عنوان مقاله:

AN INTRODUCTION TO SUSTAINABLE SEISMIC DESIGN

محل انتشار:

هشتمین کنفرانس بین المللی زلزله شناسی و مهندسی زلزله (سال: 1398)

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خلاصه مقاله:

This paper peruses two complementary purposes. First, to link Performance Based Seismic Design (PBSD) to Performance Control (PC) with a view to Post-Earthquake Realignment and Repairs (PERR), and then to discuss the applications of new technologies that help achieve Seismic Sustainability (SS) for Earthquake Resisting Structures (ERS). SS involves two facets, theoretical development and physical functionality. Post-earthquake Global Stiffness Reduction (GSR) and Restoring Force Adjustment (RFA) are innovative technologies that have been devised to achieve SS through PC. While there is abundant data on element design for ERS, such as energy absorbing devices, rocking cores, etc., there is little to no information on PERR of complete buildings equipped with such components. SS is a concept that requires a thorough understanding of the mechanics of Collapse Prevention (CP) and PERR. In PERR the resilience of the gravity and nonstructural systems are as relevant as that of the ERS and the nature of the restoring forces are as important as those generated by the earthquake. A new archetype with supporting details has .been presented

کلمات کلیدی:

Sustainability, Rocking core, Collapse prevention, Stiffness reduction, Re-centering