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Contents

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Research Activities

- Turbulent premixed combustion modeling
- Spray modeling: dispersed phase and primary atomization
- Thermo-acoustic instabilities analysis and modeling
- Large-Eddy Simulation in complex geometries: gas turbines, piston engines
- Numerical methods for massively parallel super-computers
- Development of the YALES2 solver, a high-order unstructured code for massively parallel computations of two-phase reactive flows
- Organizer or co-organizer of eight editions of the Extreme CFD workshop and GENCI Hackathon [1]

Teaching Activities

- 2010-2018: Advanced Numerical Methods course, Aerospace Department, INSA of Rouen (20h/year)
- 2014-2018: Aerodynamics for helicopters, INSA of Rouen (7.5h/year)
- 2010-2018: General and specialized training sessions for the use of the YALES2 software, 30 to 50 people per year (50h to 70h/year). 240 people trained since 2010.
- 2018: Simulation and modeling of combustion, Collège de l'Ecole Polytechnique (3h)
- 2013: VKI lecture series on advanced post-processing of experimental and numerical data: lecture on the analysis of large amount of numerical data (3h)
- 2012-2013: CFD for the design, Mechanical Engineering Department, INSA of Rouen (20h/year)
- 2009-2012: Finite-Volume Methods course, Master 1 EPO, University of Rouen (17h/year)

Background

- 2006-2008: combustion engineer at Turbomeca SA, SAFRAN group.
- 2004-2006: post-doctoral fellowship at the Center for Turbulence Research, Stanford University, CA, USA, funded by the SAFRAN group.
- 2001-2004: Ph.D. focused on Large-Eddy Simulation of in-cylinder piston-engine flows, IFP, France.
- 2000-2001: M.S. of Aerospace and Combustion, Ecole Centrale Paris, France.
- 1998-2001: B.S. of Aerospace Engineering, Ecole Centrale Paris, France.

Awards

- 2021: Professor Yasusi Tanasawa Award for the best paper of the ICLASS 2021 conference in Edinburgh, Scotland
- 2018: Grand Prix ONERA - sciences mécaniques pour l'aéronautique et l'aérospatial - de l'académie des sciences
- 2018: Digital Simulation Collaboration Award at TERATEC forum for the project AMDECC with R. Mercier (SAFRAN TECH) and C. Dobrzynski (INRIA/IMB)
- 2018: Best scientific presentation award at the PRACE days conference, Ljubljana, Slovenia
- 2011: IBM faculty award
- 2010: 3rd of the Bull Joseph Fourier Prize for promoting high performance computing
- 2005: Yves Chauvin's prize of best IFP Ph.D. work

Reviewing activities

Reviewer for Journal of Computational Physics, Computers and Fluids, International Journal for Numerical Methods in Fluids, Combustion and Flame, Flow, Turbulence and Combustion, Proceedings of the International Symposium on Combustion, Combustion Theory and Modelling, Physical Review Letters, International Journal of Heat and Mass Transfer

Publications

Peer-reviewed international journals

Couverture du Numéro Spécial Calcul Intensif des Comptes Rendus de Mécanique de l'académie des sciences

