OS15: Turbulence: from Fundamentals to Applications

November 7, 2023
EX-1

OS15-1
9:10-9:30

Turbulence Generator for Studying the Vertical Migration of Red Tide Microalgae
Wenhao Niu, Kenji Kikuchi, Takuji Ishikawa (Tohoku University, Japan)

OS15-2
9:30-9:50

Relation between Turbulence in Swirling Flow in a Cylindrical Pipe and The Ranque-Hilsch Effect
Taihei Yamamoto, Yuji Hattori (Tohoku University, Japan)

OS15-3
9:50-10:10

Wall Turbulence Response to Distributed Dynamic Roughness: a DNS Study
Adrian Sescu, Matthew Brockhaus (Mississippi State University, USA), Jonathan Morrison (Imperial College London, UK)

OS15-4
10:10-10:30

Study of Drag Reduction Effect of Polymer Solution based on Measurement of Velocity and Wall Shear Stress
Yu Wang, Yuta Yamamoto, Yoshiyuki Tsuji (Nagoya University, Japan)

OS15-5
10:40-11:20

Fluctuations and the Law-of-the-Wall in Turbulent Flows *(Invited)*
K.R. Sreenivasan (New York University, USA)

OS15-6
11:20-11:40

Convection Velocity Measurement in High Reynolds Number Pipe Flow
Noriyuki Furuichi (National Institute of Advanced Industrial Science and Technology, Japan), Marie Ono (National Institute of Advanced Industrial Science and Technology / Nagoya University, Japan), Yoshiyuki Tsuji (Nagoya University, Japan)

OS15-7
11:40-12:00

Experiments on Structures of Secondary Instability of Streaks in Wall-Bounded Turbulent Shear Flows
Izumi Watanabe, Koki Matsui, Motohiro Shimizu, Kou Morita, Kentaro Kato, Masaharu Matsubara (Shinshu University, Japan)

OS15-8
13:20-13:40

Investigating a Non-local Data-Driven Approach for Wall Modeling in Large Eddy Simulation
Golsa Tabe Jamaat, Yuji Hattori (Tohoku University, Japan)

OS15-9
13:40-14:00

Machine-Learning-Based Sub-Grid Scale Modeling for Coarse-Grid Large-Eddy Simulation
Soju Maejima, Soshi Kawai (Tohoku University, Japan)

OS15-10
14:00-14:20

Wall-modeled LES of Transonic Flow at High Reynolds Number Around a Pitching Airfoil
Hiromichi Sashida, Takumi Aoyama, Shigetaka Kawai, Soshi Kawai (Tohoku University, Japan)

OS15-11
14:20-14:40

Studies on Unsteady turbulence characteristics Associated with the Effect of Vortex Generators on Jet in Cross Flow Using a High Order LES Turbulence Model
Debasish Biswas, Tomohiko Jimbo (Toshiba, Corporate Research and Development Center, Japan)

OS15-12 14:50-15:10	**On the Identification of the Viscous Superlayer in Free-shear Flows** Yuanliang Xie, Weijun Yin, <u>Yi Zhou</u> (Nanjing University of Science and Technology, China)
OS15-13 15:10-15:30	**Inter-scale Transfer of Energy in Turbulent Mixing Layer** <u>Muyang Wang</u>, Takumi Okawa (Nagoya University, Japan), Koji Iwano (Okayama University of Science, Japan), Yasuhiko Sakai (Nagoya Industrial Science Research Institute, Japan), Yasumasa Ito (Nagoya University, Japan)
OS15-14 15:30-15:50	**Turbulence Structure in the Atmospheric Surface Layer over Urban Areas: Wavelet Analysis** <u>Chun-Ho Liu</u>, Yixun Liu (The University of Hong Kong, Hong Kong, China)
OS15-15 15:50-16:10	**Turbulence Structure in the Atmospheric Surface Layer over Urban Areas: Empirical Model Decomposition of Hot-Wire Anemometry Data** Chun-Ho Liu, <u>Fei Li</u>, Ruiqi Wang, Guoliang Chen (The University of Hong Kong, Hong Kong, China), Ziwei Mo (Sun Yat-sen University / Ministry of Education, China)
OS15-16 16:30-16:50	**Examination of the Acoustic Spectrum in the Generalized Acoustic Analogy for Heated Flows - Temperature Coupling Effects vs Direct Enthalpy Flux Generated Noise** Sarah Stirrat (University of Strathclyde, UK), M. Z. A. Koshuriyan (University of York, UK), <u>Adrian Sescu</u> (Mississippi State University, USA)
OS15-17 16:50-17:10	**Evaluation of Noise Generated from Turbulent Boundary Layer on a Flat Plate Using Direct Numerical Simulation** <u>Natsumi Hirao</u>, Makoto Hirota, Yuji Hattori (Tohoku University, Japan)
OS15-18 17:10-17:30	**Combination of Active and Passive Techniques Applied on NACA0015 for Aerospace Applications Regarding Anti-Icing Issues** <u>Hayati Kadir Pazarlıoğlu</u> (ASELSAN Inc., Turkey), Kamil Arslan (Yıldırım Beyazıt University, Turkey), Ahmet Ümit Tepe (Tarsus University, Turkey)
OS15-19 17:30-17:50	**Taylor's Hypothesis in High-order Turbulence Correlations** M. Z. A. Koshuriyan (University of York, UK), Sarah Stirrat (University of Strathclyde, UK), <u>Adrian Sescu</u> (Mississippi State University, USA)