Special Issue

CFD 2022--Recent Advances in Lattice Boltzmann Methods

Message from the Guest Editor

This Special Issue is concerned with recent advances in the Lattice Boltzmann Method (LBM). The LBM has recently matured as a viable alternative to conventional Computational Fluid Dynamics (CFD) approaches that employ Finite Volume, Finite Difference or Finite Element approximations of continuum physics equations, mostly Navier-Stokes (NS). Whilst modeling essentially similar physics as classical continuum mechanics NS procedures, LBM features a number of advantages, particularly concerning data locality and parallel computing, but also in terms of stability and dispersion properties. As the method originates from the Boltzmann equation (being a superset of NS), multiscale modeling (even up to specific kinetic turbulence models) is possible. This Special Issue aims at highlighting the current state-of-the-art in the field of LBM and future research directions. Both submissions with an academic background as well as more application-oriented contributions are welcome.

Guest Editor

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Deadline for manuscript submissions

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