

CONTENTS

ORIGINAL CONTAINS
COLOR ILLUSTRATIONS

Preface	1-0
I. Small Scales	
Overview	3-0
A small-scale turbulence model. T. S LUNDRÉN	5-1
The structure of intense vorticity inhomogeneous isotropic turbulence. J. JIMÉNEZ, A. A. WRAY, P. G. SAFFMAN and R. S. ROGALLO	21-2
On the local nature of the energy cascade. C. MENEVEAU, T. S. LUND and J. CHASNOV	47-3
Search for subgrid scale parameterization by projection pursuit regression. C. MENEVEAU and T. S. LUND	61-4
Triad interactions in the dissipation range. S. KIDA, R. KRAICHNAN, R. ROGALLO, F. WALEFFE and A. WRAY	83-5
A study of the fine scale motions of incompressible time-developing mixing layers. J. SORIA, M. S. CHONG, R. SONDEGAARD, A. E. PERRY and B. J. CANTWELL	101-6
Isotropy of small scale turbulence. R. A. ANTONIA and J. KIM	123-7
LES versus DNS: a comparative study. L. SHTILMAN and J. R. CHASNOV	137-8
II. Turbulence Physics	
Overview	145-0
Behavior of streamwise rib vortices in a three-dimensional mixing layer. J. LOPEZ and J. BULBECK	147-9
Direct simulation of polymer drag reduction in free shear flow and vortex dipoles. P. ORLANDI, G. M. HOMSY and J. AZAIEZ	165-10
Estimation of the vortex length scale and intensity from two-dimensional samples. D. L. REUSS and W. P. CHENG	175-11
III. Compressible Flow and Modeling	
Overview	197-0
Rapid distortion analysis and direct simulation of compressible homogeneous turbulence at finite Mach number. C. CAMBON, G. N. COLEMAN and N. N. MANSOUR	199-12
Investigation of the dilatational dissipation in compressible homogeneous shear flow. G. A. BLAISDELL and O. ZEMAN	231-13

Response of a supersonic boundary layer to a compression corner. D. VANDROMME and O. ZEMAN	247-14
Vortex-induced disturbance field in a compressible shear layer. D. PAMOSCHOU and S. K. LELE	259-15
Evolution of the shock front and turbulence structures in the shock/turbulence interaction. N. KEVLAHAN, K. MAHESH and S. LEE	277-16
A transport equation for eddy viscosity. P. A. DURBIN and Z. YANG	293-17
IV. Reacting Flows and Combustion	
Overview	305-0
DNS and modeling of the interaction between turbulent premixed flames and walls. T. J. POINSOT and D. C. HAWORTH	307-18
The evolution equation for the flame surface density in turbulent premixed combustion. A. TROUVÉ and T. POINSOT	325-19
Numerical simulations of turbulent premixed $H_2/O_2/N_2$ flames with complex chemistry. M. BAUM, T. J. POINSOT and D. C. HAWORTH	345-20
Effect of finite-rate chemistry and unequal Schmidt numbers on turbulent non-premixed flames modeled with single-step chemistry. J. H. CHEN, S. MAHALINGAM, I. K. PURI and L. VERVISCH	367-21
Structure of turbulent non-premixed flames modeled with two-step chemistry. J. H. CHEN, S. MAHALINGAM, I. K. PURI and L. VERVISCH	389-22
Stochastic modeling of turbulent reacting flows. R. O. FOX, F. GAO, R. D. MOSER, M. M. ROGERS, and J. C. HILL	403-23
Panel discussion on computational combustion. J. C. HILL	425-0