1. Record Nr. UNINA9910814314303321 Autore Arioui Hichem Titolo Driving simulation / / Hichem Arioui, Lamri Nehaoua Pubbl/distr/stampa Hoboken, New Jersey:,: Wiley,, 2013 ©2013 1-118-64863-3 **ISBN** 1-118-64864-1 1-118-64865-X Descrizione fisica 1 online resource (154 p.) Collana Focus series Altri autori (Persone) NehaouaLamri Disciplina 629.28 Soggetti Motorcycling Motor vehicles - Safety measures Automobile driving simulators Synthetic training devices Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Note generali "Automation and control"--cover. Nota di bibliografia Includes bibliographical references and index. Nota di contenuto Cover; Title page; Contents; ACKNOWLEDGMENTS; INTRODUCTION; CHAPTER 1. DRIVING SIMULATION; 1.1. Objectives of driving simulation; 1.2. A short history of driving simulators; 1.2.1. Fixed-base platforms; 1.2.2. Platforms with a serial structure; 1.2.3. Platforms with parallel structure; 1.2.4. Hybrid structured platforms; 1.2.5. "Low-cost" generation; 1.3. Driving simulation objectives; CHAPTER 2. ARCHITECTURE OF DRIVING SIMULATORS; 2.1. Architecture of driving simulators; 2.2. Motion cueing and haptic feedback; 2.2.1. The human motion perception system; 2.2.2. Mathematical description 2.2.3. Motion cueing algorithm2.3. The evolution of simulators: from the automobile to the motorcycle; 2.3.1. Honda simulators; 2.3.2. Tokyo university simulator; 2.3.3. MORIS simulator; 2.3.4. SafeBike simulator; 2.3.5. Bicycle simulator - Kaist; 2.3.6. Discussion; CHAPTER 3. DYNAMICS OF TWO-WHEELED VEHICLES; 3.1. Modeling aspect; 3.1.1. Vehicle motion; 3.1.2. Road-tire interface; 3.1.3. Direction system; 3.1.4. Suspensions; 3.1.5. Motorization and traction chain; 3.2. The

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## Sommario/riassunto

Passive and active safety systems (ABS, ESP, safety belts, airbags, etc.) represent a major advance in terms of safety in motoring. They are increasingly developed and installed in cars and are beginning to appear in twowheelers. It is clear that these systems have provenefficient, although there is no information about their actual operation by current users. The authors of this book present a state of the art on safety systems and assistance to driving and their two-wheeled counterparts. The main components constituting a driving simulator are described, followed by a classification of