

Contents

Introduction	v
Contributors	xi
 Section I Vortex Dynamics	
Waves and Bifurcations in Vortex Filaments	
<i>Sidney Leibovich</i>	3
Review of Three-Dimensional Vortex Dynamics: Implications for the Computation of Separated and Turbulent Flows	
<i>Sheila E. Widnall</i>	16
A Ring-Vortex Representation of an Axi-Symmetric Vortex Sheet	
<i>B. de Bernardinis and D.W. Moore</i>	33
Comparison of Experiment with the Dynamics of the von Karman Vortex Trail	
<i>L. Sirovich and C. Lim</i>	44
 Section II Vortex Breakdown	
Force- and Loss-Free Transitions Between Vortex Flow States	
<i>J.J. Keller, W. Egli and J. Exley</i>	63
Vortex Breakdown Simulation Based on a Nonlinear Inviscid Model	
<i>M.M. Hafez and M.D. Salas</i>	76
 Section III Massive Separation	
Theory of High-Reynolds-Number Flow Past a Blunt Body	
<i>F.T. Smith</i>	87

Progress on the Calculation of Large-Scale Separation at High Reynolds Numbers <i>A.P. Rothmayer and R.T. Davis</i>	108
Viscous-Inviscid Interaction Solvers and Computation of Highly Separated Flows <i>J.C. LeBalleur</i>	159
 Section IV Vortex Shedding From Sharp Leading Edges	
Simulation Studies of Vortex Dynamics of a Leading Edge Flap <i>H.K. Cheng, R.H. Edwards and Z.X. Jia</i>	195
Methods for Numerical Simulation of Leading Edge Vortex Flow <i>H.W.M. Hoeijmakers</i>	223
Comparison of Measured and Computed Pitot Pressures In a Leading Edge Vortex From a Delta Wing <i>Earll M. Murman and Kenneth G. Powell</i>	270
 Section V Conically Separated Flows	
Separated Flow About Cones at Incidence—Theory and Experiment <i>S.P. Fiddes</i>	285
On the Prediction of Highly Vortical Flows Using an Euler Equation Model <i>F. Marconi</i>	311