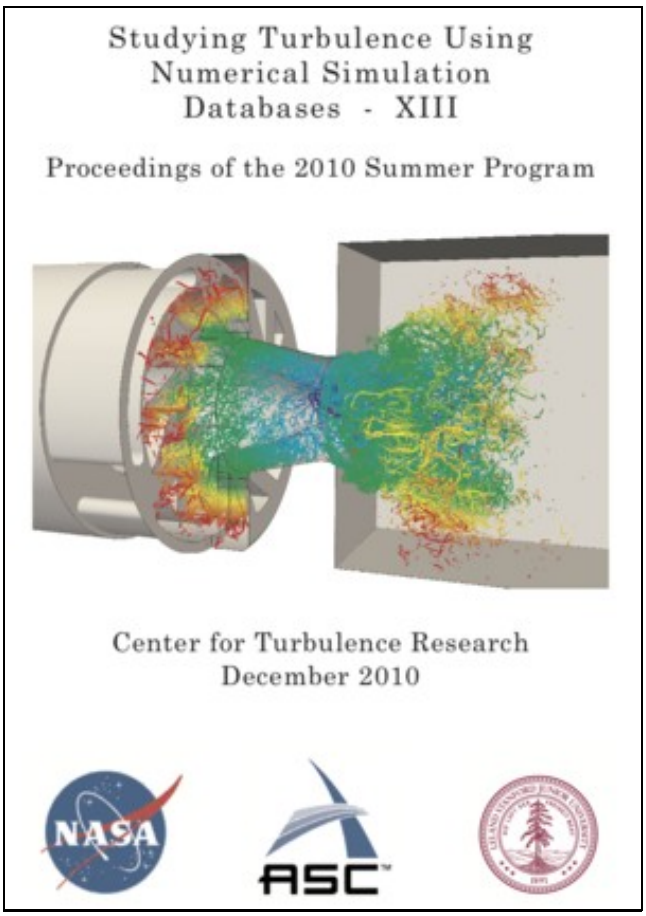
1. Leparoux, J., Mercier, R., Puggelli, S., Cailler, M. & Moureau, V. (2024) Numerical investigation of a hydrogen-air flame for nox prediction. *Journal Of Engineering For Gas Turbines And Power-Transactions Of The Asme*, **146** (9).
2. Tsetoglou, I., Cailler, M., Benard, P., Lartigue, G., Moureau, V. & Reveillon, J. (2025) A volume-of-solid implicit volume penalty method for moving-body flows. *International Journal For Numerical Methods In Fluids*, **97** (2), 117-150.
3. Carmona, J., Raspo, I., Moureau, V. & Boivin, P. (2025) A simple explicit thermodynamic closure for multi-fluid simulations including complex vapor-liquid equilibria: Application to nh3-h2o mixtures. *International Journal Of Multiphase Flow*, **182**.
4. Badran, Y., Dupuy, D., Blais, B., Moureau, V., Ansart, R., Chaouki, J. & Simonin, O. (2025) Meso-scale numerical analysis of the role of van der waals adhesion and static friction in fluidized beds of fine solids. *Powder Technology*, **455**.
5. Stock, A. & Moureau, V. (2024) Feature-based adaptive mesh refinement for multi-regime reactive flows. *Proceedings of the Combustion Institute*, **40** (1-4).
6. Stock, A., Moureau, V., Leparoux, J. & Mercier, R. (2024) Low-cost jacobian-free mapping for dynamic cell clustering in multi-regime reactive flows. *Proceedings of the Combustion Institute*, **40** (1-4).
7. Fabbri, T., Balarac, G., Moureau, V. & Benard, P. (2023) Design of a high fidelity fluid-structure interaction solver using les on unstructured grid. *Computers & Fluids*, **265**, 105963, [2].
8. Stock, A., Lartigue, G. & Moureau, V. (2023) Diffusive orthogonal load balancing for euler-lagrange simulations. *International Journal For Numerical Methods In Fluids*, **95** (8), 1220-1239.
9. Meynet, S., Barge, A., Moureau, V., Balarac, G., Lartigue, G. & Hadjadj, A. (2023) Roughness-resolved large-eddy simulation of additive manufacturing-like channel flows. *Journal of Turbomachinery-Transactions of the Asme*, **145** (8).
10. Berthelon, T., Sahut, G., Leparoux, J., Balarac, G., Lartigue, G., Bernard, M., Moureau, V. & Métais, O. (2023) Toward the use of LES for industrial complex geometries. Part II: Reduce the time-to-solution by using a linearised implicit time advancement. *Journal of Turbulence*, pp. 1-19, [3].
11. Grenouilloux, A., Leparoux, J., Moureau, V., Balarac, G., Berthelon, T., Mercier, R., Bernard, M., Bénard, P., Lartigue, G. & Métais, O. (2023) Toward the use of LES for industrial complex geometries. Part I: automatic mesh definition. *Journal of Turbulence*, pp. 1-31, [4].
