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Nota di contenuto	Front matter -- Preface -- Contents -- Part I. Elements of the theory of numerical modeling of gas-discharge phenomena -- Chapter 1. Models of gas-discharge physical mechanics -- Chapter 2. Application of numerical simulation models for the investigation of laser supported waves -- Chapter 3. Computational models of magnetohydrodynamic processes -- Part II. Numerical simulation models of glow discharge -- Chapter 4. The physical mechanics of direct current glow discharge -- Chapter 5. Drift-diffusion model of glow discharge in an external magnetic field -- Part III. Ambipolar models of direct current discharges -- Chapter 6. Quasi-neutral model of gas discharge in an external magnetic field and in gas flow -- Chapter 7. Viscous interaction on a flat plate with surface discharge in a magnetic field -- Chapter 8. Hypersonic flow of rarefied gas in a channel with glow discharge in an external magnetic field -- Chapter 9. Hypersonic flow of rarefied gas in a curvilinear channel with glow discharge -- Appendix -- Bibliography -- Index
Sommario/riassunto	Physical models of gas discharge processes in gas flows and numerical simulation methods, which are used for numerical simulation of these phenomena are considered in the book. Significant attention is given to a solution of two-dimensional problems of physical mechanics of electric arc, radio-frequency, micro-wave, and optical discharges, as well as to investigation of electrodynamic structure of direct current glow discharges. Problems of modern computational

magnetohydrodynamics (MHD) are considered also. Prospects of the different kinds of discharges use in aerospace applications are discussed. This book is intended for scientists and engineers concerned with physical gas dynamics, physics of the low-temperature plasma and gas discharges, and also for students and post-graduate students of physical and technical specialties of universities.
