

## Articles acceptés

- [1] D. Laera, P.W. Agostinelli, L. Selle, G. Oztarlik, **T. Schuller**, L.Y.M. Gicquel and T. Poinsot (2020). *Stabilization mechanisms of CH<sub>4</sub> premixed swirled flame enriched with a non-premixed hydrogen injection*. Accepted for an oral presentation at the International Symposium on Combustion, Adelaide, Australia, 2020.
- [2] A. Degenève, R. Viquelin, C. Mirat, J. Caudal and **T. Schuller** (2020). *Impact of co- and counter-swirl on flow recirculation and liftoff in oxy-flames above a coaxial injector*. Accepted for an oral presentation at the International Symposium on Combustion, Adelaide, Australia, 2020.
- [3] **T. Schuller**, T. Poinsot and S. Candel (2020). *Dynamics and control of premixed combustion systems based on flame transfer and describing functions*. Journal of Fluid Mechanics, in press.
- [4] F. Dupuy, M. Gatti, C. Mirat, L.Y.M. Gicquel, F. Nicoud and **T. Schuller** (2020). *Combining analytical models and LES data to determine the transfer function from swirled premixed flames*. Combustion and Flame, in press.

## Articles dans des revues internationales avec comité de lecture

- [5] G. Vignat, D. Durox, **T. Schuller** and S. Candel (2020). *Combustion dynamics of annular systems*. Combustion Science and Technology, DOI: 10.1080/00102202.2020.1734583.
- [6] G. Oztarlik, L. Selle, T. Poinsot and **T. Schuller** (2020). *Suppression of instabilities of swirled premixed flames with minimal secondary hydrogen injection*. Combustion and Flame, 214:266–276.
- [7] A. Degenève, C. Mirat, J. Caudal, R. Vicquelin and **T. Schuller** (2019). *Effects of swirl on the stabilization of non-premixed oxygen enriched flames above coaxial injectors*. Journal of Engineering for Gas Turbines and Power, 141:121018 (9 pages).
- [8] R. Gaudron, M. Gatti, C. Mirat and **T. Schuller** (2019). *Impact of the acoustic forcing level on the transfer matrix of a swirling injector with and without flame*. Flow, Turbulence and Combustion, 103: 751–771.
- [9] L. Hirschberg, J.S. Hulshoff, J. Collinet, C. Schram and **T. Schuller** (2019). *Influence of nozzle cavity on indirect vortex- and entropy-sound production*. AIAA Journal, 57:3100–3103.
- [10] A. Genot, S. Gallier and **T. Schuller** (2019). *Model for acoustic induced aluminum combustion fluctuations in solid rocket motors*. Journal of Propulsion and Power, 35:720–735.
- [11] A. Chatelier, T.F. Guiberti, R. Mercier, N. Bertier, B. Fiorina and **T. Schuller** (2019). *Experimental and numerical investigation of the response of a swirled flame to flow modulations in a non-adiabatic combustor*. Flow, Turbulence and Combustion, 102:995–1023.
- [12] Y. Ding, D. Durox, N. Darabiha and **T. Schuller** (2019). *Combustion state monitoring of premixed heating appliances with flame ionization current and chemiluminescence*. Combustion Science and Technology, 191:382–401.

- [13] Y. Ding, D. Durox, N. Darabiha and **T. Schuller** (2019). *Chemiluminescence of burner-stabilized premixed laminar flames*. Combustion Science and Technology, 191:18–42.
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- [17] A. Degenève, R. Vicquelin, C Mirat, B. Labegorre, P. Jourdain, J. Caudal and **T. Schuller** (2019). *Scaling relations for the length of coaxial oxy-flames with and without swirl*. Proceedings of the Combustion Institute, 37:4563–4570.
- [18] J.P. Moeck, D. Durox, **T. Schuller** and S. Candel (2019). *Nonlinear thermoacoustic mode synchronization in annular combustors*. Proceedings of the Combustion Institute, 37:5343–5350.
- [19] R. Gaudron, M. Gatti, C. Mirat and **T. Schuller** (2019). *Flame describing functions in a confined premixed swirled combustor with upstream and downstream acoustic forcing*. Journal of Engineering for Gas Turbines and Power, 141:051016 (9 pages)
- [20] Y. Ding, D. Durox, N. Darabiha and **T. Schuller** (2019). *Chemiluminescence based operating point control of domestic gas boilers with variable natural gas composition*. Applied Thermal Engineering, 149:1052–1060.
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- [26] P. Jourdain, C. Mirat, J. Caudal and **T. Schuller** (2018). *Stabilization mechanisms of swirling premixed flames with an axial-plus-tangential swirler*. Journal of Engineering for Gas Turbines and Power, 140:081502 (9 pages).
- [27] M. Merk, W. Polifke, R. Gaudron, M. Gatti, C. Mirat and **T. Schuller** (2018). *Measurement and Simulation of Combustion Noise and Dynamics of a Confined Swirl Flame* AIAA Journal, 56:1930–1942.

