A Mathematical Approach to the Euler-Panozou Problem

S. A. Kovalchuk, M. A. Nafisur Rahman, A. Shahar, Q. Y. Yu, M. A. H. Shahawar

Abstract

We present a numerical method for solving Euler-Panozou equations for the Euler-Panozou model in the absence of charge-carrying particles. The method is based on the analysis of a certain set of functions of the field equations and is based on two pieces of information: one is the quantity of particles involved, and the other is the rank of the particles involved. It is shown that the rank of the particles involved provides one of the only solutions for the Euler-Panozou equations without charge-carrying particles. The solution of the Euler-Panozou equations for the Euler-Panozou model is obtained. The solution of the Euler-Panozou equations for the Euler-Panozou model is also given. We analyze the role of the rank of particles involved in solving the Euler-Panozou equations.