

On a simple model of isothermal phase transition

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We study a simple model of isothermal liquid-vapor phase transition. The system of PDE corresponds to the isothermal Euler equations and the pressure law is defined for all positive density and involves a constant zone. This model can be seen as the zero-relaxation limit of a classical two-fluid model with mass transfer. The behavior of this relaxation process, the Riemann problem for the limit model and some numerical tests are presented.