Jacek Polewczak
Department of Mathematics
California State University
Northridge, CA 91330, USA

Hard-spheres linear kinetic theories

One of the important features of any kinetic theory is to provide theoretical predictions of transport coefficients. From the mathematical point of view, this problem is intrinsically related to the study of the spectrum of the corresponding linearized kinetic equation (linearized about an absolute maxwellian). Knowledge of the spectrum of the linearized Boltzmann operator is rather complete. This is not the case for the hard-spheres linear kinetic theory based on the revised Enskog equation. I will discuss the spectrum of the linearized revised Enskog operator, including the connections to hydrodynamic descriptions of a fluid.

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