

# Contents

<b>Point Vortex Models and the Dynamics of Strong Vortices in the Atmosphere and Oceans</b> <i>H. Aref and M.A. Stremler.</i> . . . . .	<b>1</b>
<b>Bubble Disconnection: Self-Similarity and Cascading Physics</b> <i>O.N. Boratav, Y.-J. Chen, and P. Steen.</i> . . . . .	<b>19</b>
<b>Implicit Multigrid Computation of Unsteady Flows with Applications to Aeroelasticity</b> <i>D.A. Caughey.</i> . . . . .	<b>35</b>
<b>Second-Harmonic Resonance with Parametric Excitation and Damping</b> <i>A.D.D. Craik, H. Okamoto, and H.R. Allen.</i> . . . . .	<b>63</b>
<b>Bubble and Temperature Fields in Langmuir Circulation</b> <i>D. Farmer, S. Vagle, and M. Li.</i> . . . . .	<b>91</b>
<b>Computing Periodic Orbits</b> <i>J. Guckenheimer.</i> . . . . .	<b>107</b>
<b>Dynamics of Layers in Geophysical Flows</b> <i>J. C.R. Hunt and M. Galmiche.</i> . . . . .	<b>121</b>
<b>Radiative Transport in Anisotropic Media</b> <i>A. Kribus, C. Zhang, and R. Ben-Zvi.</i> . . . . .	<b>151</b>
<b>Vortex-Wake Pollution: A Problem in Fluid Mechanics</b> <i>S.K. Lele.</i> . . . . .	<b>163</b>
<b>Turbulent Bursts in Couette-Taylor Flow</b> <i>P.S. Marcus.</i> . . . . .	<b>183</b>
<b>Surface-Wave Effects on Winds and Currents in Marine Boundary Layers</b> <i>J.C. McWilliams and P.P. Sullivan.</i> . . . . .	<b>201</b>

<b>Synchronised Behaviour in Three Coupled Faraday Disk Homopolar Dynamos</b>	
<i>I.M. Moroz</i> .....	225
<b>Large-Eddy Simulation Using Projection onto Local Basis Functions</b>	
<i>S.B. Pope</i> .....	239
<b>Low-Dimensional Dynamical Model of a Turbulent Boundary Layer over a Compliant Surface: Preliminary Results</b>	
<i>D. Rempfer, P. Blossey, L. Parsons, and J. Lumley</i> .....	267
<b>Is High Reynolds Number Turbulence Locally Isotropic?</b>	
<i>X. Shen and Z. Warhaft</i> .....	285
<b>Observations and Theories of Langmuir Circulation: A Story of Mixing</b>	
<i>J.A. Smith</i> .....	295
<b>Low-Dimensional Models with Varying Parameters: A Model Problem and Flow Through a Diffuser with Variable Angle</b>	
<i>T. Smith and P. Holmes</i> .....	315
<b>Surfactant Scavenging by Microbubble Clouds: Consequences for Capillary Wave Damping</b>	
<i>A.J. Szeri, R.L. Stefan, and J.R. Saylor</i> .....	337
<b>A Spectral Domain Decomposition Method and Its Application to the Simulation of Shear-Stratified Turbulence</b>	
<i>K.L. Tse, A. Mahalov, B. Nicolaenko, and J. Fernando</i> .....	353
<b>Wing Wake Vortices and Temporal Vortex Pair Instabilities</b>	
<i>C.H.K. Williamson, T. Leweke, and G.D. Miller</i> .....	379
<b>Laboratory Measurements of the Generation of Langmuir Circulations and Surface Waves</b>	
<i>F. Veron and W.K. Melville</i> .....	401