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Revues internationales à comité de lecture

- F. KUZNIK, C. OBRECHT, G. RUSAOUËN, and J.-J. ROUX. LBM Based Flow Simulation Using GPU Computing Processor. *Computers and Mathematics with Applications*, 59(7):2380–2392, April 2010.
- C. OBRECHT, F. KUZNIK, B. TOURANCHEAU, and J.-J. ROUX. A New Approach to the Lattice Boltzmann Method for Graphics Processing Units. *Computers and Mathematics with Applications*, 61(12):3628–3638, June 2011.
- C. OBRECHT, F. KUZNIK, B. TOURANCHEAU, and J.-J. ROUX. The TheLMA project : Multi-GPU Implementation of the Lattice Boltzmann Method. *International Journal of High Performance Computing Applications*, 25(3):295–303, August 2011.
- C. OBRECHT, F. KUZNIK, B. TOURANCHEAU, and J.-J. ROUX. The TheLMA project : a thermal lattice Boltzmann solver for the GPU. *Computers and Fluids*, 54:118–126, January 2012.
- C. OBRECHT, F. KUZNIK, B. TOURANCHEAU, and J.-J. ROUX. Multi-GPU Implementation of the Lattice Boltzmann Method. *Computers and Mathematics with Applications*, 65(2):252–261, January 2013.
- C. OBRECHT, F. KUZNIK, B. TOURANCHEAU, and J.-J. ROUX. Efficient GPU Implementation of the Linearly Interpolated Bounce-Back Boundary Condition. *Computers and Mathematics with Applications*, 65(6):936–944, March 2013.
- C. OBRECHT, F. KUZNIK, B. TOURANCHEAU, and J.-J. ROUX Scalable Lattice Boltzmann Solvers for CUDA GPU Cluster. *Parallel Computing*, 39(6–7):259–270, June–July 2013.
- C. OBRECHT, F. KUZNIK, B. TOURANCHEAU, and J.-J. ROUX. Multi-GPU Implementation of a Hybrid Thermal Lattice Boltzmann Solver using the TheLMA Framework. *Computers and Fluids*, 80:269–275, July 2013.

Actes de conférences internationales à comité de lecture

- C. OBRECHT, F. KUZNIK, B. TOURANCHEAU, and J.-J. ROUX. Global Memory Access Modelling for Efficient Implementation of the Lattice Boltzmann Method on Graphics Processing Units. *Lecture Notes in Computer Science 6449*, High Performance Computing for Computational Science – VECPAR 2010 Revised Selected Papers, pages 151–161, February 2011.
- C. OBRECHT, F. KUZNIK, B. TOURANCHEAU, and J.-J. ROUX. Towards Urban-Scale Flow Simulations Using the Lattice Boltzmann Method. In *Proceedings of the Building Simulation 2011 Conference*, pages 933–940. IBPSA, November 2011.

Actes de conférences nationales à comité de lecture

- C. OBRECHT, F. KUZNIK, B. TOURANCHEAU et J.-J. ROUX. Application de la méthode de Boltzmann sur gaz réseau à l'aéraulique externe des bâtiments. Journées AUGC/IBPSA, 2012.

Autres articles

- C. Obrecht. À la découverte des nombres surréels. *Bulletin de l'IREM de Dijon*, n° 79 (première partie) et n° 80 (deuxième partie), janvier et février 2001.
- C. Obrecht. Eukleides : A geometry drawing language. *TUGBoat*, 22(4):334–337, 2001.
- C. Obrecht. A Short Presentation of Eukleides. *Eutypon*, 9:25–29, 2002.

Séminaires invités

- C. Obrecht. Graphics Processing Units and Scientific Computing : State of the Art and Perspectives. Journées du Centre Blaise Pascal, ENS de Lyon, juin 2011.
- C. Obrecht. GPU implementations of fluid dynamics simulations on regular meshes : some recent advances. Université de Manchester, novembre 2013.

