1030-35-40   **Konstantina Trivisa*** (`trivisa@math.umd.edu`), Department of Mathematics, University of
Maryland, College Park, MD 20742, and **Donatella Donatelli**. *From the dynamics of gaseous
stars to the incompressible Euler equations.*

A model for the dynamics of gaseous stars is introduced formulated by the Navier-Stokes-Poisson system for compressible, reacting gases. The combined quasineutral and inviscid limit of the Navier-Stokes-Poisson system in the torus $\mathbb{T}^n$ is investigated. The convergence of the Navier-Stokes-Poisson system to the incompressible Euler equations is proven for the global weak solution and for the case of general initial data. (Received June 29, 2007)

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