12. Balarac, G., Basile, F., Bénard, P., Bordeu, F., Chapelier, J.-B., Cirrottola, L., Caumon, G., Dapogny, C., Frey, P., Froehly, A., Ghigliotti, G., Laraufie, R., Lartigue, G., Legentil, C., Mercier, R., Moureau, V., Nardoni, C., Pertant, S. & Zakari, M. (2022) Tetrahedral Remeshing in the Context of Large-Scale Numerical Simulation and High Performance Computing. *MathematicS In Action*, **11** (1), 129-164, [5].
13. Nigmetova, A., Masi, E., Simonin, O., Dufresne, Y. & Moureau, V. (2022) Three-dimensional dem-cfd simulation of a lab-scale fluidized bed to support the development of two-fluid model approach. *International Journal of Multiphase Flow*, **156**, 104189, [6].
14. Clavel, M. E., Vandel, A., Modica, V., Chen, Z., Varea, E., Moureau, V. & Renou, B. (2022) Determination of spatially averaged consumption speed from spherical expanding flame: A new experimental methodology. *Combustion and Flame*, **235**, 111720, [7].
15. Ageorges, V., PEIXINHO, J., PERRET, G., Lartigue, G. & Moureau, V. (2021) Experiments and Simulations of Free-Surface Flow behind a Finite Height Rigid Vertical Cylinder. *Fluids*, **6** (10), 367, [8].
16. Janodet, R., Guillam\'on, C., Moureau, V., Mercier, R., Lartigue, G., Benard, P., Ménard, T. & Berlemont, A. (2022) A massively parallel accurate conservative level set algorithm for simulating turbulent atomization on adaptive unstructured grids. *Journal of Computational Physics*, **458** (111075), [9].
17. Houtin-Mongrolle, F., Benard, P., Lartigue, G. & Moureau, V. (2021) A level-set framework for the wind turbine wake analysis: from high-fidelity unsteady simulations to 1D momentum theory. *Journal of Physics: Conference Series*, **1934** (1), 012011, [10].
18. Mehl, C., Cailler, M., Mercier, R., Moureau, V. & Fiorina, B. (2021) Optimized chemistry for Large Eddy Simulations of wrinkled flames. *Proceedings of the Combustion Institute*, **000**, 1-10, [11].
19. Legros, S., Brunet, C., Domingo-Alvarez, P., Malbois, P., Salaun, E., Godard, G., Caceres, M., Barviau, B., Cabot, G., Renou, B., Lartigue, G., Moureau, V., Puggelli, S., Richard, S., Boukhalfa, M. A. & Grisch, F. (2021) Combustion for aircraft propulsion: Progress in advanced laser-based diagnostics on high-pressure kerosene/air flames produced with low-NOx fuel injection systems. *Combustion and Flame*, **224**, 273-294, [12].
20. Sahut, G., Ghigliotti, G., Balarac, G., Bernard, M., Moureau, V. & Marty, P. (2021) Numerical simulation of boiling on unstructured grids. *Journal of Computational Physics*, **432** (110161).
21. Dufresne, Y., Moureau, V., Lartigue, G. & Simonin, O. (2020) A massively parallel CFD/DEM approach for reactive gas-solid flows in complex geometries using unstructured meshes. *Computers and Fluids*, **198**, 104402, [13].

