Practice Periodical on Structural Design and Construction

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Call for Papers

Special Collection: Theory and Applications of Performance-Based Seismic Design of Structures

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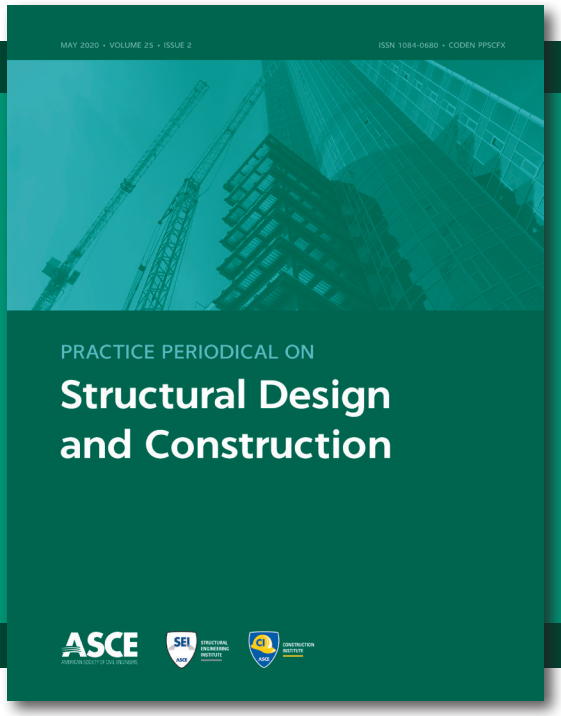

Aims & Scope

Theoretical and application-oriented research has been conducted by a large number of researchers in the field of Performance-Based Seismic Design (PBSD) in the past two decades. This special collection is aimed at providing a platform for researchers and designers to share their findings and experiences in PBSD. PBSD concentrates on designing structures that satisfy target performance objectives under specified hazard levels. A number of approaches and methods have been developed to achieve the targeted performance. These can mainly be classified into two categories: (i) based on overall performance of the structure, usually indicated by drift, and (ii) based on plastic deformations in individual members. However, in practical design, control on both the parameters is required. Recently, a Unified/Comprehensive approach of Performance-Based Design (UPBD) has been introduced which takes into account both drift and inelastic deformation of members. Using PBSD, the important structures, like hospital buildings, can be designed for multiple performance objectives, involving safety and functionality of structural and nonstructural components.

This special collection for the *Practice Periodical on Structural Design and Construction* is dedicated to the current challenges and recent advances in the field of PBSD of structures. The collection will focus on PBSD theory and applications to Civil and Infrastructure engineering. We welcome both theoretical developments as well as case studies on (but not limited to):

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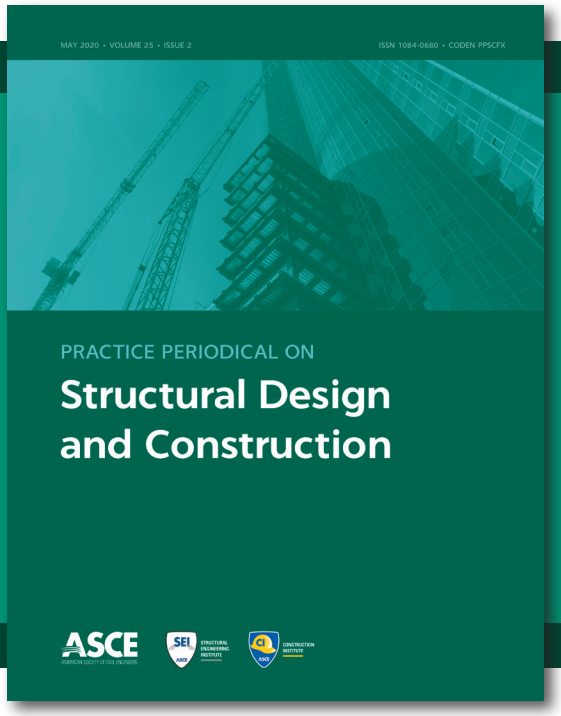

- Modeling and analysis for PBSD of structures
- Displacement-Based Design of buildings and bridges
- Performance-Based Design using seismic protection devices
- Comprehensive and unified approaches for PBSD of structures
- Post-earthquake (after-shock) performance of structures
- Risk-targeted and resilience-based seismic design of structures
- Multi-hazard Performance-Based Design of structures

Submission Information

Submissions will be accepted on a rolling basis (no current deadline).

Submit manuscripts: https://www.editorialmanager.com/jrnsceng. Authors are encouraged to prepare their manuscripts in accordance with guidelines in "Publishing in ASCE Journals: A Guide for Authors" (https://ascelibrary.org/r/publishingguide).

Please note that all accepted papers submitted in response to this Call for Papers will be published in regular issues of the *Practice Periodical on Structural Design and Construction* and assembled online on a page dedicated to this Special Collection.