



*International journal of spray
and combustion dynamics*

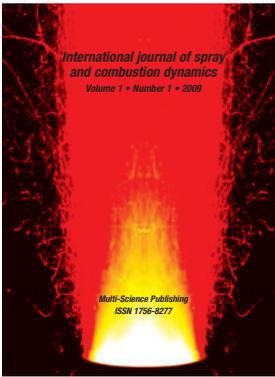
Editor-in-Chief: Dr. R. I Sujith

ISSN 1756-8277

Multi-Science Publishing Co. Ltd.
serving science & technology since 1961

5 Wates Way, Brentwood, Essex CM15 9TB, UK · Tel: +44(0)1277 224632 · Fax: +44(0)1277 223453

E-mail: info@multi-science.co.uk · Website: www.multi-science.co.uk



International Journal of Spray and Combustion Dynamics

Editor-in-Chief: Dr. R. I Sujith

Professor, Department of Aerospace Engineering, IIT Madras, Chennai 600036, India

ISSN Number: 1756-8277 • Published quarterly

Subscription rates:

£257 (print + on-line)

£236 (print only)

£215 (online only)

Combustion dynamics is a growing area that has received fresh emphasis due to advances in energy efficient and low emission combustion systems for ground-based as well as aerospace power plants. The occurrence of thermo-acoustic instabilities, popularly known as combustion instabilities, has been a plaguing problem in the development of combustors for rockets, jet engines, power generating gas turbines and process or domestic heaters. Significant advances in understanding and controlling combustion instability is critical for pushing the operating envelope of the existing installations, and in avoiding delays and cost overruns in development programmes. Understanding and reducing combustion noise has been a priority in recent times, in an effort towards reducing noise pollution from power plants. Low emission combustors are prone to combustion instabilities and flame blow out. Rapid developments in pulse detonation engines are fuelling research in the area of detonation. Pulse combustors are used to improve the efficiency of energy intensive processes, by taking advantage of the increased mass, momentum and energy transport in the presence of high intensity acoustic fields. Liquid fuels are often used in combustors; therefore, combustion dynamics is often closely related to droplet and spray dynamics and atomization.

The topic is, of course, not new. However, it has been the case that published research on combustion dynamics has been scattered among numerous journals and conference proceedings, not all of them readily accessible. It is in order to draw this work together in one publication, and to reflect the growing importance of the subject, that the International Journal of Spray and Combustion Dynamics is being established.

The International Journal of Spray and Combustion Dynamics will publish developments covering fundamental and applied research in combustion and spray dynamics. Fundamental topics include advances in understanding unsteady combustion, combustion instability and noise, flame-acoustic interaction and its active and passive control, duct acoustics, blow out and flash back, deflagration and detonations, droplet and spray dynamics and combustion, atomisation, droplet and spray-acoustic interactions,. Applied topics include all aspects of combustion instabilities in solid and liquid rocket motors and gas turbine combustors, combustion noise, pulse detonation engines, active control of combustion instabilities and active control of sprays. As well as original contributions, state of the art reviews and surveys will be published.

Subtopics include, among others, experimental diagnostics of combustion dynamics, computational combustion including RANS and LES for the study of combustion dynamics, unsteady fluid mechanics, mixing, system identification and low order modelling of dynamic phenomena, role of coherent structures in combustion dynamics, flame response measurements and calculation, non-normality and nonlinearity in flame acoustic interaction, analytical acoustics, liquid sheet break-up and stability, active control of sprays, experimental diagnostics of sprays, modelling of spray break-up phenomena, two phase flow modelling and spray and droplet combustion.

