

Abstract of Contribution 106

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"A result of convergence for a mono-dimensional two-velocities lattice Boltzmann scheme".

Caetano, Filipa²; Dubois, François^{1,2}; Graille, Benjamin²

¹LMSSC, CNAM Paris, France; ²LMO, Université Paris-Saclay, France

We consider a mono-dimensional two-velocities scheme used to approximate the solutions of a scalar hyperbolic conservative partial differential equation. We prove the convergence of the discrete solution towards the unique entropy solution by first estimating the supremum norm and the total variation of the discrete solution, and second by constructing a discrete kinetic entropy-entropy flux pair be-

ing given a continuous entropy-entropy flux pair of the hyperbolic system. We finally illustrate our results with numerical simulations of the advection equation and the Burgers equation.