



LIST OF SCIENTIFIC ARTICLES



Lévéque, E., Toschi, F., Shao, L., & Bertoglio, J.-P. (2007). Shear-improved Smagorinsky model for large-eddy simulation of wall-bounded turbulent flows. *Journal of Fluid Mechanics*, 570, 491–502.

Cahuzac, A., Boudet, J., Borgnat, P., & Lévéque, E. (2010). Smoothing algorithms for mean-flow extraction in large-eddy simulation of complex turbulent flows. *Physics of Fluids*, 22(12).

Dubois, F. (2010). Stable lattice Boltzmann scheme for a moving Burgers shock wave. *Seventh International Conference for Mesoscopic Methods in Engineering and Science, ICMMES 2010*.

Xu, H., Malaspinas, O., & Sagaut, P. (2010). Sensitivity Analysis and Optimal Strategies of MRT-LBM for CAA-Determination of free relaxation parameters in MRT-LBM. *Eighth International Conference for Mesoscopic Methods in Engineering and Science*.

Malaspinas, O., & Sagaut, P. (2011). Advanced large-eddy simulation for lattice Boltzmann methods: The approximate deconvolution model. *Physics of Fluids*, 23(10).

Vergnault, E., Malaspinas, O., & Sagaut, P. (2011a). A time-reversal lattice Boltzmann method. *Journal of Computational Physics*, 230(22), 8155–8167.

Vergnault, E., & Sagaut, P. (2011). Application of lattice Boltzmann method to sensitivity analysis via complex differentiation. *Journal of Computational Physics*, 230(13), 5417–5429.

Xu, H., & Sagaut, P. (2011). Optimal low-dispersion low-dissipation LBM schemes for computational aeroacoustics. *Journal of Computational Physics*, 230(13), 5353–5382.

Vergnault, E., Malaspinas, O., & Sagaut, P. (2011b, July). *A time-reversal Lattice Boltzmann Method*. Eighth International Conference for Mesoscopic Methods in Engineering and Science, Lyon, France.

Dubois, F., & Lallemand, P. (2011, August). *D2T4 lattice Boltzmann scheme for scalar problems*. 20th conférence Discrete Simulation of Fluid Dynamics, Fargo, North Dakota, USA.

Augier, A., Dubois, F., & Graillle, B. (2012). Isotropy conditions for Lattice Boltzmann schemes. Application to D2Q9. *ESAIM: Proceedings*, 35, 191–196.

Malaspinas, O., & Sagaut, P. (2012). Consistent subgrid scale modelling for lattice Boltzmann methods. *Journal of Fluid Mechanics*, 700, 514–542.

<https://doi.org/10.1017/jfm.2012.155>

Vergnault, E., Malaspinas, O., & Sagaut, P. (2012). A lattice Boltzmann method for nonlinear disturbances around an arbitrary base flow. *Journal of Computational Physics*, 231(24), 8070–8082. <https://doi.org/10.1016/j.jcp.2012.07.021>

- Xu, H., Malaspinas, O., & Sagaut, P. (2012). Sensitivity analysis and determination of free relaxation parameters for the weakly-compressible MRT–LBM schemes. *Journal of Computational Physics*, 231(21), 7335–7367. <https://doi.org/10.1016/j.jcp.2012.07.005>
- Xu, H., & Sagaut, P. (2012). *Analysis of the absorbing layers for the weakly-compressible lattice Boltzmann schemes* (No. arXiv:1203.6350). arXiv. <http://arxiv.org/abs/1203.6350>
- Augier, A., Dubois, F., Gouarin, L., & Graille, B. (2013). Linear lattice Boltzmann schemes for Acoustic: Parameter choices and isotropy properties. *Computers & Mathematics with Applications*, 65(6), 845–863.
- Lallemand, P., & Dubois, F. (2013). Some results on energy-conserving lattice Boltzmann models. *Computers & Mathematics with Applications*, 65(6), 831–844.
- Meldi, M., Vergnault, E., & Sagaut, P. (2013). An arbitrary Lagrangian–Eulerian approach for the simulation of immersed moving solids with Lattice Boltzmann Method. *Journal of Computational Physics*, 235, 182–198. <https://doi.org/10.1016/j.jcp.2012.10.014>
- Vergnault, E., Malaspinas, O., & Sagaut, P. (2013). Noise source identification with the lattice Boltzmann method. *The Journal of the Acoustical Society of America*, 133(3), 1293–1305. <https://doi.org/10.1121/1.4776181>
- Xu, H., & Sagaut, P. (2013). Analysis of the absorbing layers for the weakly-compressible lattice Boltzmann methods. *Journal of Computational Physics*, 245, 14–42. <https://doi.org/10.1016/j.jcp.2013.02.051>
- Malaspinas, O., & Sagaut, P. (2014). Wall model for large-eddy simulation based on the lattice Boltzmann method. *Journal of Computational Physics*, 275, 25–40. <https://doi.org/10.1016/j.jcp.2014.06.020>
- Touil, H., Ricot, D., & Lévéque, E. (2014). Direct and large-eddy simulation of turbulent flows on composite multi-resolution grids by the lattice Boltzmann method. *Journal of Computational Physics*, 256, 220–233. <https://doi.org/10.1016/j.jcp.2013.07.037>
- Sengissen, A., Giret, J.-C., Coreixas, C., & Boussuge, J.-F. (2015, June 22). Simulations of LAGOON landing-gear noise using Lattice Boltzmann Solver. *21st AIAA/CEAS Aeroacoustics Conference*. 21st AIAA/CEAS Aeroacoustics Conference, Dallas, TX. <https://doi.org/10.2514/6.2015-2993>
- Chevillotte, F., & Ricot, D. (2016, May 30). Development and Evaluation of Non-Reflective Boundary Conditions for Lattice Boltzmann Method. *22nd AIAA/CEAS Aeroacoustics Conference*. 22nd AIAA/CEAS Aeroacoustics Conference, Lyon, France. <https://doi.org/10.2514/6.2016-2915>
- Gallas, Q., Lamoureux, M., Monnier, J.-C., Gilliot, A., Verbeke, C., & Delva, J. (2016, June 13). Flow Control and Analysis on Simplified Ship Helideck. *34th AIAA Applied*

