element methods are used together. The method is modified to take into account material damping, applicable to problems involving small or moderate levels of strains. The results for embedded square foundations are compared with those obtained from semi-analytical, approximate and boundary element base approaches. The results showed that the agreement between the results for both stiffness and damping coefficients of non-rocking vibration modes improve with increasing the embedment ratio

کلمات کلیدی:

Impedance functions, Embedded square foundations, Numerical modeling