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Nota di contenuto	""Cover""; ""Title""; ""Copyright""; ""Table of Contents""; ""Preface""; ""Acknowledgments""; ""Chapter 1 Propellant Injection Systems and Processes""; ""Introduction""; ""Rocket Application Design Requirements""; ""Thrust Level and Operating Pressure""; ""Propellant Type""; ""Engine Cycle or Feed System""; ""Common Combustion Device Development Risks""; ""Combustion Instability""; ""Combustion Chamber Overheating and Burnout""; ""Injector Face Erosion""; ""Low Thrust Chamber Assembly Performance""; ""Unsafe Transients""; ""Injection System Design Considerations"" ""Engine Pressure Schedule""""Nozzle Expansion Ratio""; ""Contraction Ratio""; ""Chamber Length""; ""Injection Element and Pattern""; ""Critical Combustion Processes""; ""Injector Manifold Distribution""; ""Injector Spray Atomization""; ""Propellant Droplet Vaporization""; ""Bipropellant Mixing""; ""Candidate Injectors for Liquid Rocket Applications""; ""Coaxial Jet Injectors""; ""Impinging Jet Injectors""; ""Parallel Jet (Showerhead) Injectors""; ""Injector Design Synthesis""; ""Conclusions and Recommendations""; ""References""; ""Chapter 2 Design and Dynamics of Jet and Swirl Injectors"" ""Nomenclature""""Introduction""; ""Classification of Injectors and Methods of Mixture Formation""; ""Liquid Injectors""; ""Gas-Liquid

Injectors"; "Intensification of Propellant Atomization and Mixing in Liquid Injectors"; "Intensification of Propellant Atomization and Mixing in Gas-Liquid Injectors"; "Theory and Design of Liquid Monopropellant Jet Injectors"; "Flow Characteristics"; "Effect of Injector Configuration"; "Flow Coefficient"; "Design Procedure"; "Theory and Design of Gaseous Monopropellant Jet Injectors"; "Flow Characteristics"; "Design Procedure"
"Theory and Design of Gas-Liquid Jet Injectors""Theory and Design of Liquid Monopropellant Swirl Injectors"; "Flow Characteristics of Ideal Swirl Injector"; "Flow Characteristics of Real Swirl Injectors"; "Effect of Viscosity on Injector Operation"; "Design Procedure"; "Theory and Design of Liquid Bipropellant Swirl Injectors"; "Injectors with External Mixing"; "Injectors with Internal Mixing"; "Modulation of Liquid Spray Characteristics of Swirl Injectors"; "Design of Gas Swirl Injectors"; "Design Procedure"; "Selection of Geometric Dimensions and Flow Parameters"
"Dynamics of Liquid Rocket Injectors""Linear Dynamics of Jet Injectors"; "Linear Dynamics of Swirl Injectors"; "Acknowledgments"; "References"; "Chapter 3 Atomization in Coaxial-Jet Injectors"; "Nomenclature"; "Introduction"; "Phenomenological Description and Literature Review"; "General Scheme of Jet Disintegration and Drop Formation"; "Studies of Elementary Processes"; "Numerical Simulations of the Atomization Process"; "Derivation of Droplet Size Distribution Functions"; "Investigations of Atomization in Shear Coaxial Injectors"
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