Aerodynamics Conference. 34th AIAA Applied Aerodynamics Conference, Washington, D.C. <https://doi.org/10.2514/6.2016-3262>

Coreixas, C., Wissocq, G., Puigt, G., Boussuge, J.-F., & Sagaut, P. (2017). Recursive regularization step for high-order lattice Boltzmann methods. *Physical Review E*, 96(3), 033306. <https://doi.org/10.1103/PhysRevE.96.033306>

Gendre, F., Ricot, D., Fritz, G., & Sagaut, P. (2017). Grid refinement for aeroacoustics in the lattice Boltzmann method: A directional splitting approach. *Physical Review E*, 96(2), 023311. <https://doi.org/10.1103/PhysRevE.96.023311>

Horstmann, J. T., Le Garrec, T., Mincu, D.-C., & Lévéque, E. (2017). Hybrid simulation combining two space–time discretization of the discrete-velocity Boltzmann equation. *Journal of Computational Physics*, 349, 399–414.
<https://doi.org/10.1016/j.jcp.2017.08.029>

Lucas, J.-M., Cadot, O., Herbert, V., Parpail, S., & Délery, J. (2017). A numerical investigation of the asymmetric wake mode of a squareback Ahmed body – effect of a base cavity. *Journal of Fluid Mechanics*, 831, 675–697.

<https://doi.org/10.1017/jfm.2017.654>

Zhuo, C., & Sagaut, P. (2017). Acoustic multipole sources for the regularized lattice Boltzmann method: Comparison with multiple-relaxation-time models in the inviscid limit. *Physical Review E*, 95(6), 063301. <https://doi.org/10.1103/PhysRevE.95.063301>

Feng, Y., Tayyab, M., & Boivin, P. (2018). A Lattice-Boltzmann model for low-Mach reactive flows. *Combustion and Flame*, 196, 249–254.
<https://doi.org/10.1016/j.combustflame.2018.06.027>

Feng, Y.-L., Guo, S.-L., Tao, W.-Q., & Sagaut, P. (2018). Regularized thermal lattice Boltzmann method for natural convection with large temperature differences. *International Journal of Heat and Mass Transfer*, 125, 1379–1391.

<https://doi.org/10.1016/j.ijheatmasstransfer.2018.05.051>

Jacob, J., Malaspina, O., & Sagaut, P. (2018). A new hybrid recursive regularised Bhatnagar–Gross–Krook collision model for Lattice Boltzmann method-based large eddy simulation. *Journal of Turbulence*, 19(11–12), 1051–1076.

<https://doi.org/10.1080/14685248.2018.1540879>

Jacob, J., & Sagaut, P. (2018). Wind comfort assessment by means of large eddy simulation with lattice Boltzmann method in full scale city area. *Building and Environment*, 139, 110–124. <https://doi.org/10.1016/j.buildenv.2018.05.015>

Leveque, E., Touil, H., Malik, S., Ricot, D., & Sengissen, A. (2018). Wall-modeled large-eddy simulation of the flow past a rod-airfoil tandem by the Lattice Boltzmann method.

