

Special Issue on
Vulnerability and Reliability Evaluation of Steel and Concrete Structures Under the Action of Strong Earthquakes

CALL FOR PAPERS

During recent decades, significant damage has been inflicted on different types of structures after the occurrence of strong earthquakes. This has led researchers from all over the world to address many issues concerning analysis and design procedures for different types of structures, including steel and concrete buildings. Structural safety is a key parameter associated with these investigations. In general, the structural safety is calculated using a deterministic approach based on the safety factor concept.

However, such approximation may fail to reflect the associated risk. Consequently, a more rational approach is highly desirable to compute structural safety. In this sense, seismic vulnerability and reliability concepts constitute much more appropriate parameters to represent structural performance. Seismic design codes around the world have significantly evolved during recent decades, and it is believed that in the near future many of them will require not only satisfactory structural behaviour, but also an appropriate reliability level.

This Special Issue aims to provide a publication channel for the presentation and discussion of recent advances regarding vulnerability and reliability evaluation of steel and concrete structures. Original papers dealing with vulnerability and reliability of elements and assemblages and complete structures are welcome. Also considered will be papers examining aspects such as intensity measures, selection and scaling of earthquakes, composite beam-slab action, panel zones, flexibility of connections, column buckling, lateral torsional buckling of beams, non-structural elements, distributed plasticisation, and three-dimensional modelling. We welcome both original research and review articles.

Potential topics include but are not limited to the following:

- ▶ Seismic vulnerability and reliability evaluation of steel and concrete buildings
- ▶ Effects of selection and scaling of strong motions on the vulnerability and reliability of structures
- ▶ Intensity measures in the reliability evaluation of structures
- ▶ Evaluation of reliability of steel buildings considering the flexibility of connections
- ▶ Seismic vulnerability and reliability evaluation of bridges
- ▶ Structural reliability of steel and concrete frames considering post-tensioned connections
- ▶ Evaluation of reliability of concrete and steel frames with energy dissipating devices
- ▶ Vulnerability and reliability of steel buildings with moment-resisting frames and braced frames
- ▶ Seismic performance and risk analysis of structures
- ▶ Reliability analysis of structures subjected to mainshock-aftershock sequences
- ▶ Reliability of steel and concrete buildings considering probabilistic concepts and performance
- ▶ Life cycle cost of buildings subject to strong earthquakes

Authors can submit their manuscripts through the Manuscript Tracking System at <https://review.hindawi.com/submit?specialIssue=726541>.

Papers are published upon acceptance, regardless of the Special Issue publication date.

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