

Abstract Submitted
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Relaxation rates in the Maxwellian collision model and its variable hard sphere surrogate ROBERT RUBINSTEIN, None — The variable hard sphere and related models have proven to be accurate and computationally convenient replacements for the inverse power law model of classical kinetic theory in DSMC calculations. We provide theoretical support for this success by comparing the relaxation rates in the linearized Boltzmann equation for the Maxwellian model with those of its variable hard sphere surrogate. We demonstrate that the linearized collision operators for these two models agree closely under well defined and broadly applicable conditions and show some implications of this agreement for time dependent solutions of the linearized Boltzmann equation.

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None

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