International Journal of Numerical Methods for Heat & Fluid Flow, 28(5), 1096–1116.

<https://doi.org/10.1108/HFF-06-2017-0258>

Merlier, L., Jacob, J., & Sagaut, P. (2018). Lattice-Boltzmann Large-Eddy Simulation of pollutant dispersion in street canyons including tree planting effects. *Atmospheric Environment*, 195, 89–103. <https://doi.org/10.1016/j.atmosenv.2018.09.040>

Wilhelm, S., Jacob, J., & Sagaut, P. (2018). An explicit power-law-based wall model for lattice Boltzmann method–Reynolds-averaged numerical simulations of the flow around airfoils. *Physics of Fluids*, 30(6), 065111. <https://doi.org/10.1063/1.5031764>

Cheylan, I., Fritz, G., Ricot, D., & Sagaut, P. (2019). Shape Optimization Using the Adjoint Lattice Boltzmann Method for Aerodynamic Applications. *AIAA Journal*, 57(7), 2758–2773. <https://doi.org/10.2514/1.J057955>

Feng, Y., Boivin, P., Jacob, J., & Sagaut, P. (2019a). Hybrid recursive regularized lattice Boltzmann simulation of humid air with application to meteorological flows. *Physical Review E*, 100(2), 023304. <https://doi.org/10.1103/PhysRevE.100.023304>

Feng, Y., Boivin, P., Jacob, J., & Sagaut, P. (2019b). Hybrid recursive regularized thermal lattice Boltzmann model for high subsonic compressible flows. *Journal of Computational Physics*, 394, 82–99. <https://doi.org/10.1016/j.jcp.2019.05.031>

Feng, Y., Guo, S., Jacob, J., & Sagaut, P. (2019). Solid wall and open boundary conditions in hybrid recursive regularized lattice Boltzmann method for compressible flows. *Physics of Fluids*, 31(12), 126103. <https://doi.org/10.1063/1.5129138>

Merlier, L., Jacob, J., & Sagaut, P. (2019). Lattice-Boltzmann large-eddy simulation of pollutant dispersion in complex urban environment with dense gas effect: Model evaluation and flow analysis. *Building and Environment*, 148, 634–652.
<https://doi.org/10.1016/j.buildenv.2018.11.009>

Wissocq, G., Sagaut, P., & Boussuge, J.-F. (2019). An extended spectral analysis of the lattice Boltzmann method: Modal interactions and stability issues. *Journal of Computational Physics*, 380, 311–333. <https://doi.org/10.1016/j.jcp.2018.12.015>

Bocquet, S., Ricot, D., Sengissen, A., Vincent-Viry, C., Demory, B., Henner, M., & Ailloud, F. (2019, May 20). Evaluation of the Lattice Boltzmann Method for Aero-acoustic Simulations of Industrial Air Systems. *25th AIAA/CEAS Aeroacoustics Conference*. 25th AIAA/CEAS Aeroacoustics Conference, Delft, The Netherlands.
<https://doi.org/10.2514/6.2019-2415>

Hou, Y., Angland, D., Sengissen, A., & Scotto, A. (2019, May 20). Lattice-Boltzmann and Navier-Stokes Simulations of the Partially Dressed, Cavity-Closed Nose Landing Gear Benchmark Case. *25th AIAA/CEAS Aeroacoustics Conference*. 25th AIAA/CEAS

Aeroacoustics Conference, Delft, The Netherlands. <https://doi.org/10.2514/6.2019-2555>

Astoul, T., Wissocq, G., Boussuge, J.-F., Sengissen, A., & Sagaut, P. (2020). Analysis and reduction of spurious noise generated at grid refinement interfaces with the lattice Boltzmann method. *Journal of Computational Physics*, 418, 109645. <https://doi.org/10.1016/j.jcp.2020.109645>

Escande, M., Kolluru, P. K., Cléon, L. M., & Sagaut, P. (2020). *Lattice Boltzmann Method for wave propagation in elastic solids with a regular lattice: Theoretical analysis and validation* (No. arXiv:2009.06404). arXiv. <http://arxiv.org/abs/2009.06404>

Farag, G., Zhao, S., Coratger, T., Boivin, P., Chiavassa, G., & Sagaut, P. (2020). A pressure-based regularized lattice-Boltzmann method for the simulation of compressible flows. *Physics of Fluids*, 32(6), 066106. <https://doi.org/10.1063/5.0011839>

