

Axisymmetric solutions of the 3-D Navier-Stokes equations for compressible isentropic fluids

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Abstract

We prove the existence of global weak solutions to the Navier-Stokes equations for compressible isentropic fluids for any $\gamma > 1$ when the Cauchy data are axisymmetric, where γ is the specific heat ratio. Moreover, we obtain a new integrability estimate of the density in any neighborhood of the symmetric axis (the singularity axis). (joint work with Song Jiang)

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