

Jérôme ANTHOINE

PUBLICATIONS

Editors

ECS'2001 – Proceedings of the 4th European Coating Symposium. Advances in Coating Processes, edited by **Buchlin, J.-M. & Anthoine, J.**, ULB & VKI, Brussels, Belgium, 312 pgs, ISBN 2-9600243-7-0

VKI LS 2001-02, Advances in Aeroacoustics, March 12-16, 2001 edited by **Anthoine, J. & Schram, C.**, von Karman Institute, Rhode-St-Genèse, Belgium

VKI LS 2000-02, Noise in Turbomachines, February 14-17, 2002, edited by **Breugelmans, F.A.E. & Anthoine, J.**, von Karman Institute, Rhode-St-Genèse, Belgium

Internal Aerodynamics in Solid Rocket Propulsion, May 27-31, 2002, edited by **Kuentzmann, P. & Anthoine, J.**, RTO/AVT/VKI

Journals

Anthoine J., “Aeroacoustics of the Ariane 5 satellite launcher”, *NAG Journal*, No 177, November 2005, pp 1-10

Koloszar L.E., Rambaud P., Anthoine J., “Airfoil noise in a turbulent jet”, *Fluent News*, Vol. XIV, N°3, Fall 2005, pp 34-35

Schram C., Taubitz S., Anthoine J., Hirschberg A., “Theoretical/empirical prediction and measurement of the sound produced by vortex pairing in a low Mach number jet”, *Journal of Sound and Vibration*, Vol. 281, N°1-2, March 2005, pp 171-187

Anthoine J., Buchlin J.-M., Hirschberg A., Reply by the Authors to H. Wong's Comment on “Effect of Nozzle Cavity on Resonance in Large SRM: Theoretical Modelling”, *Journal of Propulsion and Power*, Vol. 20, N°6, November-December 2004, pp 1134-1135

Anthoine J., Buchlin J.-M., Guéry J.-F., “Effect of nozzle cavity on resonance in large SRM: numerical simulations”, *Journal of Propulsion and Power*, Vol. 19, No 3, May-June 2003, pp 374-384

Anthoine J., Mettenleiter M., Repellin O., Buchlin J.-M., Candel S., “Influence of adaptive control on vortex-driven instabilities in a scaled model of solid propellant motors”, *Journal of Sound and Vibration*, Vol. 262, Issue 5, 15 May 2003, pp 1009-1046

Anthoine J., Buchlin J.-M. & Hirschberg A., “Effect of Nozzle Cavity on Resonance in Large SRM: Theoretical Modeling”, *Journal of Propulsion and Power*, Vol. 18, No. 2, March-April 2002, pp. 304-311.

Anthoine J., Mettenleiter M., Repellin O., Buchlin J.-M. & Candel S., "Influence of Adaptive Control on Vortex Driven Instabilities in a Scaled Model of Solid Propellant Motors", *Journal of Sound and Vibration*, Vol. 262, Issue 5, 15 May 2003, pp. 1009-1046, [doi:10.1016/S0022-460X\(02\)01034-9](https://doi.org/10.1016/S0022-460X(02)01034-9).

Anthoine J., Buchlin J.-M. & Guéry J.-F., "Effect of Nozzle Cavity on Resonance in Large SRM: Numerical Simulation", *Journal of Propulsion and Power*, Vol. 19, No. 3, May-June 2003.

Thesis and Project Reports

Anthoine, J., “Experimental and Numerical Study of Aeroacoustic Phenomena in Large Solid Propellant Boosters - with application to the Ariane 5 solid rocket motor, Ph. D. Thesis, Université Libre de Bruxelles & von Karman Institute for Fluid Dynamics, October 2000, 237 pgs. ISBN 2-9600243-5-4. Copies available on request to anthoine@vki.ac.be.

Anthoine J., "Annular Jet Wiping" VKI PR 1996-02, June 1996.

AIAA Papers

Tóth B., Lema M.R., Anthoine J., Steelant J., “Assessment of slag Accumulation in Solid Rocket Boosters: Part II, Two-phase flow experiments”, *42nd AIAA/ASME/SAE/ASEE Joint Propulsion Conference & Exhibit*, Sacramento (CA), USA, July 9-12, 2006, Paper AIAA 2006-4430

Lema M.R., Rambaud P., Anthoine J., Steelant J., “Assessment of slag Accumulation in Solid Rocket Boosters: Part III, Two-phase flow CFD”, *42nd AIAA/ASME/SAE/ASEE Joint Propulsion Conference & Exhibit*, Sacramento (CA), USA, July 9-12, 2006, [Paper AIAA 2006-4431](#)

Schram C., Anthoine J., Hirschberg A., “of Sound Scattering Using Curle’s Analogy for Non-Compact Bodies”, *11th AIAA/CEAS Aeroacoustics Conference*, Monterey, California, USA, May 23–25, 2005, [Paper AIAA 2005-2836](#)

