عنوان مقاله:

INVESTIGATION OF NON-LINEAR CYCLES' PROPERTIES IN STRUCTURES SUBJECTED TO ENDURANCE TIME EXCITATION FUNCTIONS

محل انتشار:

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خلاصه مقاله:

Endurance Time Method (ET) is a dynamic analysis in which structures are subjected to intensifying accelerograms that are optimized in a way that seismic performance of structures can be estimated at different hazard levels with the best possible accuracy. For the currently available ET accelerograms, regardless of the shaking characteristic, an excitation level is recognized as a representative of a specific hazard level, when the acceleration and the displacement spectrum produced by the ET accelerograms up to that excitation level will be compatible with the acceleration and the displacement spectrum associated with that hazard level. This study compares the shaking characteristics of the current ET accelerograms with the ground motions. For this purpose, distribution of plastic cycles and the equivalent number of the cycles are considered as shaking properties of a motion. This study suggests a procedure to achieve the best possible consistency between the equivalent number of cycles of the current ET records and the ground motions. Moreover, a procedure to generate the new generation and optimization of the ET .accelerograms which are more consistent with the ground motions are suggested

کلمات کلیدی:

equivalent hysteretic cycles; endurance time method; strong-motion duration; degrading materials; optimal dynamic analysis; performance based design