

Contents

	Page
PREFACE	v
CHAPTER I. Turbulence Sensitivity and Control in Wall Flows Dennis M. Bushnell	1
CHAPTER II. Observations, Theoretical Ideas, and Modeling of Turbulent Flows -- Past, Present, and Future Gary T. Chapman and Murray Tobak	19
CHAPTER III. Large Eddy Simulation: Its Role in Turbulence Research Joel H. Ferziger	51
CHAPTER IV. An Introduction and Overview of Various Theoretical Approaches to Turbulence Jackson R. Herring	73
CHAPTER V. Decimated Amplitude Equations in Turbulence Dynamics Robert H. Kraichnan	91
CHAPTER VI. Flat-Eddy Model for Coherent Structures in Boundary Layer Turbulence Marten T. Landahl	137
CHAPTER VII. Progress and Prospects in Phenomenological Turbulence Models B.E. Launder	155
CHAPTER VIII. Renormalisation Group Methods Applied to the Numerical Simulation of Fluid Turbulence W.D. McComb	187
CHAPTER IX. Statistical Methods in Turbulence A. Pouquet	209

	Page
CHAPTER X. The Structure of Homogeneous Turbulence William C. Reynolds and Moon J. Lee	231
CHAPTER XI. Vortex Dynamics P.G. Saffman	263
CHAPTER XII. Two-Fluid Models of Turbulence D. Brian Spalding	279
CHAPTER XIII. Chaos and Coherent Structures in Fluid Flows E.A. Spiegel	303
CHAPTER XIV. Connection Between Two Classical Approaches to Turbulence: The Conventional Theory and the Attractors R. Temam	337
POSITION PAPERS BY PANEL MEMBERS	
CHAPTER XV. Remarks on Prototypes of Turbulence, Structures in Turbulence and the Role of Chaos Hassan Aref	347
CHAPTER XVI. Subgrid Scale Modeling and Statistical Theories in Three-Dimensional Turbulence Jean-Pierre Chollet	353
CHAPTER XVII. Strange Attractors, Coherent Structures and Statistical Approaches John L. Lumley	359
CHAPTER XVIII. A Note on the Structure of Turbulent Shear Flows Parviz Moin	365
CHAPTER XIX. Lagrangian Modelling for Turbulent Flows S.B. Pope	369