عنوان مقاله:

Time-History Analysis of Structures Against Earthquake Using Neural Networks

محل انتشار:

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خلاصه مقاله:

In recent years, neural networks are considered as one of the best choice for fast function approximation with arbitrary accuracy for solving the time consuming problems. Dynamic time-history analysis of structures against earthquake has a time consuming prices. The computational burden of system will be high when time history response of large scale structures are used in some iterative algorithms. In this study we employ Radial Basis function network (RBF) for fast approximating of dynamic time-history responses of a three story steel frame structure against the Naghan earthquake 1977(IRAN).RBF is a traditional neural network that has the universal approximation properties. RBF is powerful in interpolation and its training is very fast in comparison of other neural networks. For approximating of time-history response of each story diaphragm, a separate RBF neural network is trained. In training sets of these networks input vectors consist of cross-section of columns of mentioned steel frame and target vectors consist of .corresponding time-history response of each story diaphragms

کلمات کلیدی:

time-history , dynamic analysis , earthquake , neural networks , radial basis function , approximation