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- [34] W. Tao, **T. Schuller**, M. Huet and F. Richecoeur (2017). *Experimental methodology for entropy/acoustic noise separation in compact nozzles*. Journal of Sound and Vibration, 394:237–255.
- [35] K. Prieur, D. Durox, J. Beaunier, **T. Schuller** and S. Candel (2017). *Ignition dynamics in an annular combustor for liquid spray and premixed gaseous injection*. Proceedings of the Combustion Institute, 36:3717–3724.
- [36] D. Larea, K. Prieur, D. Durox, **T. Schuller**, S.M. Camporeale and S. Candel (2017). *Impact of heat release distribution on the spinning modes of an annular combustor with multiple matrix burners*. Journal of Engineering for Gas Turbines and Power, 139:051505 (10 pages).
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- [39] M. Blanchard, P.J. Schmid, D. Sipp and **T. Schuller** (2016). *Pressure wave generation from perturbed premixed flames*. Journal of Fluid Mechanics, 797:231–246.
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### Congrès internationaux avec acte et comité de lecture sur texte complet

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- [206] R. Gaudron, M. Gatti, C. Mirat and **T. Schuller** (2017). *Modeling and measurements of the transfer matrix of a swirling injector with and without flame for increasing forcing levels*, 4ème Colloque INCA 18 et 19 octobre 2017, Safran, Paris Saclay.
- [207] K. Prieur, G. Vignat, D. Durox, **T. Schuller** and S. Candel (2017). *Experimental determinations of Flame Describing Functions of swirling spray flames*, 4ème Colloque INCA 18 et 19 octobre 2017, Safran, Paris Saclay.
- [208] P. Jourdain, C. Mirat, A. Lo, J. Caudal et **T. Schuller** (2016). *Stabilisation d'Oxy-flammes CH<sub>4</sub>/O<sub>2</sub> Diluées au CO<sub>2</sub>* 16ème Congrès Francophone de Techniques Laser, CFTL 2016, 13-16 Septembre 2016, Toulouse, France.



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- [213] C. Mirat, **T. Schuller** et D. Durox (2012). *Analyse du spray d'un injecteur générique de fioul assisté par de la vapeur.* 13ème Congrès Francophone de Techniques Laser, CFTL 2012, 18-21 Septembre 2012, Rouen, France.
- [214] **T. Schuller**, J. Li, F. Richecoeur et D. Durox (2012). *Reconstruction de fluctuations du taux de dégagement de chaleur à partir de mesures interférométriques.* 13ème Congrès Francophone de Techniques Laser, CFTL 2012, 18-21 Septembre 2012, Rouen, France.
- [215] F. Boudy, **T. Schuller**, D. Durox and S. Candel (2011). *Thermo-Acoustic limit cycle destabilization triggered by interaction with acoustic boundary* JAUM2012, Journées AUM/AFM "Instabilités dans les écoulement. Couplage avec les structures", Rouen, France, 29 au 31 août 2012.
- [216] J.-F. Bourgoïn, J.P. Moeck, D. Durox, **T. Schuller** and S. Candel (2011). *Impact of a swirler geometry modification on the mean flow field and the precessing vortex core.* 3<sup>ème</sup> Colloque INCA, Toulouse, France, 17 et 18 novembre 2011.
- [217] J.P. Moeck, J.-F. Bourgoïn, D. Durox, **T. Schuller** and S. Candel (2011). *Reconstruction of PVC-induced heat release rate perturbations from side-view imaging.* 3<sup>ème</sup> Colloque INCA, Toulouse, 17 et 18 novembre 2011.
- [218] F. Richecoeur, **T. Schuller**, A. Lamraoui and S. Ducruix (2011). *Analytical and experimental investigations of a swirled burner acoustics featuring upstream perforates.* 3<sup>ème</sup> Colloque INCA, Toulouse, 17 et 18 novembre 2011.
- [219] F. Boudy, D. Durox, **T. Schuller** and S. Candel (2011). *Unstable limit cycles featuring frequency heterodyning and nonlinear describing function analysis.* 3<sup>ème</sup> Colloque INCA, Toulouse, 17 et 18 novembre 2011.
- [220] A. Scarpato, S. Ducruix and **T. Schuller** (2011). *A comparison of the damping properties of perforated plates backed by a cavity operating at low and high Strouhal numbers.* 3<sup>ème</sup> Colloque INCA, Toulouse, 17 et 18 novembre 2011.
- [221] A. Cuquel, D. Durox and **T. Schuller** (2011). *Impact of flame base dynamics on the nonlinear frequency response of conical flames.* 3<sup>ème</sup> Colloque INCA, Toulouse, 17 et 18 novembre 2011.

