



Recent Advances in Vehicle-Track-Ground Coupling Dynamics and Railway-Induced Ground Vibration

Guest Editor:

Dr. Lutz Auersch

Federal Institute of Material
Research and Testing, 12200
Berlin, Germany

Deadline for manuscript
submissions:

20 August 2024

Message from the Guest Editor

When train vibrations or train-induced vibrations are of interest, in many cases, single components cannot be analysed separately. Therefore, the coupling of the subsystems is of great importance, including: vehicle-track interactions; track-soil interactions; train-induced ground vibration.

The influence of the coupling/interaction on the vibration of the vehicle, track or environment will be analysed. A special focus will be put on the forces between vehicle and track and between track and soil.

The following problems are also proposed: excitation mechanisms, such as irregularities (geometry and stiffness, continuous or singular, crosses and switches, transition zones), dynamic loads and static loads; prediction of ground vibration; mitigation measures; damage development and damage identification.

It is the aim of this Special Issue to bring together mechanical and civil engineers and vehicle, track and ground vibration specialists. At least two components should be analysed in interaction; all three components in coupled dynamics would be perfect.





an Open Access Journal by MDPI

Editor-in-Chief

Prof. Dr. Giulio Nicola Cerullo

Dipartimento di Fisica,
Politecnico di Milano, Piazza L.
da Vinci 32, 20133 Milano, Italy

Message from the Editor-in-Chief

As the world of science becomes ever more specialized, researchers may lose themselves in the deep forest of the ever increasing number of subfields being created. This open access journal Applied Sciences has been started to link these subfields, so researchers can cut through the forest and see the surrounding, or quite distant fields and subfields to help develop his/her own research even further with the aid of this multi-dimensional network.

Author Benefits

Open Access: free for readers, with article processing charges (APC) paid by authors or their institutions.

High Visibility: indexed within Scopus, SCIE (Web of Science), Inspec, CAPlus / SciFinder, and other databases.

Journal Rank: JCR - Q2 (*Engineering, Multidisciplinary*) / CiteScore - Q1 (*General Engineering*)

Contact Us

Applied Sciences Editorial Office
MDPI, St. Alban-Anlage 66
4052 Basel, Switzerland

Tel: +41 61 683 77 34
www.mdpi.com

mdpi.com/journal/applsci
applsci@mdpi.com
X@Applsci