Présentations en conférences sans actes

- C. Obrecht, F. Kuznik, B. Tourancheau, and G. Rusaouën. A Renewed Approach to Lattice Boltzmann Method on Graphics Processing Units. ICMMES, 2009.
- F. Kuznik, C. Obrecht, J.-J. Roux, and B. Tourancheau. Thermal Lattice Boltzmann Models and GPU : At Last the Good Marriage? ICMMES, 2009.
- C. Obrecht, F. Kuznik, B. Tourancheau, and J.-J. Roux. TheLMA : a Framework for Thermal Lattice Boltzmann Method on Graphics Processing Units. DSFD, 2010.
- C. Obrecht, F. Kuznik, B. Tourancheau, and J.-J. Roux. Multi-GPU Implementation of the Lattice Boltzmann Method. ICMMES, 2010.
- F. Kuznik, C. Obrecht, J.-J. Roux, and G. Rusaouën. Direct Numerical Simulation in a Lid-Driven Cubical Cavity at High Reynolds. ICMMES, 2010.
- C. Obrecht, F. Kuznik, B. Tourancheau, and J.-J. Roux. The TheLMA Project : Multi-GPU Implementation of the Lattice Boltzmann Method. CCGSC, 2010.
- C. Obrecht, F. Kuznik, B. Tourancheau, and J.-J. Roux. Multi-GPU Implementation of a Hybrid Thermal Lattice Boltzmann Solver using the TheLMA Framework. ParCFD, 2011.
- C. Obrecht, F. Kuznik, B. Tourancheau, and J.-J. Roux. Efficient GPU Implementation of the Linearly Interpolated Bounce-Back Boundary Condition. ICMMES, 2011.
- C. Obrecht, F. Kuznik, B. Tourancheau, and J.-J. Roux. Direct Numerical Simulation of the Flow Past an Inclined Flat Plate. ICMMES, 2012.
- C. Obrecht, F. Kuznik, B. Tourancheau, and J.-J. Roux. Efficient GPU Cluster Implementation of the Lattice Boltzmann Method. CCDSC, 2012.
- C. Obrecht, P. Asinari, F. Kuznik, and J.-J. Roux. Implementing the link-wise artificial compressibility method on the GPU. ICMMES, 2013.

Logiciels

- C. Obrecht. Eukleides, 2000–2010. <http://eukleides.org>.
- C. Obrecht, F. Kuznik, B. Tourancheau, and J.-J. Roux. TheLMA (Thermal LBM on Many-core Architectures), 2010–2013. <http://thelma-project.info>.

Posters

- C. Obrecht, F. Kuznik, B. Tourancheau et J.-J. Roux. Modélisation des transferts de chaleur et de masse à l'aide de la méthode de Boltzmann sur réseau. Séminaire ECLEER, 2010.
- P. Morin, F. Kuznik, and C. Obrecht. Influence of the Smagorinsky Coefficient for a MRT-LBM Model with LES at High Reynolds Number in the Lid-Driven Cavity. ICMMES, 2011.
- C. Obrecht, F. Kuznik, B. Tourancheau, and J.-J. Roux. High Performance Implementation of the Lattice Boltzmann Method for Building Aeraulic Simulations. Séminaire ECLEER, 2011.

Animation de la recherche

- Examinateur externe pour la soutenance de thèse de Mark J. Mawson intitulée *Interactive fluid-structure interaction with many-core accelerators* (université de Manchester, 25 novembre 2013).
- Évaluations pour : *Computers and Mathematics with Applications*, *Computers and Fluids*, *International Journal of High Performance Computing Applications*, *Parallel Processing Letters*, *International Journal of Heat and Mass Transfer*, *Computer Physics Communications*, *Computer Methods in Applied Mechanics and Engineering*, *Computer Methods in Applied Mechanics and Engineering*, *Communications in Computational Physics*.
- Co-organisation de la conférence internationale ICMMES 2011 à Lyon.