

## CONTENTS

<b>Preface</b>	1
Spatially-localized wavelet-based spectral analysis of preferential concentration in particle-laden turbulence. M. BASSENNE, J. URZAY AND P. MOIN	3
A dynamic subgrid-scale model based on differential filters for LES of particle-laden turbulent flows. G. I. PARK, J. URZAY, M. BASSENNE AND P. MOIN	17
Polydisperse particles in an irradiated turbulent gas-particle mixture. M. RAHMANI, G. GERACI, G. IACCARINO AND A. MANI	27
Parallel variable-density particle-laden turbulence simulation. H. POURANSARI, M. MORTAZAVI AND A. MANI	43
On diffuse-interface modeling of high-pressure transcritical fuel sprays. L. JOFRE, J. URZAY, A. MANI AND P. MOIN	55
Regularized deconvolution method for turbulent combustion modeling. Q. WANG AND M. IHME	65
Analytical methods for azimuthal thermo-acoustic modes in annular combustion chambers. M. BAUERHEIM AND T. POINSOT	77
Recent advances in linear methods for sensitivity, passive control and modeling of thermo-acoustic instabilities. L. MAGRI AND M. IHME	89
Large-eddy simulation of fuel effect on lean blow-out in gas turbines. L. ESCLAPEZ, P. C. MA AND M. IHME	103
Large-eddy simulations and turbulent combustion model analysis of a dual-mode scramjet combustor. W. L. CHAN AND M. IHME	115
Linear stability analysis of the onset dynamics of scramjet unstart. I. JANG, P. MOIN AND J. W. NICHOLS	125
Towards modeling boundary layer transition in large-eddy simulations. M. J. P. HACK AND P. MOIN	137

Wall-modeled large-eddy simulation of a separated flow over the NASA wall-mounted hump. G. I. PARK	145
LES-based characterization of a suction and oscillatory blowing fluid actuator. J. KIM, P. MOIN AND A. SEIFERT	157
A multi fidelity control variate approach for the multilevel Monte Carlo technique. G. GERACI, M. ELDRED AND G. IACCARINO	169
Epistemic uncertainty in statistical Markovian turbulence models. A. A. MISHRA, G. IACCARINO AND K. DURAISAMY	183
Stochastic analysis of vortex-induced vibrations of two oscillating cylinders in the proximity-wake interference region. G. GERACI, M. D. DE TULLIO AND G. IACCARINO	197
A scalable geometric multigrid method for non-symmetric linear systems arising from elliptic equations. M. ESMAILY-MOGHADAM, L. JOFRE, G. IACCARINO AND A. MANI	211
Discontinuous Galerkin scheme for turbulent flow simulations. P. C. MA, Y. LV AND M. IHME	225
High-order Eulerian methods for elastic-plastic flow in solids and coupling with fluid flows. N. GHASAS, A. SUBRAMANIAM AND S. K. LELE	237
Computational investigation of empty nose syndrome. T. FLINT, M. ESMAILY-MOGHADAM, A. THAMBOO, N. VELASQUEZ AND P. MOIN	251
<b>Roster</b>	261