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Prof. Jordi Vinolas contributes to the Second Edition of the Handbook of Railway Vehicle Dynamics. Together with Sebastian Stichel, Anna Orlova and Mats Berg, they cover Chapter 6. Suspension Elements and Their Characteristics. The handbook has become a reference and is edited by Simon Iwnicki, Maksym Spiriyagin, Colin Cole, Tim McSweeney in CRC Press, Published November 28, 2019, Reference - 893 Pages - 842 B/W Illustrations, ISBN 9781138602854 - CAT# K388211The book provides expanded, fully updated coverage of railway vehicle dynamics. With chapters by international experts, this work surveys the main areas of rolling stock and locomotive dynamics. Through mathematical analysis and numerous practical examples, it builds a deep understanding of the wheel-rail interface, suspension and suspension component design, simulation and testing of electrical and mechanical systems, and interaction with the surrounding infrastructure, and noise and vibration. Topics added in the Second Edition include magnetic levitation, rail vehicle aerodynamics, and advances in traction and braking for full trains and individual vehicles.Read More 38k Accesses 35 Citations Page 2B. Bergander, Private communication. Guest lecture TU (Springer, Berlin, 1993) Google Scholar CEN. Railway applications: testing for the acceptance of running characteristics of railway vehicles. EN 14363. CEN, Brussels, June 2005 Google Scholar J.A. Elkins, A. Carter. Testing and analysis techniques for safety assessment of rail vehicles. Veh. Syst. Dyn. 22, 185–208 (1993)CrossRef Google Scholar N. N. Testing and approval of railway vehicles from the point of view of their dynamic behavior – Safety – Track fatigue – Ride quality, UIC Code 518. 4th edition, UIC,from January 1997. UIC, September 2009 Google Scholar K. Popp, W. Schiehlen (eds.). System Dynamics and Long-Term Behavior of Railway Vehicles, Track and Subgrade. vol. 6. 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Zhang, Dynamisches Bogenlaufverhalten mit stochastischen Gleislagefehlern - Modell- und Verfahrensentwicklung unter Verwendung der Methode der statistischen Linearisierung (Dynamic curving behavior with stochastic track irregularities – Development of models and processes based on the method of stochastic linearization). VDI Fortschritt-Berichte (also PhD thesis at TU Berlin), Reihe 12, Nr. 304. VDI-Verlag, Düsseldorf (1997) Google Scholar Skip to main content Designing for performance, passenger comfort and safety Download this whitepaper to learn how multibody simulation is useful in understanding and improving the dynamics of rail vehicles including locomotives, multiple units, passenger and freight trains, trams and metros, and even unconventional vehicles including monorails, suspended trains and rollercoasters. Using Simpack Rail, simulation engineers can analyze critical speed of the vehicle for safe operation, passenger comfort, safety against derailment, gauging, wear and fatigue, overhead line/pantograph interaction and vehicle homologation scenarios. Download Dear Colleagues, In recent years, high-speed railways have been put into operation on a large scale worldwide. With the increase in vehicle speed, the dynamic problems of vehicle–track systems have become more prominent, seriously affecting the safety and comfort of vehicle operation. In addition, under the dynamic action of vehicles and the influence of natural environmental factors, such as rain, snow, temperature, and earthquakes, tracks inevitably produce residual deformation and stiffness degradation. These structural changes lead to the deterioration of track smoothness, and even derailment of vehicles. An accurate description of the distribution characteristics of track irregularity is not only the basis of dynamic analysis for vehicle–track systems, but also an important reference for railway design, maintenance, and quality evaluation. Recent research has greatly promoted our understanding of track systems and vehicle–track dynamics. Advanced vibration reduction and isolation measures have been adopted to improve the safety and comfort of vehicle operation. This Special Issue aims to summarize recent progress in experiment and numerical analysis for track systems and vehicle–track dynamics. Topics covered: Vehicle–track coupling analysis for high-speed railway, maglev, and metro Seismic damage mapping mechanism, cross-fault analysis Probability-based vulnerability and risk analysis for track and vehicle Simplified modeling method for track and vehicle Hybrid simulation for vehicle–track coupling systems Vibration reduction and isolation measures for track and vehicle Research on post-earthquake intelligent operation and maintenance Analysis of track irregularity caused by environmental factors, including rain, snow, temperature, and earthquakes Technology and equipment used in track irregularity monitoring Repair, retrofit technology, and resilience assessment for track systems Prof. Dr. Wei GuoDr. Wangbao ZhouGuest Editors Manuscript Submission InformationManuscripts should be submitted online at www.mdpi.com by registering and logging in to this website. Once you are registered, click here to go to the submission form. Manuscripts can be submitted until the deadline. 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