

## On size of lattice, used for discrete velocity models of the Boltzmann equation for mixtures

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In last years there was very active study of discrete velocity models of the Boltzmann equation [1]–[2].

We shall consider discrete velocity models for two-species mixture of particles with different masses and suppose that ratio of masses of particles belonging to different components of mixture is given.

Let us introduce regular frame in the space of momenta so that its nodes, which are defined by integer-valued vectors multiplied by mesh width, correspond to the values of momenta. We shall call maximum of absolute values of coordinates of these integer-valued vectors along each axis as call maximum of absolute values of coordinates of these integer-valued vectors along each axis as discrete velocity models with given ratio of masses, which have an exchange of energy between the species, we shall call as minimum size for given ratio of masses. Some estimations for minimum size depending on ratio of masses were obtained.

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### References:

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- [2] Monaco R., Preziosi L. Fluid dynamic applications of the discrete Boltzmann equation, World Scientific, Singapore, 1991.