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- [223] F. Giuliani, T. Leitgeb, D. Durox et **T. Schuller** (2010). *Analyse des variations de densité dans une flamme de référence soumise à une excitation acoustique*. Congrès Francophone de Techniques Laser, CFTL 2010, Vandoeuvre-lès-Nancy, France, 14 - 17 septembre, 2010.
- [224] P. Duchaine, D. Lacoste, **T. Schuller** et L. Zimmer (2010). *Caractérisation de l'interaction d'un jet modulé et d'un spray dilué par imagerie Mie et LIF*. Congrès Francophone de Techniques Laser, CFTL 2010, Vandoeuvre-lès-Nancy, France, 14 - 17 septembre, 2010.
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- [226] N. Noiray, D. Durox, **T. Schuller** et S. Candel (2006). *Dynamique de flammes laminaires et couplage acoustique-combustion*. Congrès Francophone de Techniques Laser, CFTL 2006, Toulouse, France, 19 - 22 septembre, 2006.
- [227] D. Durox, A.-L. Birbaud, **T. Schuller** et S. Candel (2004). *Dynamique de l'écoulement dans les flammes oscillantes prémélangées*. Neuvième Congrès Francophone de Vélocimétrie Laser, Bruxelles, Belgium, 14-17 septembre 2004.
- [228] A.-L. Birbaud, D. Durox, **T. Schuller** and S. Candel (2004). *Combustion dynamics of premixed inverted conical swirling flames*. Lean Combustion Technology II : promise and practice, Tomar, Portugal, April 25-29, 2004.

## Conférences invitées et cours

- [229] **T. Schuller**, Instabilités de combustion: mécanismes de couplage et progrès récents, 15ème Ecole de Combustion, Saint Dié des Vosges, 2-9 juin 2018.
- [230] S. Candel, D. Durox and **T. Schuller** *Ten lectures on Combustion Dynamics*, 2016 Combustion Summer School, Princeton, USA, June 2016.
- [231] **T. Schuller**, D. Durox and S. Candel (2014) *Instabilités de combustion*, Cours à la 14ème Ecole de Combustion, Orléans, France, 2-8 juin 2016.
- [232] S. Candel, D. Durox and **T. Schuller** *Ten lectures on Combustion Dynamics*, Tsinghua-Princeton Summer School, Beijing, China, July 2015.
- [233] **T. Schuller**, D. Durox and S. Candel *Six lectures on Combustion Dynamics*, 21th CISM-IUTAM International Summer School on Measurement, Analysis and Passive Control of Thermoacoustic Oscillations, Udine, Italia, Mai 2015.
- [234] **T. Schuller**, D. Durox and S. Candel (2014) *Analysis of angular shift between plenum and chamber azimuthal unstable modes: experiments and theory*, Advances in the mathematical modeling of combustion instability, Imperial College London, UK, 4-5th September 2014.
- [235] **T. Schuller**, D. Durox, J.-F. Bourgouin and S. Candel (2014) *Instabilités de combustion, un frein au développement de foyers à hautes performances*, Journée du groupe thématique transverse AUM, "Le pluridisciplinaire au service des technologies", Cachan, France, 27-29 août 2014.

