

# JOURNAL OF PROPULSION AND POWER

VOLUME 32, NUMBER 3

MAY-JUNE 2016



## FULL-LENGTH PAPERS

- Effects of Wall-Injection Length on Spray and Combustion in a Coaxial Porous Injector . . . . . D. Kim, K. Lee, J. Koo 533
- Image Analysis of Hydroxyl-Radical Planar Laser-Induced Fluorescence in Turbulent Supersonic Combustion . . . . C. D. McRae, C. T. Johansen, P. M. Danehy, E. C. A. Gallo, L. M. L. Cantu, A. D. Cutler, R. D. Rockwell Jr., C. P. Goynes, J. C. McDaniel 542
- Injector-Driven Combustion Instabilities in a Hydrogen/Oxygen Rocket Combustor . . . . . S. Gröning, J. S. Hardi, D. Suslov, M. Oschwald 560
- Propulsion System Design for a Martian Atmosphere-Breathing Supersonic Retro-propulsion Engine . . . . . K. C. Gonyea, R. D. Braun, A. H. Auslender 574
- Dynamic Characteristics of Open-Type Swirl Injector with Varying Geometry . . . . . Y. Chung, H. Kim, S. Jeong, Y. Yoon 583
- Modeling Vertical-Axis Wind-Turbine Performance: Blade-Element Method Versus Finite Volume Approach . . . . . P. A. Kozak, D. Vallverdú, D. Rempfer 592
- Effect of Self-Recirculation-Casing Treatment on High Pressure Ratio Centrifugal Compressor . . . . . M. Yang, R. Martinez-Botas, Y. Zhang, X. Zheng 602
- Bayesian Network-Based Multiple Sources Information Fusion Mechanism for Gas Path Analysis . . . . . J. Sun, H. Zuo, K. Liang, Z. Chen 611
- Transverse Combustion Instability in a Rectangular Rocket Motor . . . . . P. P. Popov and W. A. Sirignano 620
- Large-Eddy Simulation of High-Frequency Combustion Instability in a Single-Element Atmospheric Combustor . . . . . S. Matsuyama, D. Hori, T. Shimizu, S. Tachibana, S. Yoshida, Y. Mizobuchi 628
- Physics-Based Dynamic Modeling of a Turboshift Engine Driving a Variable Pitch Propeller . . . . . M. Pakmehr, N. Fitzgerald, E. Feron, J. Paduano, A. Behbahani 646
- Semi-Inverse Design Optimization Method for Film-Cooling Arrangement of High-Pressure Turbine Vanes . . . . . Z. Chi, H. Liu, S. Zang 659
- Experimental Study of the Performance of a Rotating Detonation Engine with Nozzle . . . . . M. L. Fotia, F. Schauer, T. Kaemming, J. Hoke 674
- Graphene Oxide/Ammonium Perchlorate Composite Material for Use in Solid Propellants . . . . . N. K. Memon, A. W. McBain, S. F. Son 682
- Quasi-One-Dimensional Model of Scramjet Combustor Coupled with Regenerative Cooling . . . . . D. Zhang, Y. Feng, S. Zhang, J. Qin, K. Cheng, W. Bao, D. Yu 687
- Modeling of Droplet Deformation and Breakup . . . . . C. Rodrigues, J. Barata, A. Silva 698
- Detecting the Onset of an Impending Thermoacoustic Instability Using Complex Networks . . . . . M. Murugesan and R. I. Sujith 707

Table of Contents continued on back cover



## CONTENTS—continued

Effects of Ambient Air Temperature on Gaseous Emissions of Turbofan Engines .....	E. T. Turgut	713
Validation of Conjugate Heat Transfer Model for Rocket Cooling with Supercritical Methane .....	M. Pizzarelli, F. Nasuti, R. Votta, F. Battista	726
Flow and Loss Mechanisms Within an Interturbine Duct .....	X. Lu, H. Ge, J. Zhu	734
Coaxial Jet Flame Subject to Long-Wavelength Acoustic Oscillations .....	W. A. Sirignano and J. Krieg	743
Two-Time-Variable Perturbation Theory for Liquid-Rocket Combustion Instability .....	W. A. Sirignano and J. Krieg	755
Isoconversional Method for Extracting Reaction Kinetics of Aluminized Cyclotrimethylene-Trinitramine for Propulsion .....	Y. Kim, J. J. Yoh, J. Park	777

## TECHNICAL NOTES

Unsteady Rayleigh Flow at Transonic Speeds .....	R. Das and H.-D. Kim	785
Numerical Investigation of Heat and Mass Transfer on an Anti-Icing Inlet Cone .....	J. Zhu, W. Dong, M. Zheng, G. Lei, Q. Zhao	788

LILY

刊碼: N54-0023Z

雜誌名稱: Journal of propulsion and power

ISSN:0748-4658

年代:2016

刊別:BM

VOL.:V.32

NO.3

架號