Feng, Y., Guo, S., Jacob, J., & Sagaut, P. (2020). Grid refinement in the three-dimensional hybrid recursive regularized lattice Boltzmann method for compressible aerodynamics. *Physical Review E*, 101(6), 063302. <https://doi.org/10.1103/PhysRevE.101.063302>

Guo, S., Feng, Y., Jacob, J., Renard, F., & Sagaut, P. (2020). An efficient lattice Boltzmann method for compressible aerodynamics on D3Q19 lattice. *Journal of Computational Physics*, 418, 109570. <https://doi.org/10.1016/j.jcp.2020.109570>

Guo, S., Feng, Y., & Sagaut, P. (2020). Improved standard thermal lattice Boltzmann model with hybrid recursive regularization for compressible laminar and turbulent flows. *Physics of Fluids*, 32(12), 126108. <https://doi.org/10.1063/5.0033364>

Masset, P.-A., & Wissocq, G. (2020). Linear hydrodynamics and stability of the discrete velocity Boltzmann equations. *Journal of Fluid Mechanics*, 897, A29. <https://doi.org/10.1017/jfm.2020.374>

Schröder, A., Willert, C., Schanz, D., Geisler, R., Jahn, T., Gallas, Q., & Leclaire, B. (2020). The flow around a surface mounted cube: A characterization by time-resolved PIV, 3D Shake-The-Box and LBM simulation. *Experiments in Fluids*, 61(9), 189. <https://doi.org/10.1007/s00348-020-03014-5>

Tayyab, M., Radisson, B., Almarcha, C., Denet, B., & Boivin, P. (2020). Experimental and numerical Lattice-Boltzmann investigation of the Darrieus–Landau instability. *Combustion and Flame*, 221, 103–109. <https://doi.org/10.1016/j.combustflame.2020.07.030>

Tayyab, M., Zhao, S., Feng, Y., & Boivin, P. (2020). Hybrid regularized Lattice-Boltzmann modelling of premixed and non-premixed combustion processes. *Combustion and Flame*, 211, 173–184. <https://doi.org/10.1016/j.combustflame.2019.09.029>

Wissocq, G., Boussuge, J.-F., & Sagaut, P. (2020). Consistent vortex initialization for the athermal lattice Boltzmann method. *Physical Review E*, 101(4), 043306.

<https://doi.org/10.1103/PhysRevE.101.043306>

Wissocq, G., Coreixas, C., & Boussuge, J.-F. (2020). Linear stability and isotropy properties of athermal regularized lattice Boltzmann methods. *Physical Review E*, 102(5), 053305. <https://doi.org/10.1103/PhysRevE.102.053305>

Zhao, S., Farag, G., Boivin, P., & Sagaut, P. (2020). Toward fully conservative hybrid lattice Boltzmann methods for compressible flows. *Physics of Fluids*, 32(12), 126118.

<https://doi.org/10.1063/5.0033245>

Astoul, T., Wissocq, G., Boussuge, J.-F., Sengissen, A., & Sagaut, P. (2021). Lattice Boltzmann method for computational aeroacoustics on non-uniform meshes: A direct grid coupling approach. *Journal of Computational Physics*, 447, 110667.

<https://doi.org/10.1016/j.jcp.2021.110667>

Bahlali, M. L., Yoo, H., Favier, J., & Sagaut, P. (2021). A lattice Boltzmann direct coupling overset approach for the moving boundary problem. *Physics of Fluids*, 33(5), 053607.

<https://doi.org/10.1063/5.0044994>

Boivin, P., Tayyab, M., & Zhao, S. (2021). Benchmarking a lattice-Boltzmann solver for reactive flows: Is the method worth the effort for combustion? *Physics of Fluids*, 33(7), 071703. <https://doi.org/10.1063/5.0057352>

Buffa, E., Jacob, J., & Sagaut, P. (2021). Lattice-Boltzmann-based large-eddy simulation of high-rise building aerodynamics with inlet turbulence reconstruction. *Journal of Wind Engineering and Industrial Aerodynamics*, 212, 104560.

<https://doi.org/10.1016/j.jweia.2021.104560>

Cai, S.-G., Degrigny, J., Boussuge, J.-F., & Sagaut, P. (2021). Coupling of turbulence wall models and immersed boundaries on Cartesian grids. *Journal of Computational Physics*, 429, 109995. <https://doi.org/10.1016/j.jcp.2020.109995>

Cai, S.-G., & Sagaut, P. (2021). Explicit wall models for large eddy simulation. *Physics of Fluids*, 33(4), 041703. <https://doi.org/10.1063/5.0048563>

Cheylan, I., Favier, J., & Sagaut, P. (2021). Immersed boundary conditions for moving objects in turbulent flows with the lattice-Boltzmann method. *Physics of Fluids*, 33(9), 095101. <https://doi.org/10.1063/5.0062575>

Cheylan, I., Zhao, S., Boivin, P., & Sagaut, P. (2021). Compressible pressure-based Lattice-Boltzmann applied to humid air with phase change. *Applied Thermal Engineering*, 191, 116868. <https://doi.org/10.1016/j.applthermaleng.2021.116868>

Coratger, T., Farag, G., Zhao, S., Boivin, P., & Sagaut, P. (2021). Large-eddy lattice-Boltzmann modeling of transonic flows. *Physics of Fluids*, 33(11), 115112.

