عنوان مقاله:

Variable Curvature Friction Pendulum Isolator under Near-Fault Ground Motions

محل انتشار:

نهمین کنفرانس بین المللی زلزله و سازه (سال: 1398)

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خلاصه مقاله:

Friction pendulum systems is one of the most widely used isolation. One of the conventional isolators is frictional isolators in which the pendulum friction isolator an important situation. Due to the emergence of these systems in recent years, there has been little research about design and analysis of this type of isolator. Therefore, in this study, we attempted to investigate the behavior of variable curvature friction pendulum isolator under near-fault ground motions. In order to evaluate seismic behavior of, firstly, different geometric functions were selected for non-spherical sliding surface and it was obtained required equations for their dynamic analysis. Then, a numerical model was presented to analyze the isolated time history by these isolators and it was simulated behavior of variable curvature friction pendulum isolators using MATLAB software. The results of simulation for fourth order function (O4), sixth order function (O6) and FPS function isolators indicated that friction pendulum isolators perform better than FPS isolators; the most appropriate function to achieve desired performance of isolated structure is fourth order function when subjected to low intensity level ground motion (far-fault); and it is sixth order function when subjected to great strong .(motions (near-fault

کلمات کلیدی:

.friction pendulum isolator, variable curvature, near-fault ground motions