Steering Geometry
Steady-State Handling Characteristics of a Two-Axle Vehicle
Neutral Steer
Understeer
Oversteer
Steady-State Response to Steering Input
Yaw Velocity Response
Lateral Acceleration Response
Curvature Response
Testing of Handling Characteristics
Constant Radius Test
Constant Speed Test
Constant Steer Angle Test
Transient Response Characteristics
Directional Stability
Criteria for Directional Stability
Vehicle Stability Control
Steady-State Handling Characteristics of a Tractor-Semitrailer
Simulation Models for the Directional Behavior of Articulated Road Vehicles
References
Problems
Steering of Tracked Vehicles
Simplified Analysis of the Kinetics of Skid-Steering
Kinematics of Skid-Steering
Skid-Steering at High Speeds
A General Theory for Skid-Steering on Firm Ground
Shear Displacement on the Track-Ground Interface
Kinetics in a Steady-State Turning Maneuver
Experimental Substantiation
Coefficient of Lateral Resistance
Power Consumption of Skid-Steering
Steering Mechanisms for Tracked Vehicles
Clutch/Brake Steering System
Controlled Differential Steering System
Planetary Gear Steering System
Articulated Steering
References
Problems
Vehicle Ride Characteristics
Human Response to Vibration
Vehicle Ride Models
Two-Degree-of-Freedom Vehicle Model for Sprung and Unsprung Mass
Numerical Methods for Determining the Response of a Quarter-Car Model to Irregular Surface Profile Excitation
Two-Degree-of-Freedom Vehicle Model for Pitch and Bounce
Introduction to Random Vibration
Surface Elevation Profile as a Random Function
Frequency Response Function
Evaluation of Vehicle Vibration in Relation to the Ride Comfort Criterion
Active and Semi-Active Suspensions
References
Problems
Introduction to Air-Cushion Vehicles
Air-Cushion Systems and Their Performance
Plenum Chamber
Peripheral Jet
Resistance of Air-Cushion Vehicles
Suspension Characteristics of Air-Cushion Systems
Heave (or Bounce) Stiffness
Roll Stiffness
Directional Control of Air-Cushion Vehicles
References
Problems
Index

Table of Contents provided by Blackwell's Book Services and R.R. Bowker. Used with permission.