The special relativistic effects for the multi-dimensional relativistic flows

Yachun Li

Shanghai Jiao Tong University, P.R.China

ycli@sjtu.edu.cn

Based on the approaches for the exact solution of the Riemann problem in relativistic hydrodynamics to the case in which the fluid velocity has components tangential to the initial discontinuity, in this talk we will give detailed qualitative analysis instead of quantitative one for the special relativistic effects from the mathematical point of view, which is, the smooth transition from one wave pattern to another when the tangential velocities in the initial states are suitably varied.