<https://doi.org/10.1063/5.0064944>

Degrigny, J., Cai, S.-G., Boussuge, J.-F., & Sagaut, P. (2021). Improved wall model treatment for aerodynamic flows in LBM. *Computers & Fluids*, 227, 105041.

<https://doi.org/10.1016/j.compfluid.2021.105041>

Farag, G., Coratger, T., Wissocq, G., Zhao, S., Boivin, P., & Sagaut, P. (2021). A unified hybrid lattice-Boltzmann method for compressible flows: Bridging between pressure-based and density-based methods. *Physics of Fluids*, 33(8), 086101.

<https://doi.org/10.1063/5.0057407>

Farag, G., Zhao, S., Chiavassa, G., & Boivin, P. (2021). Consistency study of Lattice-Boltzmann schemes macroscopic limit. *Physics of Fluids*, 33(3), 037101.

<https://doi.org/10.1063/5.0039490>

Feng, Y., Miranda-Fuentes, J., Guo, S., Jacob, J., & Sagaut, P. (2021). ProLB: A Lattice Boltzmann Solver of Large-Eddy Simulation for Atmospheric Boundary Layer Flows. *Journal of Advances in Modeling Earth Systems*, 13(3), e2020MS002107.

<https://doi.org/10.1029/2020MS002107>

Feng, Y., Miranda-Fuentes, J., Jacob, J., & Sagaut, P. (2021). Hybrid lattice Boltzmann model for atmospheric flows under anelastic approximation. *Physics of Fluids*, 33(3), 036607. <https://doi.org/10.1063/5.0039516>

Guo, S., Feng, Y., & Sagaut, P. (2021). On the use of conservative formulation of energy equation in hybrid compressible lattice Boltzmann method. *Computers & Fluids*, 219, 104866. <https://doi.org/10.1016/j.compfluid.2021.104866>

Jacob, J., Merlier, L., Marlow, F., & Sagaut, P. (2021). Lattice Boltzmann Method-Based Simulations of Pollutant Dispersion and Urban Physics. *Atmosphere*, 12(7), 833.

<https://doi.org/10.3390/atmos12070833>

Lafarge, T., Boivin, P., Odier, N., & Cuenot, B. (2021). Improved color-gradient method for lattice Boltzmann modeling of two-phase flows. *Physics of Fluids*, 33(8), 082110.

<https://doi.org/10.1063/5.0061638>

Marlow, F., Jacob, J., & Sagaut, P. (2021). A multidisciplinary model coupling Lattice-Boltzmann-based CFD and a Social Force Model for the simulation of pollutant dispersion in evacuation situations. *Building and Environment*, 205, 108212.

<https://doi.org/10.1016/j.buildenv.2021.108212>

Renard, F., Feng, Y., Boussuge, J.-F., & Sagaut, P. (2021). Improved compressible hybrid lattice Boltzmann method on standard lattice for subsonic and supersonic flows. *Computers & Fluids*, 219, 104867. <https://doi.org/10.1016/j.compfluid.2021.104867>

Renard, F., Wissocq, G., Boussuge, J.-F., & Sagaut, P. (2021). A linear stability analysis of compressible hybrid lattice Boltzmann methods. *Journal of Computational Physics*, 446, 110649. <https://doi.org/10.1016/j.jcp.2021.110649>

Tayyab, M., Zhao, S., & Boivin, P. (2021). Lattice-Boltzmann modeling of a turbulent bluff-body stabilized flame. *Physics of Fluids*, 33(3), 031701.
<https://doi.org/10.1063/5.0038089>

Vienne, L., & Lévéque, E. (2021). Recursive finite-difference Lattice Boltzmann schemes. *Computers & Mathematics with Applications*, 96, 95–108.
<https://doi.org/10.1016/j.camwa.2021.05.016>

Wang, G., Xu, L., Serre, E., & Sagaut, P. (2021). Large temperature difference heat dominated flow simulations using a pressure-based lattice Boltzmann method with mass correction. *Physics of Fluids*, 33(11), 116107. <https://doi.org/10.1063/5.0073178>

