Electromagnetic Compatibility: Analysis and Case Studies in Transportation

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DESCRIPTION

Explains and resolves the electromagnetic compatibility challenges faced by engineers in transportation and communications

This book is a mathematically-rich extension of courses required to maintain the Federal Communications Commission (FCC), the Canadian Standards Association (CSA), and the European Union certifications. The text provides an in-depth study of the electromagnetic compatibility (EMC) issues related to specific topics in transportation and communications, including Light Rail Transit, shadow effects, and radio dead spots, through the analysis of real-world case studies in the United States and Europe. The author provides Cartesian, cylindrical, and spherical solutions that can be applied to Maxwell's and Wave Equations. The book covers topics such as SCADA Systems, shielding, and complexities of radio frequencies and their effect on communication houses. The author also provides information for alternative industries to apply the solutions from the case studies and background content to their own professions.

- Presents a series of over twenty real-world case studies related to EMC in transportation and communications
- Covers power line radiation, shadow effects on subway cars, train control systems, and edge distortions
- Includes the OATS testing method and Department of Transportation (DOT) test
- Provides access to a companion website housing power point slides and additional appendices
Electromagnetic Compatibility: Analysis and Case Studies in Transportation is a reference for practicing engineers involved in transportation and communications, as well as post-graduate engineering students studying transportation and communications in engineering.

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