

Contents

Foreword by Norman R. Lebovitz xi

PART ONE

Plasma Physics

1. Properties of an Ionized Gas of Low Density in a Magnetic Field, III. With A. N. Kaufman and K. M. Watson 3
Annals of Physics 2, no. 5 (1957): 435–70
2. Properties of an Ionized Gas of Low Density in a Magnetic Field, IV. With A. N. Kaufman and K. M. Watson 39
Annals of Physics 5, no. 1 (1958): 1–25
3. The Stability of the Pinch. With A. N. Kaufman and K. M. Watson 64
Proceedings of the Royal Society, A, 245 (1958): 435–55
4. Adiabatic Invariants in the Motions of Charged Particles 85
The Plasma in a Magnetic Field: A Symposium on Magneto-hydrodynamics, 3–22. Stanford University Press, 1958

PART TWO

Hydrodynamic and Hydromagnetic Stability

5. The Stability of Viscous Flow Between Rotating Cylinders in the Presence of a Radial Temperature Gradient 107
Journal of Rational Mechanics and Analysis 3, no. 2 (1954): 181–207

6.	The Stability of Viscous Flow Between Rotating Cylinders, II. With Donna D. Elbert <i>Proceedings of the Royal Society, A</i> , 268 (1962): 145–52	134
7.	The Character of the Equilibrium of an Incompressible Fluid Sphere of Variable Density and Viscosity Subject to Radial Acceleration <i>Quarterly Journal of Mechanics and Applied Mathematics</i> 8, pt. 1 (1955): 1–21	142
8.	Thermal Convection (Rumford Medal Lecture) <i>Proceedings of the American Academy of Arts and Sciences</i> 86, no. 4 (1957): 323–39	163
9.	The Thermodynamics of Thermal Instability in Liquids <i>Max-Planck-Festschrift 1958</i> , 103–14. Veb Deutscher Verlag der Wissenschaften, Berlin, 1959	192
10.	Variational Methods in Hydrodynamics <i>Proceedings of the Eighth Symposium in Applied Mathematics</i> , vol. 8 (1958): 139–41	204
11.	On Characteristic Value Problems in High Order Differential Equations Which Arise in Studies on Hydrodynamic and Hydromagnetic Stability <i>American Mathematical Monthly</i> 61, no. 7 (1954): 32–45	207
12.	Adjoint Differential Systems in the Theory of Hydrodynamic Stability <i>Journal of Mathematics and Mechanics</i> 10, no. 5 (1961): 683–90	221

P A R T T H R E E

Tensor Virial Theorem and Its Applications

13.	The Virial Theorem in Hydromagnetics <i>Journal of Mathematical Analysis and Applications</i> 1, no. 2 (1960): 240–52	231
-----	---	-----

14.	The Virial Equations of the Various Orders. (Chapter 1 in The Higher Order Virial Equations and Their Applications to the Equilibrium and Stability of Rotating Configurations) <i>Lectures in Theoretical Physics</i> , vol. 6, 1–16. University of Colorado Press, 1964	244
15.	A Theorem on Rotating Polytropes <i>The Astrophysical Journal</i> 134, no. 2 (1961): 662–64	260
16.	On Super-potentials in the Theory of Newtonian Gravitation. With Norman R. Lebovitz <i>The Astrophysical Journal</i> 135, no. 1 (1962): 238–47	263
17.	On Superpotentials in the Theory of Newtonian Gravitation. II, Tensors of Higher Rank. With Norman R. Lebovitz <i>The Astrophysical Journal</i> 136, no. 3 (1962): 1032–36	273
18.	The Potentials and the Superpotentials of Homogeneous Ellipsoids. With Norman R. Lebovitz <i>The Astrophysical Journal</i> 136, no. 3 (1962): 1037–47	278
19.	On the Oscillations and the Stability of Rotating Gaseous Masses. With Norman R. Lebovitz <i>The Astrophysical Journal</i> 135, no. 1 (1962): 248–60	289
20.	On the Oscillations and the Stability of Rotating Gaseous Masses. II, The Homogeneous, Compressible Model. With Norman R. Lebovitz <i>The Astrophysical Journal</i> 136, no. 3 (1962): 1069–81	302
21.	On the Oscillations and the Stability of Rotating Gaseous Masses. III, The Distorted Polytropes. With Norman R. Lebovitz <i>The Astrophysical Journal</i> 136, no. 3 (1962): 1082–1104	315
22.	On the Occurrence of Multiple Frequencies and Beats in the β Canis Majoris Stars. With Norman R. Lebovitz <i>The Astrophysical Journal</i> 136, no. 3 (1962): 1105–7	338
23.	Non-Radial Oscillations and Convective Instability of Gaseous Masses. With Norman R. Lebovitz <i>The Astrophysical Journal</i> 138, no. 1 (1963): 185–99	341

24.	A General Variational Principle Governing the Radial and the Non-Radial Oscillations of Gaseous Masses <i>The Astrophysical Journal</i> 139, no. 2 (1964): 664–74	356
25.	Non-Radial Oscillations of Gaseous Masses. With Norman R. Lebovitz <i>The Astrophysical Journal</i> 140, no. 4 (1964): 1517–28	367
26.	The Pulsations and the Dynamical Stability of Gaseous Masses in Uniform Rotation. With Norman R. Lebovitz. <i>The Astrophysical Journal</i> 152, no. 1 (1968): 267–91	379
27.	The Ellipticity of a Slowly Rotating Configuration. With P. H. Roberts <i>The Astrophysical Journal</i> 138, no. 3 (1963): 801–8	404
28.	The Points of Bifurcation Along the Maclaurin, the Jacobi, and the Jeans Sequences <i>The Astrophysical Journal</i> 137, no. 4 (1963): 1185–1202	412
29.	The Equilibrium and the Stability of the Roche Ellipsoids <i>The Astrophysical Journal</i> 138, no. 4 (1963): 1182–1213	430
30.	The Equilibrium and the Stability of the Riemann Ellipsoids, I <i>The Astrophysical Journal</i> 142, no. 3 (1965): 890–921	462
31.	The Equilibrium and the Stability of the Riemann Ellipsoids, II <i>The Astrophysical Journal</i> 145, no. 3 (1966): 842–77	494
32.	The Virial Equations of the Fourth Order <i>The Astrophysical Journal</i> 152, no. 1 (1968): 293–304	530
33.	A Tensor Virial-Equation for Stellar Dynamics. With Edward P. Lee <i>Monthly Notices of the Royal Astronomical Society</i> 139, no. 2 (1968): 135–39	542
34.	Some Elementary Applications of the Virial Theorem to Stellar Dynamics. With Donna D. Elbert <i>Monthly Notices of the Royal Astronomical Society</i> 155, no. 4 (1971): 435–47	547

35.	The Stability of a Rotating Liquid Drop <i>Proceedings of the Royal Society, A</i> , 286 (1965): 1–26	560
-----	--	-----

A complete list of publications by S. Chandrasekhar will appear at the end of the final volume