Tóth B., Lema M.R., Steelant J., Anthoine J., Rambaud P., “Assessment of Slag Accumulation in Solid Rocket Boosters: Part I, Single-phase”, *41st AIAA/ASME/SAE/ASEE, Joint Propulsion Conference & Exhibit*, July 10–13, 2005, Tucson (AZ), USA, [Paper AIAA 2005-4489](#)

Anthoine, J., “Experimental Study of the Passive Control of the Pressure Oscillations and of the Inhibitor Flexibility in Large SRM”, *39th AIAA/ASME/SAE/ASEE Joint Propulsion Conference*, Huntsville, Alabama, July 20-23, 2003, [Paper AIAA-2003-4671](#).

Cosyn, P., Vierendeels, J. and Anthoine, J., “A Numerical Simulation of Aeroacoustic Phenomena in a Solid Rocket Booster”, *16th AIAA Computational Fluid Dynamics Conference*, Orlando, Florida, June 23-26, 2003, [Paper AIAA-2003-3874](#).

Yildiz, D., Anthoine, J. & Buchlin, J-M., “Influence of Radial Injected Flow on the Aeroacoustic Coupling in Solid Propellant Boosters”, *7th AIAA/CEAS Aeroacoustics Conference*, Maastricht, The Netherlands, May 28-30, 2001, [Paper AIAA-2001-2101](#).

Anthoine, J., Buchlin, J-M. & Hirschberg, A., “Theoretical Modelling of the Effect of the Nozzle Cavity Volume on the Resonance Level in Large Solid Rocket Motors”, *7th AIAA/CEAS Aeroacoustics Conference*, Maastricht, The Netherlands, May 28-30, 2001, [Paper AIAA-2001-2102](#).

Anthoine J., Buchlin J-M. & Guéry J-F., "Experimental and Numerical Investigations of Nozzle Geometry Effect on the Instabilities in Solid Propellant Boosters", proposed for presentation at the *36th AIAA/ASME/SAE/ASEE Joint Propulsion Conference and Exhibit*, Von Braun Civic Center, Huntsville, Alabama, July 17-19, 2000, [Paper AIAA-2000-3560](#).

Anthoine J. & Olivari D., "Cold Flow Simulation of Vortex Induced Oscillations in a Model of Solid Propellant Boosters", *5th AIAA/CEAS Aeroacoustics Conference*, Greater Seattle, Washington, USA, May 10-12, 1999, [Paper AIAA-99-1826](#).

Anthoine J., Olivari D., Hulshoff S. & Van Rooij M., “Qualitative Model of Vortex Induced Oscillations in a Model of Solid Propellant Boosters”, *4th CEAS/AIAA Aeroacoustics Conference*, Toulouse, France, June 2-4, 1998, [Paper AIAA-98-2270](#).

Anthoine J., Planquart P. & Olivari D., "Cold Flow Investigation of the Flow Acoustic Coupling in Solid Propellant Boosters", *36th AIAA Aerospace Sciences Meeting and Exhibit*, Reno, Nevada, January 12-15, 1998, [Paper AIAA-98-0475](#).

Other conferences

Anthoine J., Schram C., “Theoretical / empirical prediction and measurement of the sound produced by vortex pairing in a low match number jet”, In *"Verification and Validation Methods for Challenging Multiphysics Problems"*, edited by G. Bugea, J.C. Courty, A. Guillot, R. Höld, M. Marini, T. Nguyen, K. Papailiou, J. Périaux, D. Schwaborn, CIMNE, September 2006, ISBN 84-9673600-8, pp 7-32

Tóth B., Anthoine J., Riethmuller M.L., “Mesures dynamiques de la déformée d'une surface libre”, *Congrès Francophone de Techniques Laser, CFTL 2006*, Toulouse, France, Septembre 19-22, 2006

Tóth B., Anthoine J., Riethmuller M.L., “ Mesures PIV diphasiques dans un modèle de propulseur ”, *Congrès Francophone de Techniques Laser, CFTL 2006*, Toulouse, France, Septembre 19-22, 2006

Lema, M.R., Tóth, B., Rambaud, P., Steelant, J., Anthoine, J., “Numerical Study of Flow Field in Solid Rocket Motors”, *Acomen 2005, 3rd International Conference on Advanced Computational Methods in Engineering*, Ghent, Belgium, May 30 - June 2, 2005

Tóth, B., De Lauretis, A., Anthoine, J., “Développement d'une technique PIV pour les écoulements diphasiques gaz- gouttes”, *Congrès Francophone de Vélométrie Laser*, Bruxelles, Belgique, 14-17 septembre 2004

Anthoine, J., Schram, C., Hirschberg, A. “Application of vortex sound theory for prediction of vortex pairing sound in a Mach 0,1 air jet based on PIV data”, *33rd International Congress and Exposition on Noise Control Engineering, Inter Noise 2004*, Prague, Czech Republic, August 22-25, 2004

