

Ground Vibrations from High-Speed Railways

Prediction and Mitigation

Victor Krylov

About the Book

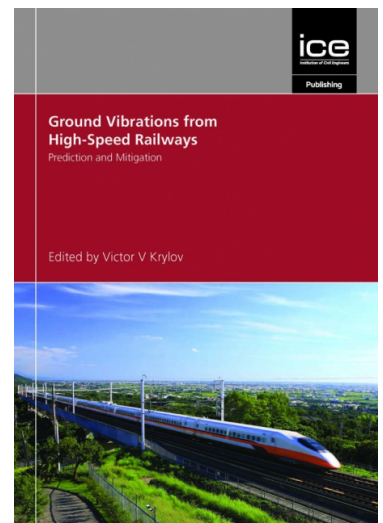
Ground Vibrations from High-Speed Railways brings together leading international research on the prediction and remediation of railway-induced ground vibration. A unique general reference, the book will help the reader to study the problem from different points of view, and provides answers to numerous theoretical and practical questions.

Focusing specifically on the significant amplification of ground vibrations that can occur above critical speeds, the book is a detailed guide to recent and ongoing developments in this area.

Coverage includes:

- fundamental problems of dynamics of track-ground systems under the impact of high-speed trains
- effects of vehicle-track interaction and associated stability problems
- railway-generated ground vibrations, including their impact on nearby buildings, effects of tunnels and layered soils
- modelling approaches – including 2.5D approaches, analytical and semi-analytical approaches –, numerical approaches, hybrid models, and scoping assessment
- mitigation strategies, including soil replacement strategies, pile-supported embankments, and use of stochastically rough surfaces

Ground Vibrations from High-Speed Railways provides in one volume the views of leading international experts on the problem of railway-induced vibration from high-speed trains and ways of reducing its environmental impact. It will be essential reading for all scientists and engineers working on prediction and remediation of railway vibration, including consultants specialising in the environmental impact of railways, and designers of new railway lines.



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