1020-35-213 Constantine M Dafermos (Constantine_Dafermos@Brown.EDU), Division of Applied Mathematics, Brown University, 182 George Street, Providence, RI 02912, and Ronghua Pan* (panrh@math.gatech.edu), School of Mathematics, Georgia Institute of Technology, 686 Cherry Street, Atlanta, GA 30332. *BV theory for p-system with damping.*

We study the existence of global BV solutions to p-system with damping. Previous results are valid for isothermal gas dynamics and for perturbations near constant equilibrium. Recently, we proved the uniform BV estimates for generic small BV data, and thus establish the global BV theory to the problem. One of the by-products is the large time behavior of the weak solutions with sharp decay rates. (Received August 28, 2006)