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Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Introduction -- Part I Design Tools -- Modeling for Control -- Performance and Uncertainty -- Robust H-infinity/LPV Control Design -- Hierarchical Control Design -- Part II Vehicle Components and Functions -- Wheel-Orientation Control for Yaw Dynamics -- Torque Control for Yaw Dynamics -- Vertical Dynamics and Control -- Cruise Control in Longitudinal Dynamics -- Part III Integration of Vehicle Systems -- Actuator Selection Methods -- Driver-in-the-Loop Systems -- Integrated Vehicle Control -- Reconfigurable and Fault-Tolerant Control -- Part IV Conclusions.
Sommario/riassunto	This monograph focuses on control methods that influence vehicle dynamics to assist the driver in enhancing passenger comfort, road holding, efficiency and safety of transport, etc., while maintaining the driver's ability to override that assistance. On individual-vehicle-component level the control problem is formulated and solved by a unified modelling and design method provided by the linear parameter varying (LPV) framework. The global behaviour desired is achieved by a judicious interplay between the individual components, guaranteed by an integrated control mechanism. The integrated control problem is also formalized and solved in the LPV framework. Most important

among the ideas expounded in the book are: application of the LPV paradigm in the modelling and control design methodology; application of the robust LPV design as a unified framework for setting control tasks related to active driver assistance; formulation and solution proposals for the integrated vehicle control problem; proposal for a reconfigurable and fault-tolerant control architecture; formulation and solution proposals for the plug-and-play concept; detailed case studies. Robust Control Design for Active Vehicle Assistance Systems will be of interest to academic researchers and graduate students interested in automotive control and to control and mechanical engineers working in the automotive industry. Advances in Industrial Control aims to report and encourage the transfer of technology in control engineering. The rapid development of control technology has an impact on all areas of the control discipline. The series offers an opportunity for researchers to present an extended exposition of new work in all aspects of industrial control.