22. Bernard, M., Lartigue, G., Balarac, G., Moureau, V. & Puigt, G. (2020) A framework to perform high-order deconvolution for finite-volume method on simplicial meshes. *International Journal for Numerical Methods in Fluids*, [14].
23. Chatelier, A., Fiorina, B., Moureau, V. & Bertier, N. (2020) Large Eddy simulation of a turbulent spray jet flame using filtered tabulated chemistry. *Journal of Combustion*, **2020**, 1-23, [15].
24. Houtin-Mongrolle, F., Bricteux, L., Benard, P., Lartigue, G., Moureau, V. & Reveillon, J. (2020) Actuator line method applied to grid turbulence generation for large-Eddy simulations. *Journal of Turbulence*, pp. 1-27, [16].
25. Domingo-Alvarez, P., Bénard, P., Moureau, V., Lartigue, G. & Grisch, F. (2020) Impact of spray droplet distribution on the performances of a kerosene lean/premixed injector. *Flow, Turbulence and Combustion*, **104** (2-3).
26. Akkari, N., Casenave, F. & Moureau, V. (2019) Time Stable Reduced Order Modeling by an Enhanced Reduced Order Basis of the Turbulent and Incompressible 3D Navier-Stokes Equations. *Mathematical and computational applications*, **24** (2), 45, [17].
27. Hamidouche, Z., Dufresne, Y., Pierson, J.-L., Brahem, R., Lartigue, G. & Moureau, V. (2019) DEM/CFD Simulations of a Pseudo-2D Fluidized Bed: Comparison with Experiments. *Fluids*, **4** (1), 51, [18].
28. Mercier, R., Mehl, C., Fiorina, B. & Moureau, V. (2019) Filtered wrinkled flamelets model for large-eddy simulation of turbulent premixed combustion. *Combustion and Flame*, **205**, 93-108.
29. Boulet, L., B\'enard, P., Lartigue, G., Moureau, V., Didorally, S., Chauvet, N. & Duchaine, F.}} (2018) Modeling of Conjugate Heat Transfer in a Kerosene / Air Spray. *Flow, Turbulence and Combustion*, pp. 1-24, [19].
30. Benard, P., Lartigue, G., Moureau, V. & Mercier, R. (2019) Large-Eddy Simulation of the lean-premixed PRECCINSTA burner with wall heat loss. *Proceedings of the Combustion Institute*, **000**, 1-11.
31. Benard, P., Vir\'e, A., Moureau, V., Lartigue, G., Beaudet, L., Deglaire, P. & Bricteux, L.}} (2018) Large-Eddy Simulation of wind turbines wakes including geometrical effects. *Computers and Fluids*, **0**, 1-7, [20].
32. Legrand, N., Lartigue, G. & Moureau, V. (2017) A multi-grid framework for the extraction of large-scale vortices in Large-Eddy Simulation. *J. Comp. Physics*, **349**, 528-560.
33. Bénard, P., Moureau, V., Lartigue, G. & D'Angelo, Y. (2017) Large-eddy simulation of a hydrogen enriched methane/air meso-scale combustor. *Int. J. of Hydrogen Energy*, **42** (4), 2397-2410.
34. Lefebvre, A., Larabi, H., Moureau, V., Lartigue, G., Varea, E., Modica, V. & Renou, B. (2016) Formalism for spatially averaged consumption speed considering spherically expanding flame configuration. *Comb. and Flame*, **173**, 235-244, [21].
35. Zmijanovic, V., Mendez, S., Moureau, V. & Nicoud, F. (2017) About the numerical robustness of biomedical benchmark cases: Interlaboratory fda's idealized medical device. *International Journal for Numerical Methods in Biomedical Engineering*, **33** (1), n/a-n/a, cnm.2789, [22].
36. Benard, P., Balarac, G., Moureau, V., Dobrzynski, C., Lartigue, G. & D'Angelo, Y. (2016) Mesh adaptation for large-eddy simulations in complex geometries. *International Journal for Numerical Methods in Fluids*, **81** (12), 719-740, fld.4204, [23].
37. Veynante, D. & Moureau, V. (2015) Analysis of dynamic models for large eddy simulations of turbulent premixed combustion. *Combustion and Flame*, **162** (12), 4622-4642, [24].
38. Odier, N., Balarac, G., Corre, C. & Moureau, V. (2015) Numerical study of a flapping liquid sheet sheared by a high-speed stream. *International Journal of Multiphase Flow*, **77**, 196-208.
39. Guedot, L., Lartigue, G. & Moureau, V. (2015) Design of implicit high-order filters on unstructured grids for the identification of large scale features in les and application to a swirl burner. *Physics of Fluids*, **27** (045107).
40. Mercier, R., Auzillon, P., Moureau, V., Darabiha, N., Gicquel, O., Veynante, D. & Fiorina, B. (2014) Les modeling of the impact of heat losses and differential diffusion on a turbulent stratified flame. *Flow, Turb. Comb.*, **93** (2), 349-381.
