

# A THERMAL LBGK MODEL FOR LARGE DENSITY AND TEMPERATURE DIFFERENCES<sup>1</sup>

*J. Huang<sup>2</sup>, F. Xu<sup>2</sup>, M. Vallières<sup>2</sup>, D. H. Feng<sup>2</sup>, Y.-H. Qian<sup>3</sup>, B. Fryxell<sup>4</sup>, M. R. Strayer*

A new lattice Boltzmann method for hydrodynamic simulations is presented, which is capable of handling very large density and temperature gradients. Unlike other LBGK models, the discrete velocities which were used center at the local mean flow velocity, and their values vary according to the local temperature. The adiabatic index of the gas can be easily controlled by a parameter.

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<sup>2</sup>Drexel University, Philadelphia, PA.

<sup>3</sup>Columbia University, New York, NY.

<sup>4</sup>Goddard Space Flight Center, Greenbelt, MD.