Anthoine, J., Olivari, D., Portugaels, D. “Drag coefficient determination of bluff bodies – Analysis of blockage effect”, *COST Action C14, Impact of Wind and Storm on City life and Built Environment*, May 5-7, 2004, Rhode Saint Genèse, Belgium

Buchlin, J.-M., Perrot, V., Gosset, A., Anthoine, J. “Effect of nozzle tilting on splashing in jet wiping”,

ECS2003, 5th European Coating Symposium on Advances in Liquid Film Coating technology, Fribourg, Switzerland, September 17-19, 2003

Tóth, B., Anthoine, J., Goricsán, I., "Application of the Pallas system to PIV measurements Conference on Modelling Fluid Flow", (CMFF'03), *12th International Conference on Fluid Flow Technologies*, Budapest, Hungary, September 3-6, 2003

Anthoine, J. & Gouriet, J-B., "Investigation of Pressure Waves Generated by a High-Speed Train Entering a Gallery", *Euromech Fluid Dynamics Conference*, Toulouse, France, August 24-28, 2003.

Anthoine, J., "Blockage Effect Correction applied to Drag Coefficient Measurements of Circular Cylinders in Wind Tunnels", 6th National Congress on Theoretical and Applied Mechanics, Gent, Belgium, May 26-27, 2003.

Tóth, B., Anthoine, J., Riethmuller, M.L. and Goricsán, I., "PIV: Evaluation of an Image Capturing System Based on a New 360° Lens", *Photomec'02: Photonics in Mechanical and Industrial Processes*, Louvain-la-neuve, Belgium, February 20-21, 2003.

Guéry, J-F. & Anthoine, J. : "Flow-acoustic coupling in solid propellant boosters", *VKI LS 2001-02, "Advances in Aeroacoustics"*, von Karman Institute, Belgium, March 12-16, 2001.

Anthoine, J., Yildiz, D. & Buchlin, J-M., "Nozzle Geometry Effect on the Instabilities in a Radial Injected Cold Flow Model of Solid Propellant Boosters", *Second European Conference on Launcher Technology "Space Solid Propulsion"*, Rome, Italy, November 21-24, 2000.

Guéry, J-F., Avalon, G., Vuillot, F., Plourde, F., Anthoine, J. & Platet, B., "Use of cold flow experiments in the ASSM program: lessons and results", *Second European Conference on Launcher Technology "Space Solid Propulsion"*, Rome, Italy, November 21-24, 2000.

Anthoine, J., Yildiz, D. & Buchlin, J-M., "Nozzle Design Effect on Vortex Induced Instabilities in an Axial Injected Cold Flow Model of the Ariane 5 EAP", *Inter.Noise 2000, the 29th International Congress and Exhibition on Noise Control Engineering*, Nice, France, August 27-30, 2000.

Anthoine J., Repellin O., Buchlin J-M. & Olivari D., "Aeroacoustics research on Solid Propellant Boosters at VKI: an Overview", In Proceedings of the *1st European Symposium on Space Launcher Technology*, Toulouse, France, December 14-16, 1999.

Anthoine J., Repellin O. & Buchlin J-M., "Vorticity Characterization in a Resonant Cold Flow Model of Solid Propellant Boosters using PIV Technique", In Proceedings of the *8th International Conference on Laser Anemometry Advances and Applications*, Rome, Italy, September 6-9, 1999.

Anthoine J. & Olivari D., "Investigation of Flow Acoustic Coupling in a Model of Solid Propellant Boosters", In Proceedings of the *3rd European Symposium on Aerothermodynamics for Space Vehicles*, ESTEC, Noordwijck, The Netherlands, November 24-26, 1998, ESA SP-426, Dec. 1998, pp 583-590.

Anthoine J., Planquart P., Olivari D., Van Rooij M. & Hulshoff, S., "Génération de bruit dans les moteurs à propergol solide", *3^{ème} Colloque R&T CNES/ONERA "Ecoulements Internes en Propulsion Solide"*, ENSMA, Futuroscope, Poitiers, France, Mars 25-27, 1998.

Hirschberg, A.; Hulshoff, S.; van Hassel, R.R.; Anthoine, J.: "Vortex-acoustic interaction in internal flows: the Whistler-nozzle, human whistling and the solid-propellant rocket motor", *3^{ème} Colloque R&T CNES/ONERA "Ecoulements Internes en Propulsion Solide"*, ENSMA, Futuroscope, Poitiers, France, Mars 25-27, 1998.

Parellada, N., Anthoine, J. & Buchlin, J-M., "Theoretical and Experimental Investigation of Annular Jet Wiping", *2nd European Coating Symposium, Euromech 367*, Strasbourg, France, July 22-25, ECS-97 Proceeding, Editor Bourgin, pp. 204-211, 1997.