

JOURNAL OF PROPULSION AND POWER

VOLUME 33, NUMBER 1

JANUARY–FEBRUARY 2017



EDITORIAL

Announcements and Acknowledgments	Joseph M. Powers	1
Editorial Team for 2017		2
Reviewers for October 2015 Through September 2016		11

ANNOUNCEMENT

AIAA Policy Statements and Manuscript Review Process	13
------------------------------------------------------------	----

INTRODUCTION

Introduction: Special Section on Pressure Gain Combustion	16
-----------------------------------------------------------------	----

SURVEY PAPER

Efforts on High-Frequency Pulse Detonation Engines	K. Wang and W. Fan	17
----------------------------------------------------------	--------------------	----

FULL-LENGTH PAPERS

Numerical Investigation of Shrouded Ejector-Enhanced Pulse Combustor Performance at High Pressure	S. Yungster, D. E. Paxson, H. D. Perkins	29
---------------------------------------------------------------------------------------------------------	------------------------------------------	----

Development of High-Frequency Pulse Detonation Combustor Without Purging Material	K. Matsuoka, K. Muto, J. Kasahara, H. Watanabe, A. Matsuo, T. Endo	43
-----------------------------------------------------------------------------------------	--------------------------------------------------------------------	----

The Rayleigh Efficiency of Pressure Gain Combustors	R. J. Blackburn and R. J. Miller	51
-----------------------------------------------------------	----------------------------------	----

Acoustic Analysis of Valveless Pulsejet Engines	D. Maqbool and C. P. Cadou	62
-------------------------------------------------------	----------------------------	----

Excessively Fuel-Rich Conditions for Cold Starting of Liquid-Fuel Pulse Detonation Engines	J.-M. Li, C. J. Teo, P.-H. Chang, L. Li, K. S. Lim, B. C. Khoo	71
--------------------------------------------------------------------------------------------------	----------------------------------------------------------------	----

Experimental Visualization of the Structure of Rotating Detonation Waves in a Disk-Shaped Combustor	S. Nakagami, K. Matsuoka, J. Kasahara, Y. Kumazawa, J. Fujii, A. Matsuo, I. Funaki	80
-----------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------	----

Steady-State Analysis of Rotating Detonation Engine Flowfields with the Method of Characteristics	R. T. Fievisohn and K. H. Yu	89
---------------------------------------------------------------------------------------------------------	------------------------------	----

Front Cellular Structure and Thrust Performance on Hydrogen–Oxygen Rotating Detonation Engine	N. Tsuboi, S. Eto, A. K. Hayashi, T. Kojima	100
-----------------------------------------------------------------------------------------------------	---------------------------------------------	-----

Table of Contents continued on back cover

AIAA

A Publication of the American Institute of Aeronautics and Astronautics Devoted to Aerospace Propulsion and Power
JPPOEL 33(1) 1–304 (2017)
ISSN 0748-4658

CONTENTS—continued

Experimental Study of Pressure Gain Combustion with Hypergolic Rocket Propellants	B. K. Kan, S. D. Heister, D. E. Paxson	112
Unsteady Performance of Rotating Detonation Engines with Different Exhaust Nozzles	J. Braun, B. H. Saracoglu, G. Paniagua	121
Overview of Performance, Application, and Analysis of Rotating Detonation Engine Technologies	B. A. Rankin, M. L. Fotia, A. G. Naples, C. A. Stevens, J. L. Hoke, T. A. Kaemming, S. W. Theuerkauf, F. R. Schauer	131
Flow Rate Measurement Method for Gaseous Fuel Injection for Pulse Detonation Engines	D. D. Joshi and F. K. Lu	144
High-Fidelity Simulations of Pressure-Gain Combustion Devices Based on Detonations	K. Kailasanath and D. A. Schwer	153
Experimental Test, Model Validation, and Viability Assessment of a Wave-Rotor Constant-Volume Combustor	M. R. Nalim, P. H. Snyder, M. Kowalkowski	163
Combustion Dynamics in Postchamber of Hybrid Rocket Using CH* Radical Chemiluminescence Images	G. E. Choi, Y. J. Moon, C. Lee	176
Cavitation Instabilities During the Development Testing of a Liquid Oxygen Pump	D.-J. Kim, H. J. Sung, C.-H. Choi, J.-S. Kim	187
Effect of Azimuthally Nonuniform Heat Release on Longitudinal Combustion Instabilities	L. Li, X. Sun, C. Lioi, V. Yang	193
Hybrid Gas Generator for a Staged Hybrid Rocket Engine	D. Lee and C. Lee	204
Optimization of Blockerless Engine Thrust Reverser	P. Rajput and I. Kalkhoran	213
Influence of the Tip Clearance on a Compressor Blade Aerodynamic Damping	F. M. Besem and R. E. Kielb	227
Optimization of the Array of Film-Cooling Holes on a High-Pressure Turbine Nozzle	S. Lee, K. Yee, D.-H. Rhee	234
Blade-Row Interaction Effects on Unsteady Stator Loading in an Embedded Compressor Stage	N. R. Smith and N. L. Key	248
Diffusion-Flame Ignition by Shock-Wave Impingement on a Hydrogen–Air Supersonic Mixing Layer	C. Huete, A. L. Sánchez, F. A. Williams	256
Three-Dimensional Simulations of Backflows from Ion Thruster Plumes Using Unstructured Grid Refinement	B. Korkut and D. A. Levin	264
Impact of Weld Joint on Compressor Blade Performance	M. Mesbah, P. Geuzaine, T. Arts, J. F. Simon	276
Code-Validation Scalar Measurements in High-Pressure Hydrogen-Added Methane Combustion	J. J. Kojima, D. G. Fischer, J.-Y. Chen	285

LILY

刊號: N54-0023A

雜誌名稱: Journal of propulsion and power

ISSN.0748-4658 年代:2017
VOL.V33 NO.1

刊別:BM

總編號:
1-306