

Kinetic equation in the general theory of relativity

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Abstract

An attempt is made to discover the physical content of the general-relativistic theory of gases. Under an invariant interpretation of the collision term, this theory does not satisfy the correspondence principle for classical theory. The collision term in the classical Boltzmann form is meaningful only in an isolated reference frame realized by a locally inertial frame with the origin at the collision point. With this formulation of the kinetic equations, the class of equilibrium states in GR expands considerably and also covers nonstationary distributions. A specific example of such a distribution that is locally Maxwellian is given. © 1979 Plenum Publishing Corporation.

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