41. Mercier, R., Moureau, V., Veynante, D. & Fiorina, B. (2015) Les of turbulent combustion: on the consistency between flame and flow filter scales. *Proc. Combust. Inst.*, **35** (2), 1359-1366.
42. Nambully, S., Domingo, P., Moureau, V. & Vervisch, L. (2014) A filtered-laminar-flame pdf sub-grid scale closure for les of premixed turbulent flames: Part ii: Application to a stratified bluff-body burner. *Comb. and Flame*, **161** (7), 1775-1791.
43. Nambully, S., Domingo, P., Moureau, V. & Vervisch, L. (2014) A filtered-laminar-flame pdf sub-grid scale closure for les of premixed turbulent flames. part i: Formalism and application to a bluff-body burner with differential diffusion. *Comb. and Flame*, **161** (7), 1756-1774.
44. Duchaine, F., Maheu, N., Moureau, V., Balarac, G. & Moreau, S. (2013) Large-eddy simulation and conjugate heat transfer around a low-mach turbine blade. *J. Turbomach.*, **136** (5), 1-11.
45. Pecquery, F., Moureau, V., Lartigue, G., Vervisch, L. & Roux, A. (2014) Modelling nitrogen oxide emissions in turbulent flames with air dilution: Application to les of a non-premixed jet-flame. *Comb. and Flame*, **161** (2), 496-509.
46. Barré, D., Kraushaar, M., Staffelbach, G., Moureau, V. & Gicquel, L. Y. (2013) Compressible and low mach number les of a swirl experimental burner. *Comptes Rendus Mécanique*, **341** (1-2), 277-287, [25].
47. Malandain, M., Maheu, N. & Moureau, V. (2013) Optimization of the deflated conjugate gradient algorithm for the solving of elliptic equations on massively parallel machines. *J. Comp. Physics*, **238**, 32-47, [26].
48. Lodier, G., Vervisch, L., Moureau, V. & Domingo, P. (2011) Composition-space premixed flamelet solution with differential diffusion for in situ flamelet-generated manifolds. *Comb. and Flame*, **158**, 2009-2016, [27].
49. Moureau, V., Domingo, P. & Vervisch, L. (2011) Design of a massively parallel cfd code for complex geometries. *Comptes Rendus Mécanique*, **339** (2-3), 141-148, [28].
50. Moureau, V., Domingo, P. & Vervisch, L. (2011) From large-eddy simulation to direct numerical simulation of a lean premixed swirl flame: Filtered laminar flame-pdf modelling. *Comb. and Flame*, **158**, 1340-1357, [29].
51. Duchaine, F., Mendez, S., Nicoud, F., Corpron, A., Moureau, V. & Poinsot, T. (2009) Conjugate heat transfer with large eddy simulation for gas turbine components. *Comptes Rendus Mécanique*, **337** (6-7), 550-561, [30].
52. Wolf, P., Staffelbach, G., Roux, A., Gicquel, L., Poinsot, T. & Moureau, V. (2009) Massively parallel les of azimuthal thermo-acoustic instabilities in annular gas turbines. *Comptes Rendus Mécanique*, **337** (6-7), 385-394, [31].
53. Duchaine, F., Corpron, A., Pons, L., Moureau, V., Nicoud, F. & Poinsot, T. (2009) Development and assessment of a coupled strategy for conjugate heat transfer with Large Eddy Simulation. application to a cooled turbine blade. *International Journal of Heat and Fluid Flow*, **30** (6), 1129-1141, [32].
54. Moureau, V., Fiorina, B. & Pitsch, H. (2009) A level set formulation for premixed combustion les considering the turbulent flame structure. *Comb. and Flame*, **156**, 801-812, [33].
55. Riber, E., Moureau, V., Garcia, M., Poinsot, T. & Simonin, O. (2009) Evaluation of numerical strategies for les of particulate two-phase recirculating flows. *J. Comp. Physics*, **228** (2), 539-564, [34].
56. Desjardins, O., Moureau, V. & Pitsch, H. (2008) An accurate conservative level set/ghost fluid method for simulating turbulent atomization. *J. Comp. Physics*, **227** (18), 8395-8416, [35].
57. Moureau, V., Bérat, C. & Pitsch, H. (2007) An efficient semi-implicit compressible solver for large-eddy simulations. *J. Comp. Physics*, **226**, 1256-1270, [36].
58. Moureau, V., Minot, P., Bérat, C. & Pitsch, H. (2007) A ghost-fluid method for large-eddy simulations of premixed combustion in complex geometries. *J. Comp. Physics*, **221**, 600-614, [37].
59. Moureau, V., Lartigue, G., Sommerer, Y., Angelberger, C., Colin, O. & Poinsot, T. (2005) Numerical methods for unsteady compressible multi-component reacting flows on fixed and moving grids. *J. Comp. Physics*, **202**, 710-736, [38].

