

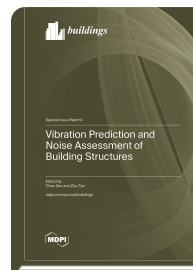
*Special Issue Reprint*

## **Vibration Prediction and Noise Assessment of Building Structures**

[www.mdpi.com/books/reprint/11462](http://www.mdpi.com/books/reprint/11462)

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ISBN 978-3-7258-4993-2 (Hardback)  
ISBN 978-3-7258-4994-9 (PDF)



This Reprint presents cutting-edge research addressing the critical challenge of vibration and noise disturbances within modern building environments. Urban structures are increasingly subjected to disruptive forces from sources such as traffic, construction activities, and mechanical systems. These vibrations and the resulting structural-borne noise significantly impact occupant comfort, building functionality, and the precise operations of sensitive facilities such as research laboratories, medical centers, and high-tech manufacturing facilities.

Focusing on prediction and assessment methodologies, this collection delves into the complex nature of vibration and noise sources, their propagation through structures and soil, and the development of effective mitigation strategies across diverse frequency ranges. The key challenges tackled by this Reprint's contributions include the inherent randomness of excitation sources and the need for cost-efficient control solutions. The volume features advanced analytical and numerical modeling techniques, novel computational approaches, and probabilistic frameworks that make a crucial contribution to advancing prediction accuracy and control measures.

Highlighting technological advances in testing and long-term performance evaluation, this Reprint compiles significant contributions on vibration comfort criteria, noise disturbance assessment, and the application of state-of-the-art research.

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