# Evaluation Method of Limit State of Collapse for Viaduct Columns Subjected to Repetitive Seismicity

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In general, the safety for earthquake is defined as the performance to prevent from collapsing of structures. However, accurate verification of collapse of structures requires adequate comprehension of seismic behavior in large deformation response, and precise evaluation of limit value of collapse. In this study, we conducted shaking table test using earthquake wave of main quake and after quake and examined the dynamic behavior of RC columns. As a result, it is evident that even if seismic response of structures reaches to the limit value of collapse in the current design standard, structures are not always collapsible, and even if structures are prevented from collapsing in a major seismicity, they may collapse after the quake depending on seismic characteristics. Therefore, we proposed a new verification method using the amplitude of response displacement for the safety performance.