Wilhelm, S., Jacob, J., & Sagaut, P. (2021). A New Explicit Algebraic Wall Model for LES of Turbulent Flows Under Adverse Pressure Gradient. *Flow, Turbulence and Combustion*, 106(1), 1–35. <https://doi.org/10.1007/s10494-020-00181-7>

Yoo, H., Bahlali, M. L., Favier, J., & Sagaut, P. (2021). A hybrid recursive regularized lattice Boltzmann model with overset grids for rotating geometries. *Physics of Fluids*, 33(5), 057113. <https://doi.org/10.1063/5.0045524>

Buszyk, M., Le Garrec, T., Polacsek, C., & Barrier, R. (2021, October). Lattice Boltzmann simulations in a rectilinear cascade configuration for the turbulence-airfoil interaction noise evaluation and reduction through serrated leading edges. *EURONOISE 2021*.
<https://hal.science/hal-03396128>

Aniello, A., Schuster, D., Werner, P., Boussuge, J. F., Gatti, M., Mirat, C., Selle, L., Schuller, T., Poinsot, T., & Rüde, U. (2022). Comparison of a finite volume and two Lattice Boltzmann solvers for swirled confined flows. *Computers & Fluids*, 241, 105463.
<https://doi.org/10.1016/j.compfluid.2022.105463>

Bhairapurada, K., Denet, B., & Boivin, P. (2022). A Lattice-Boltzmann study of premixed flames thermo-acoustic instabilities. *Combustion and Flame*, 240, 112049.
<https://doi.org/10.1016/j.combustflame.2022.112049>

Boudet, J., Lévéque, E., & Touil, H. (2022). Unsteady Lattice Boltzmann Simulations of Corner Separation in a Compressor Cascade. *Journal of Turbomachinery*, 144(1), 011010. <https://doi.org/10.1115/1.4052017>

Cai, S.-G., Mozaffari, S., Jacob, J., & Sagaut, P. (2022). Application of immersed boundary based turbulence wall modeling to the Ahmed body aerodynamics. *Physics of Fluids*, 34(9), 095106. <https://doi.org/10.1063/5.0098232>

Daroukh, M., Le Garrec, T., & Polacsek, C. (2022). Low-Speed Turbofan Aerodynamic and Acoustic Prediction with an Isothermal Lattice Boltzmann Method. *AIAA Journal*, 60(2), 1152–1170. <https://doi.org/10.2514/1.J060752>

Horstmann, T., Touil, H., Vienne, L., Ricot, D., & Lévéque, E. (2022). Consistent time-step optimization in the lattice Boltzmann method. *Journal of Computational Physics*, 462, 111224. <https://doi.org/10.1016/j.jcp.2022.111224>

Nagy, A. B., Delfs, J., & Bennett, G. J. (2022). Aeroacoustics research in Europe: The CEAS-ASC report on 2020 & 2021 highlights. *Journal of Sound and Vibration*, 534, 117002. <https://doi.org/10.1016/j.jsv.2022.117002>

Nguyen, M., Boussuge, J. F., Sagaut, P., & Larroya-Huguet, J. C. (2022a). Large eddy simulation of a thermal impinging jet using the lattice Boltzmann method. *Physics of Fluids*, 34(5), 055115. <https://doi.org/10.1063/5.0088410>

Sagaut, P. (2022). *Classical Lattice-Boltzmann Methods for fluid dynamics* (No. STO-EN-AVT-377). NATO/OTAN.

Taha, M., Zhao, S., Lamorlette, A., Consalvi, J. L., & Boivin, P. (2022). Lattice-Boltzmann modeling of buoyancy-driven turbulent flows. *Physics of Fluids*, 34(5), 055131. <https://doi.org/10.1063/5.0088409>

Taileb, S., Millán-Merino, A., Zhao, S., & Boivin, P. (2022). Lattice-Boltzmann modeling of lifted hydrogen jet flames: A new model for hazardous ignition prediction. *Combustion and Flame*, 245, 112317. <https://doi.org/10.1016/j.combustflame.2022.112317>

Wang, G., Zhao, S., Boivin, P., Serre, E., & Sagaut, P. (2022). A new hybrid lattice-Boltzmann method for thermal flow simulations in low-Mach number approximation. *Physics of Fluids*, 34(4), 046114. <https://doi.org/10.1063/5.0091517>

Wissocq, G., Coratger, T., Farag, G., Zhao, S., Boivin, P., & Sagaut, P. (2022). Restoring the conservativity of characteristic-based segregated models: Application to the hybrid lattice Boltzmann method. *Physics of Fluids*, 34(4), 046102. <https://doi.org/10.1063/5.0083377>

