

Projection-operator determination of kinetic equations for a system of many particles

Yul'met'ev R.

Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

The projection-operator method worked out in general form by Nakajima and Zwanzig is used to construct the kinetic equations describing real physical systems. The method is generalized to the case of time-dependent projection operators which perform a nonlinear projection in functional phase space. The projection-operator method is used to develop a common method for finding collision operators in a system of particles characterized by different correlation properties. In examples, this common method is used to find modified microscopic Fokker-Planck, Vlasov, Boltzmann, and Landau collision operators. © 1973 Consultants Bureau.

<http://dx.doi.org/10.1007/BF01100549>
