

A new model kinetic collision operator

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New form of the model collision operator is derived. A one-component and many-component systems are considered. The collision operator proposed takes properly into account the relaxation of the first 13 hydrodynamic moments. A technique for reconstruction of the model collision integral based on a known expression for the linearized model operator is proposed. It is shown that, within our model, the model collision operator does not contain the complicated exponential, common for the ellipsoidal statistical models. Boltzmann's H-theorem is proved for our model.