Submitted papers to international journals

1. Bénez, P., Moureau, V., Cailler, M., Lartigue, G., Bénard, P. & Robin, M. (2025) A new hybrid large-eddy simulation (les)/ computational aero-acoustic (caa) method based on immersed boundary framework for flow-induced noise calculation of moving body systems. *submitted to Computers and Fluids*.
2. Guillamon, C., Mercier, R., Janodet, R., Moureau, V. & Voivenel, L. (2025) Development of liquid lagrangian injectors from resolved high-pressure kerosene jet-in-crossflow atomization simulations. *Submitted to International Journal of Multiphase Flows*.
3. Pecquery, F., Fouquet, D., Carmona, J., Cailler, M., Merlin, C. & Moureau, V. (2025) A filtered-interface multi-fluid approach coupled with the conservative level set method for two-phase flows with heat transfer. *Submitted to Journal of Computational Physics*.
4. Grenouilloux, A., Lartigue, G., B\'enard, P., Moureau, V. & Ferrey, P.}} (2025) Constrained feature-based mesh adaptation applied to the aerothermal large-eddy simulation of impinging jets. *submitted to Computers and Fluids*.

Other international publications



Front cover of the 2010 Summer Program of the CTR at Stanford

1. Dufresne, Y., Moureau, V., Masi, E., Simonin, O. & Horwitz, J. (2016) Simulation of a reactive fluidized bed reactor using cfd/dem. *CTR Summer Program*,. Center for Turbulence Research, NASA Ames/Stanford Univ.
2. Boileau, M., Schmitt, T., Veynante, D. & Moureau, V. (2012) Analysis of dynamic models for turbulent combustion. *CTR Summer Program*,. Center for Turbulence Research, NASA Ames/Stanford Univ.
3. Poinsot, T., Staffelbach, G., Dombard, J., Moureau, V., Balakrishnan, R. & Bodoc, V. (2012) Experimental and numerical study of the influence of small geometrical modifications on the dynamics of swirling flows. *CTR Summer Program*,. Center for Turbulence Research, NASA Ames/Stanford Univ.
4. Maheu, N., Moureau, V., Domingo, P., Duchaine, F. & Balarac, G. (2012) Large-eddy simulations of flow and heat transfer around a low-mach turbine blade. *CTR Summer Program*,. Center for Turbulence Research, NASA Ames/Stanford Univ.
5. Moureau, V., Domingo, P., Vervisch, L. & Veynante, D. (2010) Dns analysis of a re = 40,000 swirl burner. *CTR Summer Program*,. Center for Turbulence Research, NASA Ames/Stanford Univ.
6. Desjardins, O. & Moureau, V. (2010) Methods for multiphase flows with high density ratio. *CTR Summer Program*,. Center for Turbulence Research, NASA Ames/Stanford Univ.
7. Moureau, V. & Desjardins, O. (2008) A second-order ghost-fluid method for the primary atomization of liquid fuel in air-blast type injectors. *CTR Summer Program*,. Center for Turbulence Research, NASA Ames/Stanford Univ.
8. Vicquelin, R., Fiorina, B., Darabiha, N., Veynante, D., Moureau, V. & Vervisch, L. (2008) Coupling tabulated chemistry with large eddy simulation of turbulent reactive flows. *CTR Summer Program*,. Center for Turbulence Research, NASA Ames/Stanford Univ.
9. Riber, E., Garcia, M., Moureau, V., Pitsch, H., Simonin, O. & Poinsot, T. (2006) Evaluation of numerical strategies for les of two-phase reacting flows. *CTR Summer Program*,. Center for Turbulence Research, NASA Ames/Stanford Univ.
10. Moureau, V., Bérat, C. & Pitsch, H. (2005) An efficient semi-implicit compressible solver for large-eddy simulations. *Annual Research Briefs*, pp. 3-14. Center for Turbulence Research, NASA Ames/Stanford Univ.
11. Moureau, V., Minot, P., Bérat, C. & Pitsch, H. (2005) A ghost-fluid method for large-eddy simulations of premixed combustion in complex geometries. *Annual Research Briefs*, pp. 3-14. Center for Turbulence Research, NASA Ames/Stanford Univ.
12. Moureau, V., Vasilyev, O., Angelberger, C. & Poinsot, T. (2004) Commutation errors in large-eddy simulation on moving grids: Application to piston engine flows. *CTR Summer Program*,. Center for Turbulence Research, NASA Ames/Stanford Univ.