Wissocq, G., & Sagaut, P. (2022). Hydrodynamic limits and numerical errors of isothermal lattice Boltzmann schemes. *Journal of Computational Physics*, 450, 110858. <https://doi.org/10.1016/j.jcp.2021.110858>

Xu, L., Serre, E., & Sagaut, P. (2022). A theoretical analysis of mass leakage at boundaries within the lattice Boltzmann method. *Physics of Fluids*, 34(6), 065113. <https://doi.org/10.1063/5.0089253>

Gianoli, T., Boussuge, J.-F., Sagaut, P., & de Laborderie, J. (2022, March). S-Duct Turbomachinery Simulations using the Lattice Boltzmann Method. 3AF Aero. 56th 3AF International Conference on Applied Aerodynamics, Toulouse – France.

- Nguyen, M., Boussuge, J.-F., Sagaut, P., & Larroya-Huguet, J.-C. (2022b, March). Aerothermal Jet Simulations Using the Lattice Boltzmann Method. *56th 3AF International Conference on Applied Aerodynamics*. 3AF Aero 2022.
- Soni, M., Ewert, R., Delfs, J., & Masilamani, K. (2022, June 14). Towards Wall-Modeled LES with Lattice Boltzmann Method for Aeroacoustics: Application and Understanding. *28th AIAA/CEAS Aeroacoustics 2022 Conference*. 28th AIAA/CEAS Aeroacoustics 2022 Conference, Southampton, UK. <https://doi.org/10.2514/6.2022-2918>
- Buszyk, M., Vienne, L., Garrec, T. L., Boussuge, J.-F., Polacsek, C., & Barrier, R. (2022, September). LATTICE BOLTZMANN METHOD FOR BROADBAND NOISE PREDICTIONS ON A TURBULENCE-CASCADE TEST RIG INCLUDING SERRATED VANES. *ICAS 2022*. 33rd Congress of the International Council of the Aeronautical Sciences, Stockholm, Sweden.
- Cai, S.-G., Jacob, J., & Sagaut, P. (2023). Immersed boundary based near-wall modeling for large eddy simulation of turbulent wall-bounded flow. *Computers & Fluids*, 259, 105893. <https://doi.org/10.1016/j.compfluid.2023.105893>
- Di-Marco, A., Jacob, J., & Sagaut, P. (2023). Unsteady characteristics of pressure and swirl distortion in helicopter intake: A lattice Boltzmann method approach. *Aerospace Science and Technology*, 138, 108333. <https://doi.org/10.1016/j.ast.2023.108333>
- Gianoli, T., Boussuge, J., Sagaut, P., & De Laborderie, J. (2023). Development and validation of Navier–Stokes characteristic boundary conditions applied to turbomachinery simulations using the lattice Boltzmann method. *International Journal for Numerical Methods in Fluids*, 95(4), 528–556. <https://doi.org/10.1002/fld.5160>
- Gresse, T., Merlier, L., Rodler, A., Soriano, J., Schmitt, F., Galtier, M., André, F., & Raessi, A. (2023). *Microclimatic modeling and simulation tools: An academic benchmark*. Poster ICUC.
- Husson, J., Terracol, M., Deck, S., & Le Garrec, T. (2023). Critical assessment of wall model numerical implementation in LBM. *Computers & Fluids*, 257, 105857. <https://doi.org/10.1016/j.compfluid.2023.105857>
- Wissocq, G., Taileb, S., Zhao, S., & Boivin, P. (2023). A hybrid lattice Boltzmann method for gaseous detonations. *Journal of Computational Physics*, 494, 112525. <https://doi.org/10.1016/j.jcp.2023.112525>
- Yoo, H., Wissocq, G., Jacob, J., Favier, J., & Sagaut, P. (2023). Compressible lattice Boltzmann method with rotating overset grids. *Physical Review E*, 107(4), 045306. <https://doi.org/10.1103/PhysRevE.107.045306>

Zhao, S., Bhairapurada, K., Tayyab, M., Mercier, R., & Boivin, P. (2023). Lattice-Boltzmann modeling of the quiet and unstable PRECCINSTA burner modes. *Computers & Fluids*, 260, 105898. <https://doi.org/10.1016/j.compfluid.2023.105898>

Gresse, T., Merlier, L., Jacob, J., & Kuznik, F. (2023, August). LARGE EDDY SIMULATIONS OF AIRFLOW AND HEAT TRANSFER IN A VENTILATED ROOM BASED ON LATTICE-BOLTZMANN METHODS. *Proceedings of the 17th International Heat Transfer Conference*. IHTC-17, Cape Town, South Africa.

