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Expansion Tubes"; "III. Driver Methods"; "A. Lighter Gases"; "B. Electrically Heated Light Gases"; "C. Combustion Heated Light Gases"; "D. Compressively Heated Light Gases (Free-Piston Driver)"; "E. Summary of Comparison of Driver Techniques"; "F. The Shock-Induced Detonation Driver for HYPULSE"; "IV. Operation and Performance of HYPULSE"; "A. Facility Configuration and Sizing"; "B. HYPULSE Operation"; "C. Test Conditions Verification"; "D. Test Time Determination"; "V. Driver Gas Contamination in Detonation-Driven RST Mode"; "A. Nozzle Flow"; "B. Transient Development of Driver-Gas Leakage"; "VI. Nozzle Design for Expansion Tunnel Mode Operation"; "A. Skimmer Nozzles"; "B. Full Capture Contoured Inlet Asymptoting to a Conical Profile"; "C. Verification with Experiments"; "VII. Concluding Remarks"; "Acknowledgments"; "References"; "Chapter 4 LENS Hypervelocity Tunnels and Application to Vehicle Testing at Duplicated Flight Conditions"; "I. Introduction"; "II. Ground Test Simulation of Hypersonic Flight Performance"; "III. Design, Operation, and Performance of the LENS I and LENS II Hypervelocity Ground Test Facilities"; "A. Introduction"; "B. Design and Operation of the LENS I and II Shock Tunnels"; "C. Aerothermal, Aero-Optic, and Radiation Instrumentation Suites"; "IV. Facility Validation"; "V. Application of Test Facility and Instrumentation to Hypersonic Vehicle Testing"; "A. Evaluation of the Aerothermal and Aero-optical Characteristics of High-Speed Interceptors"; "B. Examples of Aerothermal Measurements to Evaluate Seekerhead Performance"; "C. Example of Aero-Optic Measurements on Interceptor Seekerhead Configurations"; "VI. Measurements of Jet Interaction Resulting from Divert Thruster Operation"; "A. Introduction"; "B. Flowfield and Aerothermal Characteristics"; "C. Spectrometer and Radiometer Measurements of Flowfield Obscuration Phenomena"