Chapters in books

1. Cuenot, B., Vicquelin, R., Riber, E., Moureau, V., Lartigue, G., Figuer, A., Mery, Y., Lamouroux, J., Richard, S., Gicquel, L., Schmitt, T. & Candel, S. (2016) Advanced Simulation of Aeronautical Combustors. *AerospaceLab*, (11), 9 pages, [39].
2. Fiorina, B., Vi\'e, A., Franzelli, B., Darabiha, N., Massot, M., Dayma, G., Dagaut, P., Moureau, V., Vervisch, L., Berlemont, A., Sabelnikov, V., Riber, E. & Cuenot, B.}} (2016) Modeling Challenges in Computing Aeronautical Combustion Chambers. *AerospaceLab*, (11), 19 pages, [40].
3. Guedot, L., Lartigue, G. & Moureau, V. (2018) Modeling and analysis of the interactions of coherent structures with a spray flame in a swirl burner. *Notes on Numerical Fluid Mechanics and Multidisciplinary Design*, **135**, 15-26, [41].
4. Vervisch, L., Moureau, V., Domingo, P. & Veynante, D. (2011) *Turbulent Premixed Flames*,. Cambridge Univ. Press, [42].

Technical reports

1. Malandain, M., Maheu, N., and Moureau, V. (2012) Optimization of the deflated Conjugate Gradient algorithm for the solving of elliptic equations on massively parallel machines, *Technical report*, (PDF).

Invited international conferences

1. Moureau, V. (2022) High-fidelity simulations of interfacial two-phase flows on unstructured grids. *International Conference on Numerical Methods for Multi-Phase Flows*,. Venice, Italy.
2. Moureau, V., Bénard, P., Lartigue, G. & Mercier, R. (2018) Exploiting modern hpc computers for the simulation of turbulent premixed flames with finite-rate chemistry. *Calcul intensif, intelligence Artificielle et données en masse : état de l'Art, enjeux et retours d'expérience du HPC*,. IMFT, Toulouse, France.
3. Moureau, V., Bénard, P., Lartigue, G., Vaudor, G., Froehly, A., Dobrzynski, C. & Mercier, R. (2018) Exploiting modern hpc computers for the simulation of turbulent premixed flames with finite-rate chemistry. *25th "Journées d'étude" Belgian Section of the Combustion Institute*,. Mons, Belgium.
4. Moureau, V., Bénard, P., Lartigue, G., Vaudor, G., Froehly, A., Dobrzynski, C. & Mercier, R. (2018) Parallel dynamic mesh adaptation of unstructured grids: application to premixed flame and primary atomization modeling. *New Frontiers in Multiphase CFD for the 21st Century Energy Mix*,. Oaxaca, Mexico.
5. Bénard, P., Lartigue, G., Moureau, V. & Mercier, R. (2018) Les of the lean-premixed preccinsta burner with wall heat loss using finite-rate chemistry. *Combustion-DNS Strategy and Data Analysis Workshop*,. Sorrento, Italy.
6. Moureau, V. (2017) Organizer and chairman of the Turbulence and Combustion session. *International Super-Computing Conference*,. Frankfurt, Germany.
7. Moureau, V. & Lartigue, G. (2015) High-performance computing for large-scale unsteady simulations of turbulent multi-phase flows: challenges and perspectives. *International Conference on Turbulence and Interactions*,. ONERA, Cargese, France.
8. Moureau, V. & Lartigue, G. (2013) High performance computing for large scale simulations of non-linear turbulent flows. *MUSAF II-Multiphysics and Unsteady Simulations for Aeronautical Flows*,. Toulouse, France.
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