

# Relativistic statistical systems of particles with scalar interactions

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## Abstract

On the basis of a generally covariant Liouville-Vlasov equation, relativistic statistical systems of particles interacting by means of chiral or other nonlinear fields are considered. A functional arbitrariness in description of such systems is found. Exact solutions of the kinetic equation, depending on the linear first integral of equations of motion, are found. For a two-component statistical system with a neutral scalar field which is described by a power Vlasov distribution function, the critical temperature is found, which separates charge-symmetric and charge-asymmetric ground states of the system. © 1983 Plenum Publishing Corporation.

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