

CONTENTS

	PAGE
Preface	vii
The Use of Low-density Wind Tunnels in Aerodynamic Research <i>by JACKSON R. STALDER</i>	1
The ARDE Low-density Wind Tunnel <i>by W. A. CLAYDEN</i>	21
Techniques of Measurement in Rarefied Gases <i>by I. ESTERMANN</i>	38
Techniques of Measurements, Flow Visualization <i>by F. C. HURLBUT</i>	55
The Application of Supersonic Beam Sources to Low Density, High Velocity Experimentation <i>by HERMON M. PARKER, A. R. KUHLETHAU, RICHARDO ZAPATA and JOHN E. SCOTT, JR.</i>	69
La Suspension Magnétique O.N.E.R.A. <i>by M. TOURNIER, P. LAURENCEAU and G. DUBOIS</i>	80
Theory of Rarefied Gases <i>by HAROLD GRAD</i>	100
Recent Investigations of the Boltzmann Equation <i>by EUGENE P. GROSS</i>	139
The Boltzmann-Maxwell Equation as the Fundamental Equation of Gas Dynamics <i>by TOYOKI KOGA</i>	151
Experiment Versus Kinetic Theory for Rarefied Gases <i>by F. S. SHERMAN and L. TALBOT</i>	161
Recent Low-Density Experiments Using Rotating Cylinder Techniques <i>by A. R. KUHLETHAU</i>	192
Rayleigh's Problem at Low Reynolds Number According to the Kinetic Theory of Gases <i>by HSUN-TIAO YANG and LESTER LEES</i>	201
Contributions to the Theory of Almost-Free-Molecule Flows <i>by V. C. LIU</i>	239
Theoretical Solutions to some Nearly Free Molecular Problems <i>by D. R. WILLIS</i>	246
Aerodynamics of Rarefied Gases <i>by RONALD F. PROBSTEIN</i>	258
The Study of Boundary Conditions in Slip-Flow Aerodynamics <i>by ROBERT E. STREET</i>	276
Slip Flow over a Short Flat Plate <i>by J. A. LAURMANN</i>	293

The Drag of a Sphere which Moves at High Speed through a Rarefied Gas <i>by</i> PIERRE WELANDER	317
Aerodynamic Coefficients of a Pointed Cone at Angles of Attack in Rarefied Gas Flow <i>by</i> V. A. LANGELO and A. LENGYEL	329
On the Fundamental Aspects of Free Molecule Flow <i>by</i> M. Z. V. KRZYWBLOCKI	352
Considerations Generales sur l'Aerothermique des Gaz Rarefies <i>by</i> EDMOND A. BRUN	367
Quelques Remarques sur le Regime Moleculaire Libre <i>by</i> F. M. DEVIENNE	383
Determination of Fundamental Atomic and Molecular Properties from Gas Dynamic Measurements <i>by</i> WAYLAND C. GRIFFITH	387
Mise en Evidence des Differents Regimes d'Ecoulement dans les Gaz Raréfiés d'Après la Methode du Bras Tournant <i>by</i> B. CRAVE	390
Plama Dynamics—from Gas Dynamic Point of View <i>by</i> SHIH-I PAI	394
A Propos de la Conduction de la Chaleur dans les Gaz Raréfiés <i>by</i> PIERRE VERNOTTE	406
A Discussion of Magnetic Boundary Layers with Boundary Conditions Assimilating Combustion, Blowing or Sublimation at the Wall <i>by</i> PAUL S. LYKODIS	407
Continuum Theory and Rarefied Hypersonic Aerodynamics <i>by</i> RONALD F. PROBSTEIN	416
Mouvement d'un Gaz Electrisé très Raréfié en Présence des Parois Diffusantes <i>by</i> MICHAL LUNC and JAN LUBONSKI	432