- [236] **T. Schuller**, D. Durox and S. Candel *Instabilités de combustion*, Cours à la 14ème Ecole de Combustion, Orléans, France, 2-8 juin 2014.
- [237] **T. Schuller**, D. Durox and S. Candel (2014) *Key mechanisms controlling the response of premixed flames to flow disturbances*, Chair of Fluid Mechanics, TU Berlin, Germany, February 25, 2014.
- [238] **T. Schuller**, D. Durox, S. Candel (2013). *Noise and combustion instabilities generated by flame interactions*, Institute of Aerodynamics and Chair of Fluid Mechanics, Aachen, Germany, July 11, 2013
- [239] **T. Schuller**, D. Durox, S. Candel (2013). *Noise and combustion instabilities generated by flame interactions*, Institute of Aerodynamics and Chair of Fluid Mechanics, Aachen, Germany, July 11, 2013
- [240] S. Candel, D. Durox, **T. Schuller**, J.-F. Bourgoïn and J.P. Moeck (2013). *Progress in swirling flames and annular combustor dynamics*. European Combustion Meeting 2013, Lund University, Sweden, June 25-28, 2013.
- [241] S. Candel, P. Palies, D. Durox, **T. Schuller**, J.F. Bourgoïn and J.P. Moeck and (2012) *Challenges in swirling flame dynamics* Paul Clavin 70th Anniversary, France, June 13, 2012.
- [242] S. Candel, D. Durox, **T. Schuller**, N. Darabiha, L. Hakim and D. Darabiha (2012) *Advances in combustion and propulsion applications*. One-Hundred-Year Anniversary of the Institute of Aerodynamics, RWTH Aachen University Aachen, Germany, June 15, 2012.
- [243] **T. Schuller**, D. Durox and S. Candel (2012) *Dynamique de flamme et analyse de la stabilité des foyers de combustion*. Cours à la 13ème Ecole de Combustion, Ambleteuse, France, 8-13 juin 2012.
- [244] S. Candel, P. Palies, D. Durox and **T. Schuller** (2012) *Combustion dynamics of swirling flames*. Invited conference, Ecole Polytechnique Fédérale de Lausanne, 27 mars 2012.
- [245] **T. Schuller**, D. Durox, A. Cuquel, P. Palies, J.P. Moeck and S. Candel (2012) *Modeling the response of premixed flame transfer functions - Key elements and experimental proofs*. Invited conference, AIAA 2012-0985, 50<sup>th</sup> AIAA Aerospace Sciences Meeting including the New Horizons Forum and Aerospace Exposition, Nashville, Tennessee, 9 - 12 Jan 2012.
- [246] F. Richecoeur, J. Li and **T. Schuller** (2010). *Utilisation de méthodes acoustiques pour sonder les écoulements réactifs*. Conférence invitée, 28ème Journée Thématique de l'AFVL, "Les techniques laser en milieux réactifs" , Meudon, France, 18 novembre, 2010.
- [247] **T. Schuller**, D. Durox, F. Boudy, P. Palies and S. Candel (2010). *Flame dynamics modeling based on G-equation*. Invited lecture, VKI Lecture Series "Advances in Aero-acoustics & Thermo-acoustics", Von Karman Institute, Belgium, November 15-19, 2010.
- [248] **T. Schuller**, D. Durox, F. Boudy, and S. Candel (2010). *Combustion instability analysis based on Flame Describing Function*. Invited lecture, VKI Lecture Series "Advances in Aero-acoustics & Thermo-acoustics", Von Karman Institute, Belgium, November 15-19, 2010.
- [249] **T. Schuller**, D. Durox, F. Boudy, P. Palies and S. Candel (2010). *Linear and nonlinear combustion dynamics analysis and stability prediction*. Invited lecture, Int'l Summer School & Workshop on Non-Normal and Nonlinear Effects in Aero- and Thermoacoustics, Technische Universität München, Germany, May 17-20, 2010.

