

Blast Loading and Blast Effect on Building Structures

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Message from the Guest Editors

Unintentional or intentional explosions constitute a great hazard for structures and their occupants. As it is not possible to eliminate all the conceivable threats, studies on improving safety inside the buildings have increased in recent decades to mitigate blast load effects. The study of the structural response of buildings subjected to an explosive event is essential. In addition, studying the behaviour of different components of the building under blast loading can help to improve the overall anti-blast performance of the building and reduce damage.

Within the broad scope of this topic, this Special Issue encourages the blast engineering research community to present original papers on blast wave–structure interactions, post-blast analysis, reinforcement solutions or risk assessment, among others. Submissions can focus on the building response as a whole or on individual building elements such as columns, beams, slabs, masonry walls, etc. We welcome contributions that include experimental tests, numerical studies or theoretical and analytical models.



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Message from the Editor-in-Chief

Current urban environments are home to multi-modal transit systems, extensive energy grids, a building stock, and integrated services. Sprawling neighborhoods are composed of buildings that accommodate living and working quarters. However, it is expected that the cities and communities of the future will face complex and enormous challenges, including maintenance, interconnectivity, resilience, energy efficiency, and sustainability issues, to name but a few. A smart city uses advanced technologies and a digital infrastructure to improve the outcomes in every aspect of a city's operations. A smart building optimizes the experience of occupants, staff, and management by using a modern and connected environment. Innovations in technology that can bring dramatic improvements to design, planning, and policy are critical in developing the cities and buildings of the future.

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