

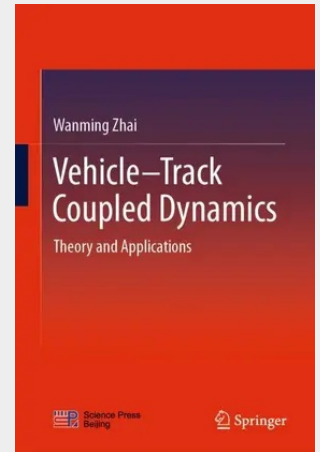
Vehicle-Track Coupled Dynamics

Theory and Applications

This book systematically presents the theory, numerical implementation, field experiments and practical engineering applications of the 'Vehicle-Track Coupled Dynamics'. Representing a radical departure from classic vehicle system dynamics and track dynamics, the vehicle-track coupled dynamics theory considers the vehicle and track as one interactive and integrated system coupled through wheel-rail interaction. This new theory enables a more comprehensive and accurate solution to the train-track dynamic interaction problem which is a fundamental and important research topic in railway transportation system, especially for the rapidly developed high-speed and heavy-haul railways. It has been widely applied in practical railway engineering. Dr. Wanming Zhai is a Chair Professor of Railway Engineering at Southwest Jiaotong University, where he is also chairman of the Academic Committee and Director of the Train and Track Research Institute. He is a member of the Chinese Academy of Sciences and one of the leading scientists in railway system dynamics. Professor Zhai is Editor-in-Chief of both the International Journal of Rail Transportation, published by Taylor & Francis Group, and the Journal of Modern Transportation, published by Springer. In addition, he is a trustee of the International Association for Vehicle System Dynamics, Vice President of the Chinese Society of Theoretical and Applied Mechanics, and Vice President of the Chinese Society for Vibration Engineering.

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