- [250] **T. Schuller**, N. Tran, N. Noiray, D. Durox, F. Boudy and S. Candel (2010). *Analyse du rôle des conditions aux limites acoustiques non linéaires dans les instabilités de combustion*. Conférence invitée, Colloque "Le non-linéaire, une clé des énergies de demain ?", 13ème Rencontre du non-linéaire, Institut Henri Poincaré, Paris, France, 10-12 mars 2010.
- [251] S. Candel, D. Durox, S. Ducruix, A.-L. Birbaud, N. Noiray and **T. Schuller** (2007). *Flame dynamics and combustion noise: progress and challenges*. Invited lecture, 11th CEAS-ASC Workshop & 2nd Scientific Workshop of X3 - NOISE, Experimental and Numerical Analysis and Prediction of Combustion Noise, Lisbon, Portugal, September 27-28, 2007.
- [252] S. Candel, S. Ducruix, **T. Schuller**, D. Durox and F. Lacas (2004). *Dynamics and control of combustion*. Invited conference, Trente-Neuvième Colloque d'Aérodynamique Appliquée : Contrôle des Écoulements, Paris, France, 22-24 mars 2004.
- [253] S. Candel, S. Ducruix, **T. Schuller**, D. Durox and F. Lacas (2004). *Dynamical processes in active control of combustion instabilities*. Invited conference, Fifth Symposium on Smart Control of Turbulence, Tokyo, Japan, February 29 - March 2, 2004.

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- [254] J. Li, F. Richecoeur, **T. Schuller** (2011). *Development of an acoustic diagnostic for determination of heat release rate perturbations in pulsated flames*, Mécanique & industries, 12(3):157-162.
- [255] **T. Schuller**, N. Tran, N. Noiray, D. Durox, F. Boudy and S. Candel (2010). *Analyse du rôle des conditions aux limites acoustiques non linéaires dans les instabilités de combustion*, Comptes-rendus de la 13ème Rencontre du Non-Linéaire, Paris 2010, édité par C. Josserand, M. Lefranc, & C. Letellier, Institut Henri Poincaré, Non-Linéaire Publications. ISBN 2-9516773-9-1.
- [256] R. Kaess, W. Polifke, T. Poinso, N. Noiray, D. Durox, **T. Schuller** and S. Candel (2008). *Mapping the thermo-acoustic stability of a laminar premix perforated-plate burner from CFD data*. Proceedings of the summer program 2008, Center for Turbulence Research, Stanford, USA, 2008.
- [257] A. Lamraoui, F. Richecoeur, **T. Schuller** and S. Ducruix (2008). *Influence des conditions aux limites acoustiques sur le bruit de combustion en configuration confinée*. Acoustique & Techniques, no. 54-55, pp. 65–70. ISSN 1263-8072.

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- [258] S. Ducruix, **T. Schuller**, D. Durox and S. Candel (2010). *Control of acoustically coupled combustion instabilities*, chapter 16 in "Handbook of Combustion Vol 5: New Technologies" edited by M. Leitner, F. Winter and A.K. Agarwal, Wiley-VCH Verlag GmbH & Co. KGAA, Weinheim.
- [259] S. Candel, D. Durox and **T. Schuller** (2009). *Perturbed flame dynamics and thermo-acoustic instability*, chapter 5.2 in "Combustion Phenomena : Selected Mechanisms of Flame Formation, Propagation, and Extinction", edited by J. Jaronski and B. Veysiere, Taylor and Francis, 2009, pp. 80–93. ISBN 978-0-8493-8408-0.

- [260] S. Ducruix, **T. Schuller**, D. Durox and S. Candel (2005). *Combustion Instability Mechanisms in Premixed Combustors*, chapter 9 in "Combustion Instabilities in Gas Turbines Engines: Operational Experience, Fundamental Mechanisms, and Modeling". Part III: Fundamental Processes and Mechanisms, Vol. 210, Progress in Astronautics and Aeronautics, 2005, pp. 179–206.
- [261] **T. Schuller**, D. Durox, S. Candel (2005). *Combustion oscillations sustained by mutual flame interactions*, chapter 12 in "Advances in Combustion and Noise Control", edited by G.D. Roy, K.H. Yu, J.H. Whitelaw, J.J. Witton, Cranfield University Press, 2005, pp. 201–210. ISBN 1-871315-92-1.
- [262] S. Candel, S. Ducruix, **T. Schuller**, D. Durox (2003). *Dynamics and control of flames interacting with pressure waves*, Vol. 85 of Notes on Numerical Fluid Mechanics and Multidisciplinary Design, Coupling of Fluids, Structures and Waves in Aeronautics, Proceedings, 2003, pp. 24–37.