

1. Record Nr.	UNINA9910969008003321
Titolo	Rarefied gas dynamics : space-related studies // edited by E.P. Muntz, D.P. Weaver, D.H. Campbell
Pubbl/distr/stampa	Washington, D.C., : American Institute of Aeronautics and Astronautics, Inc., c1989
ISBN	1-60086-590-9 1-60086-371-X
Edizione	[1st ed.]
Descrizione fisica	1 online resource (583 p.)
Collana	Progress in astronautics and aeronautics ; ; v. 116
Altri autori (Persone)	MuntzE. Phillip <1934-> (Eric Phillip) WeaverD. P CampbellD. H (David H.)
Disciplina	629.1 s 629.132/3
Soggetti	Rarefied gas dynamics Space sciences
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	"Technical papers selected from the sixteenth International Symposium on Rarefied Gas Dynamics, Pasadena, California, July 10-16, 1988, subsequently revised for this volume."
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	""Cover""; ""Title""; ""Copyright""; ""Table of Contents""; ""Preface""; ""Chapter I. Rarefied Atmospheres""; ""Nonequilibrium Nature of Ion Distribution Functions in the High Latitude Auroral Ionosphere""; ""VEGA Spacecraft Aerodynamics in the Gas-Dust Rarefied Atmosphere of Halley's Comet""; ""Oscillations of a Tethered Satellite of Small Mass due to Aerodynamic Drag""; ""Chapter II. Plasmas""; ""Semiclassical Approach to Atomic and Molecular Interactions""; ""Monte Carlo Simulation of Electron Swarm in a Strong Magnetic Field"" ""Collisional Transport in Magnetoplasmas in the Presence of Differential Rotation""""Electron Oscillations, Landau, and Collisional Damping in a Partially Ionized Plasma""; ""Bifurcating Families of Periodic Traveling Waves in Rarefied Plasmas""; ""Chapter III. Atomic Oxygen Generation and Effects""; ""Laboratory Simulations of Energetic Atom Interactions Occurring in Low Earth Orbit""; ""High-Energy/Intensity CW Atomic Oxygen Beam Source""; ""Development of a Low-Power, High Velocity Atomic Oxygen Source""; ""Options for

Generating Greater Than 5-eV Atmospheric Species"

"Laboratory Results for 5-eV Oxygen Atoms on Selected Spacecraft Materials""Chapter IV. Plumes"; "Modeling Free Molecular Plume Flow and Impingement by an Ellipsoidal Distribution Function"; "Plume Shape Optimization of Small Attitude Control Thrusters Concerning Impingement and Thrust"; "Backscatter Contamination Analysis"; "Thruster Plume Impingement Forces Measured in a Vacuum Chamber and Conversion to Real Flight Conditions"; "Neutralization of a 50-MeV H⁻Beam Using the Ring Nozzle"; "Chapter V. Tube Flow""Rarefied Gas Flow Through Rectangular Tubes:Experimental and Numerical Investigation""Experimental Investigation of Rarefied Flow Through Tubes of Various Surface Properties"; "Monte Carlo Simulation on Mass Flow Reduction due to Roughness of a Slit Surface"; "Chapter VI. Expansion Flowfields"; "Translational Nonequilibrium Effects in Expansion Flows of Argon"; "Three-Dimensional Freejet Flow from a Finite Length Slit"; "Modification of the Simons Model for Calculation of Nonradial Expansion Plumes"; "Simulation of Multicomponent Nozzle Flows into a Vacuum""Kinetic Theory Model for the Flow of a Simple Gas from a Two-Dimensional Nozzle""Transient and Steady Inertially Tethered Clouds of Gas in a Vacuum"; "Radially Directed Underexpanded Jet from a Ring-Shaped Nozzle"; "Three-Dimensional Structures of Interacting Freejets"; "Flow of a Freejet into a Circular Orifice in a Perpendicular Wall"; "Chapter VII. Surface Interactions"; "Particle Surface Interaction in the Orbital Context:A Survey"; "Sensitivity of Energy Accommodation Modeling of Rarefied Flow Over Re-Entry Vehicle Geometries Using DSMC""Determination of Momentum Accommodation from Satellite Orbits: An Alternative Set of Coefficients"

Sommario/riassunto

Forty papers treat plasmas, atomic oxygen generation and effects, plumes, tube flow, expansion flowfields, surface interactions, and rarefied atmospheres. Acidic paper; no subject index. Annotation copyright Book News, Inc. Portland, Or.
