

Session ID: SDM-2

Title

SEISMIC RESPONSE AND DESIGN OF IRREGULAR BUILDING STRUCTURES

Convenors

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Description

Real structures are almost always irregular as perfect regularity is an idealization that very rarely occurs. Structural irregularities may vary dramatically in their nature and, in principle, the concept of irregularity is a fuzzy one. Because of the complex behaviour of such structures under earthquake excitations, it is not surprising that, in spite of the large research efforts in plan irregular building structures dating back to the 1970s, even in recent years, many papers have been devoted to a better understanding of seismic response both of simplified one-storey and of multi-storey building models. Of course, research interest has shifted from investigating elastic response to inelastic response and, subsequently, to developing passive control design strategies, which appear to be a suitable alternative to traditional design in order to mitigate irregularity effects. Additionally, a number of studies have dealt with adequacy of design specifications subscribed by major seismic codes, including, amongst others, criteria for regularity, seismic design of irregular structures, seismic assessment of irregular and complex structures, retrofit of irregular and complex structures, issues arising from use of analysis methods, such as pushover analysis.

Great research efforts have been made in the above directions during the last decades by the European Association of Earthquake Engineering WG8 and by the Italian ReLUIS University Consortium, leading to the proposal of this Technical Session, which intends to present state-of-the-art papers covering the main aspects of seismic response and design of irregular building structures.

Invited Speakers

R. Bento ⁴, D. Kober ⁵, E. Marino ⁶, Z. Zembaty ⁷

Affiliations

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