Fringand, T., Cheylan, I., Lenoir, M., Mace, L., & Favier, J. (2024). A stable and explicit fluid–structure interaction solver based on lattice-Boltzmann and immersed boundary methods. *Computer Methods in Applied Mechanics and Engineering*, 421, 116777. <https://doi.org/10.1016/j.cma.2024.116777>

Husson, J., Terracol, M., & Deck, S. (2024a). A critical assessment of Navier–Stokes and lattice Boltzmann frameworks applied to high-lift configuration through a multiresolution approach. *Physics of Fluids*, 36(8), 085116. <https://doi.org/10.1063/5.0214409>

Reboul, G., & Gallo, E. (2024). Numerical Aeroacoustic Simulation of Shrouded and Unshrouded Coaxial Rotors. *Proceedings of the Vertical Flight Society 80th Annual Forum*, 1–10. <https://doi.org/10.4050/F-0080-2024-1186>

Schmitt, F. (2024). *Interactions rayonnement-atmosphère en milieu urbain: Modélisation avancée et analyse de leurs effets sur le rafraîchissement*. These de doctorat de l'INSA Lyon, Université de Lyon.

Taha, M., Zhao, S., Lamorlette, A., Consalvi, J.-L., & Boivin, P. (2024). Large eddy simulation of fire-induced flows using Lattice-Boltzmann methods. *International Journal of Thermal Sciences*, 197, 108801. <https://doi.org/10.1016/j.ijthermalsci.2023.108801>

Tsetoglou, I., Zhao, S., Jacob, J., & Boivin, P. (2024). Lattice-Boltzmann Modelling of Internal Compressible Flows: Application to the Transonic LS89 Cascade. *Volume 12C: Turbomachinery—Design Methods and CFD Modeling for Turbomachinery; Ducts, Noise, and Component Interactions*, V12CT32A014. <https://doi.org/10.1115/GT2024-123051>

Werner, P., Boussuge, J. F., Scholtes, C., & Sagaut, P. (2024). Lattice-Boltzmann modeling of centrifugal buoyancy-induced flows in rotating compressor cavities. *Physics of Fluids*, 36(1), 015147. <https://doi.org/10.1063/5.0182741>

Buszyk, M., Polacsek, C., Le Garrec, T., Barrier, R., Salze, E., & Marjono, J. (2024, June 4). Aeroacoustic Performances of the ECL5 UHBR Turbofan Model With Serrated OGVs: Design, Predictions and Comparisons With Measurements. *30th AIAA/CEAS Aeroacoustics Conference (2024)*. 30th AIAA/CEAS Aeroacoustics Conference (2024), Rome, Italy. <https://doi.org/10.2514/6.2024-3160>

Husson, J., Terracol, M., & Deck, S. (2024b, June 4). Numerical Study of Flap Side-Edge Vortex Based on the Combination of Zonal Detached Eddy Simulation and Lattice-Boltzmann Method. *30th AIAA/CEAS Aeroacoustics Conference (2024)*. 30th AIAA/CEAS Aeroacoustics Conference (2024), Rome, Italy. <https://doi.org/10.2514/6.2024-3240>

Murali, A. R., Boudet, J., Guiho, F., Jacob, M. C., Bauerheim, M., & Moreau, S. (2024, June 4). Noise Radiation and Dynamics of Slat Cove Vortices Revisited in Light of a Parametric LBM Study. *30th AIAA/CEAS Aeroacoustics Conference (2024)*. 30th AIAA/CEAS Aeroacoustics Conference (2024), Rome, Italy. <https://doi.org/10.2514/6.2024-3348>

Sanders, L., & Le Garrec, T. (2024, June 4). Flow and Noise Generation of a High-Lift Wing With Sweep Angle in Closed Test Section: A Numerical Approach. *30th AIAA/CEAS Aeroacoustics Conference (2024)*. 30th AIAA/CEAS Aeroacoustics Conference (2024), Rome, Italy. <https://doi.org/10.2514/6.2024-3241>

Thurman, C., Boyd Jr., D. D., Buning, P., Reboul, G., & Benoit, C. (2024, June 4). NASA/ONERA Collaboration on Small Hovering Rotor Broadband Noise Prediction Using Lattice-Boltzmann Method and Structured Navier-Stokes Solvers. *30th AIAA/CEAS Aeroacoustics Conference (2024)*. 30th AIAA/CEAS Aeroacoustics Conference (2024), Rome, Italy. <https://doi.org/10.2514/6.2024-3106>