

ADVANCED METHODS FOR STRUCTURES UNDER EARTHQUAKE DEMANDS

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ABSTRACT

In the last decades, reinforced concrete, masonry, steel, timber structures and others have been widely used, with and without seismic provisions. In the last years the damages observed during earthquakes have clearly demonstrated that due to a different number of reasons, related with the design strategies, construction practices, influence of the non-structural components, lack of maintenance, among others. These problems have been well recognised by the research community, and therefore, in the last two decades there has been developed several advances on the analysis methods to support the design of new structures, and the assessment of existent ones provided the opportunity to adopt more sophisticated methodologies, with continuous evolution and improvements.

This Thematic Session aims to collect works and discussions focused on the development and application of numerical methods for the of seismic design, behaviour and response analysis of new building structures, bridges and special structures, as well as numerical models for earthquake response simulation, assessment of existing structures, seismic retrofitting and strengthening of buildings, infrastructures, and lifeline systems, among other related topics.