

VANISHING PRESSURE LIMIT FOR A NON-STRICTLY HYPERBOLIC SYSTEM

ABSTRACT. In this talk we will be discussing about vanishing pressure limit for the equation

$$\begin{aligned}u_t + \left(\frac{u^2}{2}\right)_x &= 0 \\ \rho_t + (\rho u)_x &= 0,\end{aligned}$$

with initial data

$$u(x, 0) = u_0(x), \quad \rho(x, 0) = \rho_0(x),$$

where u is the velocity component and ρ is the density component. This equation is considered as one of the model for the large scale structure formation of universe. In this direction we found some partial results for Riemann type initial data.