

A Derivation of Models for Aerosol/Spray Flows

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Among the various equations used in the description of aerosol flows, there is a class of models involving a coupled system of a fluid equation for the propellant, and a Vlasov type equation for the distribution function of the dispersed phase. We propose a method for deriving this type of system from the Boltzmann equation for a two component gas in some appropriate scaling limit.