

Special Issue

New Advances in High-Performance Steel and Composite Structures under Extreme Loads

Message from the Guest Editors

Novel high-performance steel and composite structures prompted by demands for higher resistance and constructional industrialisation have blazed new trails in modern civil engineering, and such systems are being actively pursued by both academia and engineering communities. However, the structural design of high-performance steel and composite structures under extreme loads (e.g., earthquakes and impact blasting) needs to undergo significant changes due to the mechanical behaviour variation of the materials utilised in structures. There is an increasing recognition that the influence of the mechanical properties of high-performance steel and composite structures should be scientifically evaluated to guarantee the structural safety when subjected to various extreme loads. The interpretation of interaction between the material behaviour and structural response is the cornerstone of a full-fledged design philosophy for the novel systems.

Keywords

- high-performance materials
- steel structures
- composite structures
- extreme loads
- structural behaviour
- performance-based design

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Message from the Editor-in-Chief

Materials (ISSN 1996-1944) was launched in 2008. The journal covers twenty-five comprehensive topics: biomaterials, energy materials, advanced composites, advanced materials characterization, porous materials, manufacturing processes and systems, advanced nanomaterials and nanotechnology, smart materials, thin films and interfaces, catalytic materials, carbon materials, materials chemistry, materials physics, optics and photonics, corrosion, construction and building materials, materials simulation and design, electronic materials, advanced and functional ceramics and glasses, metals and alloys, soft matter, polymeric materials, quantum materials, mechanics of materials, green materials, general. *Materials* provides a unique opportunity to contribute high quality articles and to take advantage of its large readership.

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