

# Contents

Introduction .....	v
Contributors .....	xi
Application of Stability Theory to Laminar Flow Control —Progress and Requirements	
<i>D.M. Bushnell and M.R. Malik</i> .....	1
On Secondary Instabilities in Boundary Layers	
<i>Ali H. Nayfeh</i> .....	18
Floquet Analysis of Secondary Instability in Shear Flows	
<i>Thorwald Herbert, Fabio P. Bertolotti and German R. Santos</i> ....	43
The Generation of Tollmien–Schlichting Waves by Long Wavelength Free Stream Disturbances	
<i>M.E. Goldstein</i> .....	58
Numerical Experiments on Boundary-Layer Receptivity	
<i>Thomas B. Gatski and Chester E. Grosch</i> .....	82
The Linear Stability of the Incompressible Boundary Layer on an Ellipsoid at Six Degrees Incidence	
<i>S.G. Lekoudis</i> .....	97
Non-Linear Effects and Non-Parallel Flows: The Collapse of Separating Motion	
<i>F.T. Smith</i> .....	104
On Short-Scale Inviscid Instabilities in the Flow Past Surface- Mounted Obstacles	
<i>R.J. Bodonyi and F.T. Smith</i> .....	148
Review of Linear Compressible Stability Theory	
<i>Leslie M. Mack</i> .....	164
Wave Phenomena in a High Reynolds Number Compressible Boundary Layer	
<i>A. Bayliss, L. Maestrello, P. Parikh and E. Turkel</i> .....	188

Instability of Time-Periodic Flows <i>Philip Hall</i> .....	206
Stability Characteristics of Some Oscillatory Flows–Poiseuille, Ekman and Films <i>Christian von Kerczek</i> .....	225
The Stability of the Stokes Layer: Visual Observations and Some Theoretical Considerations <i>P.A. Monkewitz and A. Bunster</i> .....	244
High Frequency Rayleigh Instability of Stokes Layers <i>Stephen J. Cowley</i> .....	261
Ginzburg–Landau Equation: Stability and Bifurcations <i>L. Sirovich and P.K. Newton</i> .....	276
Stability and Resonance in Grooved-Channel Flows <i>Nasreen K. Ghadder and Anthony T. Patera</i> .....	294
Finite Length Taylor Couette Flow <i>C.S. Streett and M.Y. Hussaini</i> .....	312
Vortical Structures in the Breakdown Stage of Transition <i>D.R. Williams</i> .....	335