



ProLB

LIST OF SCIENTIFIC ARTICLES



La force de l'innovation

1. Xu, H., Sagaut, P. (2011) Optimal low-dispersion low-dissipation LBM schemes for computational aeroacoustics. *J. Comput. Phys.* 230, 5353-5382
2. Xu, H., Malaspinas, O., Sagaut, P. (2012) Sensitivity analysis and determination of free relaxation parameters for the weakly-compressible MRT-LBM schemes. *J. Comput. Phys.* 231, 7335-7367
3. Xu, H., Sagaut, P. Analysis of the absorbing layers for the weakly-compressible lattice Boltzmann methods, *J. Comput. Phys.*, *J. Comput. Phys.* 245, 14-42
4. Vergnault, E., Sagaut, P. (2011) Application of Lattice Boltzmann Method to Sensitivity Analysis via Complex Differentiation. *J. Comput. Phys.* 230, 5417-5429
5. Vergnault, E., Malaspinas, O., Sagaut, P. (2011) A time-reversal Lattice Boltzmann Method. *J. Comput. Phys.* 230 (22), 8155-8167
6. Vergnault, E., Malaspinas, O., Sagaut, P. (2012) A lattice Boltzmann method for non linear disturbances around an arbitrary base flow. *J. Comput. Phys.* 231 (24), 8070-8082
7. Vergnault, E., Malaspinas, O., Sagaut, P. Noise source identification with the Lattice Boltzmann Method, *J. Acoust. Soc. Am.* 133 (3), 1293-1305
8. Malaspinas, O., Sagaut, P. (2011) Advanced Large-Eddy Simulation for lattice Boltzmann methods: the Approximate Deconvolution Model. *Phys. Fluids* 23, 105103 (8 pages)
9. Malaspinas, O., Sagaut, P. (2012) Consistent subgrid scale modelling for lattice Boltzmann methods. *J. Fluid Mech.* 700, 514-542
10. Meldi, M., Vergnault, E., Sagaut, P. (2013) An Arbitrary Lagrangian-Eulerian approach for the simulation of immersed moving solids with Lattice Boltzmann Method *J. Comput. Phys.* 235, 182-198
11. A. Augier, F. Dubois, B. Graille, Isotropy conditions for lattice Boltzmann schemes. Applications to D2Q9. *ESAIM Proceedings volume 35 (March 2012) p. 191-196*, DOI: <http://dx.doi.org/10.1051/proc/201235013>, avril 2012.
12. A. Augier, F. Dubois, L. Gouarin, B. Graille, Linear lattice Boltzmann schemes for Acoustic: parameter choices and isotropy properties *Computers and Mathematics with Applications*, volume 65, pages 845-863, 2013
13. F. Dubois, P. Lallemand. On triangular lattice Boltzmann schemes for scalar problems *Communications in Computational Physics*, D2T4 lattice Boltzmann scheme for scalar problems volume 13, numéro 3, pages 649-670, doi: 10.4208/cicp.381011.270112s, mars 2013
14. F. Dubois. Stable lattice Boltzmann schemes with a dual entropy approach for monodimensional nonlinear waves, *Computers and Mathematics with Applications*, volume 65, pages 142-159, 2013.
15. P. Lallemand et F. Dubois Some results on energy-conserving lattice Boltzmann models Page 3/4 *Computers and Mathematics with Applications*, volume 65, pages 831-844, 2013.
16. A. Augier, F. Dubois, B. Graille Rotational invariance of Lattice Boltzmann schemes. Applications in Acoustics *Computers and Mathematics with Applications*, à paraître.

