

Department of Mathematics

University of Houston

Scientific Computing Seminar

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LBM vs. DBM-A good example of numerical trade-off

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1:30 PM- 2:30 PM

Room 646 PGH

Abstract: The lattice Boltzmann method (LBM) and the discrete Boltzmann method (DBM) are physically equal thanks to their shared root in statistical physics and kinetic theory. However, due to their differences in numerical treatments, the computational paradigms of the LBM and DBM are significantly different. A detailed trade-off analysis unveils the advantages the drawbacks of each method, which leads to a series of open yet inspiring questions, by pointing out the challenges and opportunities of using each method.