DESCRIPTION

Allows the reader to deepen their understanding of various technologies for both fixed power supply installations of railway systems and for railway rolling stock.

This book explores the electric railway systems that play a crucial role in the mitigation of congestion and pollution caused by road traffic. It is divided into two parts: the first covering fixed power supply systems, and the second concerning the systems for railway rolling stock. In particular, after a historical introduction to the framework of technological solutions in current use, the authors investigate electrification systems for the power supply of rail vehicles, trams, and subways.

*Electrical Railway Transportation Systems* explores the direct current systems used throughout the world for urban and suburban transport, which are also used in various countries for regional transport. It provides a study of alternating current systems, whether for power supply frequency or for special railway frequency, that are used around the world for the electrification of railway lines, long-distance lines, and high-speed lines. In addition, this resource:

- Analyzes multiple railway systems from a theoretical and realizable vantage point, with particular regard to functionality, electromagnetic compatibility, and interferences with other electrical systems
- Studies electric traction railway vehicles, presenting various types of drives and auxiliary devices currently in circulation
• Discusses solutions employed to ensure interoperability of vehicles that run along lines powered by different systems (e.g., DC and AC, at different frequencies)

*Electrical Railway Transportation Systems* is an ideal text for graduate students studying the subject as well as for industry professionals working in the field.

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**ABOUT THE AUTHOR**

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