17. H. Touil, D. Ricot, E. Lévêque (2013) 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, 2014
18. D. Ricot, E. Foquet, H. Touil, E. Leveque, H. Machrouki, F. Chevillotte, M. Meldi (2012), Aeroacoustic computations with a new CFD solver based on the Lattice Boltzmann Method, In *Proceedings of SIA 2012, Le Mans, France (2012)*
19. H. Machrouki, D. Ricot and O. Coste, Lattice Boltzmann aero-acoustics modelling of flow around obstacles, In *Proceedings of Congres Francais d'Acoustique 2012, Nantes, France (2012)*
20. Jaouen, L. and Chevillotte, F. and Bécot, F.-X., Multi-scale design of vibro-acoustic packages, In *Proceedings of SIA 2012, Le Mans, France (2012)*
21. H. Touil, J. Boudet, D. Ricot et E. Lévêque, Large-eddy simulation of turbulent flows on composite multi-resolution grids by the lattice Boltzmann method 14th European Turbulence Conference, 1-4 september 2013, Lyon, France.
22. F. Dubois. Stable lattice Boltzmann scheme for a moving Burgers shock wave, 7ième conférence ICMMES, Edmonton, Alberta, Canada, 12 au 16 juillet 2010. Conférence invitée.
23. A. Augier, F. Dubois, B. Graille Isotropy conditions for lattice Boltzmann schemes. Applications to D2Q9. Congrès SMAI 2011, Guidel, 23 au 27 mai 2011.
24. P. Lallemand et F. Dubois. Some results on energy-conserving lattice Boltzmann models 8 ième conférence ICMMES , Lyon, 4 au 8 juillet 2011. Conférence invitée.
25. A. Augier, F. Dubois, L. Gouarin, B. Graille. Linear lattice Boltzmann schemes for Acoustic: parameter choices and isotropy properties. 8ième conférence ICMMES, Lyon, 4 au 8 juillet 2011
26. F. Dubois, P. Lallemand. D2T4 lattice Boltzmann scheme for scalar problems 20th conférence Discrete Simulation of Fluid Dynamics, Fargo, North Dakota, USA, 8-12 août 2011 Page 4/4
27. F. Dubois. Equivalent equations of lattice Boltzmann schemes. Cours le 11 juillet 2012 à la 2012 Summer School on the Lattice Boltzmann Method au Beijing Computational Science Research Center, He-Qing Road, Hai-Dian District, Beijing et à la Tsinghua University.
28. A. Augier, F. Dubois, B. Graille. Rotational invariance of Lattice Boltzmann schemes. Applications in Acoustics. 9 ième International Conference for Mesoscopic Methods in Engineering and Science Taipei, Taiwan, 26 juillet 2012. Conférence invitée.
29. Vergnault, E., Malaspinas, O., Sagaut, P. (2011) A time-reversal Lattice Boltzmann Method, Eighth International Conference for Mesoscopic Methods in Engineering and Science, 4-8 July, Lyon, France
30. Hui Xu, Malaspinas, O., Sagaut, P. (2011) 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, 4-8 July, Lyon, France.
31. E. Lévêque, F. Toschi, L. Shao, J.P. Bertoglio (2007) Shear-improved Smagorinsky model for large-eddy simulation of wall-bounded turbulent flows, *Journal of Fluid Mechanics* 570, 491 - 502, 2007

32. A. Cahuzac, J. Boudet, P. Borgnat, E. Lévêque (2010) Smoothing algorithms for mean-flow extraction in large-eddy simulation of complex turbulent flows, *Physics of fluids* 22 (12), 125104, 2010
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34. Sengissen, A.; Giret, J.-C.; Coreixas, C. & Boussuge, J.-F. Simulations of LAGOON landing-gear noise using Lattice Boltzmann Solver, 21st AIAA/CEAS Aeroacoustics Conference, 2015, 2993 (<https://arc.aiaa.org/doi/10.2514/6.2015-2993>)
35. Coreixas, C. Round Cavity Noise Simulations using Lattice-Boltzmann Solver, 11st PEGASUS-AIAA Student Conference, 2015 (https://www.pegasus-europe.org/Pegasus_AIAA/papers/2015_Coreixas.pdf)
36. Coreixas, C.; Wissocq, G.; Puigt, G.; Boussuge, J.-F.; Sagaut, P. Recursive regularization step for high-order lattice Boltzmann methods, *Phys. Rev. E, American Physical Society*, 2017, 96, 033306 (<https://journals.aps.org/pre/abstract/10.1103/PhysRevE.96.033306>)
37. Q. Gallas, M. Lamoureux, J.-C. Monnier, A. Gilliot, C. Verbeke, J. Delva. Flow control and analysis on simplified ship helideck, *AIAA Paper 2016-3262*, AIAA Aviation 2016, WASHINGTON, U.S.A, 13-17 juin 2016
38. Jan Tobias Horstmann, Thomas LeGarrec, Daniel-Ciprian Mincu, Emmanuel Lévêque. Hybrid simulation combining two space–time discretization of the discrete-velocity Boltzmann equation, *Journal of Computational Physics*, 349 (2017) 399–414
39. Jan Tobias Horstmann. Coupling between the Stream-Collide Algorithm and a Finite-Volume Formulation of the Lattice Boltzmann Equation with Application to Grid Refinement, *ICMMES 2017, 14th International Conference for Mesoscopic Methods in Engineering and Science*, 17-21/07/2017, Nantes, France Communication orale