RELATIVISTIC BGK MODEL OF ANDERSON-WITTING TYPE

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ABSTRACT

The relativistic BGK model is a well-known relaxation time approximation of celebrated Boltzmann equation to the special relativity setting, which is a fundamental equation of kinetic theory of gases. The relativistic BGK model has been widely used in various fields of physics for the practical purposes, but rigorous mathematical studies have just started and lots of issues still remain to be addressed. In this talk, one of the relativistic BGK models, Anderson-Witting type is revisited. We prove that the equilibrium parameters are uniquely determined to satisfy the conservation laws and deal with the analysis of the linearized operator.