[PDF] Fundamentals Of Vehicle Dynamics (R114) (Premiere Series Books)

Thomas D. Gillespie - pdf download free book



Books Details:

Title: Fundamentals of Vehicle Dynam

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Description:

The first book providing comprehensive coverage of vehicle dynamics in a single volume, *Fundamentals of Vehicle Dynamics* provides a foundation of engineering principles and analytical methods to explain the performance of an automotive vehicle, with chapters focusing on: acceleration performance; braking performance; aerodynamics and rolling resistance; ride; tires; steady-state cornering; suspensions; steering systems; and rollover.

Acceleration, braking, turning, and ride are among the most fundamental properties of

a motor vehicle. To understand the vehicle as a system, it is necessary to acquire a knowledge of all these modes. Motion is the common denominator of all these modes; thus, the study of this field is denoted as vehicle dynamics.

Fundamentals of Vehicle Dynamics introduces the basic mechanics governing vehicle performance, and familiarizes the reader with analytical methods and terminology.

This book attempts to find a middle ground by balancing engineering principles and equations of use to every automotive engineer with practical explanations of the mechanics involved, so that those without a formal engineering degree can still comprehend and use most of the principles discussed.

Fundamentals of Vehicle Dynamics provides thorough coverage of these subjects: Fundamental Approach to Modeling; Power-Limited Acceleration; Braking Forces; Anti-Lock Brake Systems; Aerodynamics; Rolling Resistance; Vehicle Response Properties; High-Speed Cornering; Independent Suspensions; Front Wheel Geometry; Transient Rollover; Dynamic Axle Loads; Traction-Limited Acceleration; Tire-Road Friction; Rear-Wheel Lockup; Drag; Total Road Loads; Vibration; Solid Axles; Roll Center Analysis; Front Wheel Drive; and Tire Construction.

Either as an introductory text or a practical professional overview, *Fundamentals of Vehicle Dynamics* is an ideal reference on the forces and factors affecting the movements of a vehicle - accelerating, braking, ride, and turning.

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