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Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	Introduction -- Mathematic and Kinematic Fundamentals -- Kinematics of Multibody Systems -- Equations of Motion for Complex Multibody Systems -- Kinematics and Dynamics of the Vehicle Body -- Modeling and Analysis of Suspension Systems -- Modeling of Road-Wheel Interactions -- Powertrain Modeling -- Applied Forces and Torques -- Single-Track Model -- Double-Track Model -- Three-Dimensional Vehicle Model -- Model of a Typical Complex Vehicle -- Selected Applications -- References.
Sommario/riassunto	The authors examine in detail the fundamentals and mathematical descriptions of the dynamics of automobiles. In this context, different levels of complexity are presented, starting with basic single-track models up to complex three-dimensional multi-body models. A particular focus is on the process of establishing mathematical models based on real cars and the validation of simulation results. The methods presented are explained in detail by means of selected

application scenarios. In addition to some corrections, further application examples for standard driving maneuvers have been added for the present second edition. To take account of the increased use of driving simulators, both in research, and in industrial applications, a new section on the conception, implementation and application of driving simulators has been added.