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""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""

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