

Test of the Possible Application of the Half-Way Bounce-Back Boundary Condition for Lattice Boltzmann Methods in Complex Geometry

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Abstract: The way of handling boundary conditions with simple bounce-back rule in the lattice gas and lattice Boltzmann method had been considered as one of the advantage compared with other numerical schemes. The half-way bounce-back rule inherits the advantage of the bounce-back rule and improves the accuracy to the second-order on flat boundaries. In this paper, we test the possible application of the half-way bounce-back rule to the system with complex geometry. Our simulation results show that the half-way bounce-back rule is a good boundary condition in the problems without emphasis on accuracy.

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Key words: Lattice Boltzmann method

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