

**ASEC 2008
ABSTRACT**

Title of abstract:	Effect of Vertical Component of Earthquake on the Response of Friction Pendulum base-isolated Structures
Abstract:	<p>The effect of vertical component of earthquake on the response of friction pendulum base-isolated structure is investigated. The isolated structure is modelled as shear type structure with lateral degree-of-freedom at each floor. The response of this idealized system subjected to two components (including vertical component) and one component (excluding vertical component) of Northridge 1994 earthquake excitations is investigated. The variation of the top floor absolute acceleration, peak base shear and bearing displacement under variation of important structure parameters such as superstructure flexibility, isolation period and maximum coefficient of friction of sliding surface is studied. It is demonstrated that the maximum error caused by neglecting the vertical component of earthquake in determining the peak absolute acceleration of top floor is 42 percent.</p>