Editorial Board Members:

Alain Berlemont, France (Coria)
M. J. Brear, Australia (U Melbourne)
Prof. Derek Dunn-Rankin (University of California)
A. K. Gupta, USA (U. Maryland)
Y. Hardalupas, UK (Imperial College)
K. Kailasanath, USA (Naval Research Lab)
J. B. W. Kok, The Netherlands (U. Twente)
Prof. C. J. Lawn (Queen Mary College, University of London)
T. Lieuwen, USA (Georgia Tech)
F. Nicoud, France (Montpellier)
J. Park, Korea (Pukyong National University)
W. Polifke, Germany (TU Munich)
B. Schuermans, Switzerland (Alstom)
C. Willert, Germany (DLR Köln)
Prof. Vladimir E. Zarko, Russia (ICKC)

Papers to be published in early issues of the journal

3-Dimensional structure of the intact liquid jet core during coaxial air-blast atomisation

G. Charalampous, Y. Hardalupas and A.M.K.P. Taylor, Imperial College London, UK

Vortex rollup phase jitter in acoustically excited bluff body flames

Santosh Shanbogue, Michael Seelhorst, Tim Lieuwen, Georgia Institute of Technology, Atlanta, USA

Thermo-acoustic and combustion acoustic experiments applying acoustic PIV, fibre-optical microphones and filtered rayleigh scattering

I. Roehle, H. Konle, A. Rausch, A. Fischer, DLR Berlin, Germany

Subcritical and supercritical droplet evaporation within a zero gravity environment

Hongtao Zhang, Vasudevan Raghavan and George Gogos, University of Nebraska-Lincoln, USA

Modeling transient turbulent combustion and noise with the use of a reaction progress variable approach

Jim B.W. Kok and Marc Woolderink, University of Twente, The Netherlands

Experimental and theoretical investigations in combustion instability: focus on flame dynamics

S. R. Chakravarthy, Indian Institute of Technology Madras, Chennai, India

Testing premixed turbulent combustion models by studying flame dynamics

Andrei N. Lipatnikov, Chalmers University of Technology, Gothenburg, Sweden

Techniques for axial combustion instability suppression in solid rocket motors

David R. Greatrix, Ryerson University, Toronto, Ontario, Canada

Linear Eddy Model for Large Eddy Simulation: Formulation & Applications

Vaidyanathan Sankaran¹ and Suresh Menon², ¹Sandia National Laboratories, Livermore, California, USA, ²Georgia Institute of Technology, Atlanta, USA

Thermoacoustic instability modeling and identification at various operating conditions

André S.P. Niederberger¹, Bruno B.H. Schuermans², and Lino Guzzella¹, ¹Measurement and Control Laboratory, ETH Zurich, Switzerland, ²ALSTOM (Switzerland) Ltd.

Investigation of evaporating sprays in strong acoustic fields

R. Kumara Gurubaran and R. I. Sujith, Indian Institute of Technology Madras, Chennai, India

Papers to be published in early issues of the journal continued

About the stationary mean flow assumption in the calculation of thermoacoustic instabilities

F. Nicoud¹ and K. Wieczorek^{1,2}, ¹University Montpellier, Montpellier, France, ²CERFACS Toulouse, France.

Identification of Practical Premixed Flame Dynamics by Transient CFD and Correlation Analysis, Part I: Theory and Proof of Concept

Identification of Practical Premixed Flame Dynamics by Transient CFD and Correlation Analysis, Part II: Application to Turbulent Swirl Burner and Physical Interpretation of Results

Andreas Huber and Wolfgang Polifke, Technical University of Munich, Germany

Order form

Order details:

I wish to subscribe to **International Journal of Spray and Combustion Dynamics**

Please choose one of these options:

£257 (print + on-line)/ £236 (print only)/ £215 (online only)

Payment details:

Please invoice me/us: yes/no [delete as necessary]

Please charge to my credit card (Visa/Master card only): yes/no [delete as necessary]

Number:

Expiry date:

Cardholder name:

Your details:

Name:

Organisation:

E-mail:

Full postal address:

.....

.....

.....

.....

.....

Send to: **Multi-Science Publishing Co. Ltd., 5 Wates Way, Brentwood, Essex CM15 9TB, UK**
alternatively fax: **+44(0)1277 223453** or e-mail: **info@multi-science.co.uk**