1. Record Nr. UNINA9910818310603321 Autore Wang Ping **Titolo** Design of high-speed railway turnouts: theory and applications // Ping Wang Pubbl/distr/stampa Amsterdam, [Netherlands]:,: Academic Press,, 2015 ©2015 Descrizione fisica 1 online resource (481 p.) Collana High-Speed Railway Disciplina 625.163 Soggetti Railroads - Curves and turnouts - Design and construction Curves in engineering High speed trains Lingua di pubblicazione Inglese **Formato** Materiale a stampa Monografia Livello bibliografico Note generali Description based upon print version of record. Nota di bibliografia Includes bibliographical references and index. Nota di contenuto Front Cover: Design of High-Speed Railway Turnouts: Copyright Page: Contents; Preface; 1 Types and Structure; 1.1 Main Types [3]; 1.1.1 Composition; 1.1.2 Classification; 1.2 Technical Requirements; 1.2.1 Excellent Technical Performance; 1.2.2 High Cost-Effectiveness; 1.2.3 Outstanding Adaptability: 1.3 Technical Features [6]: 1.3.1 System Integration: 1.3.2 Theoretical Basis and Practical Tests: 1.3.3 State-ofthe-Art Manufacture and Laying Processes; 1.3.4 Scientific Maintenance and Management; 1.4 Global Overview of High-Speed Turnouts; 1.4.1 France: 1.4.2 Germany: 1.4.3 China 1.4.4 Other Countries2 Layout Design; 2.1 Design Conditions; 2.1.1 Operation; 2.1.2 Rolling Stock; 2.1.3 Tracks [19]; 2.1.4 Laying; 2.2 Plane Line Types; 2.2.1 Design Requirements; 2.2.2 Transition Lead Curves; 2.2.3 Switch Rails; 2.2.4 Clearances [29]; 2.2.5 Geometric Sizes; 2.3 Design of Parameters; 2.3.1 Method Based on Particle Motion; 2.3.2 Method Based on Rigid Body Motion; 2.3.2.1 Application cases; 2.3.3 Design Software [30]; 2.4 Assessment Methods Based on Wheel-Rail System Vibration [30,31]; 2.4.1 Theory of Wheel-Rail System Dynamics

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4.4.1 Dynamics Models of Train-Turnout System

Sommario/riassunto

High-speed turnouts, a key technology for high-speed railways, have a great influence on the safe and stable running of high-speed trains. Design of High-Speed Railway Turnouts: Theory and Applications, comprehensively introduces the technical characteristics and requirements of high-speed turnouts, including design theories and methods of turnout layout geometry, wheel and rail relations, track stiffness, welded turnout, turnout conversion, turnout components, and manufacture and laying technologies of turnouts. Analyzing the operational problems of China's high-speed turnout in particular