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Ronghua Pan* (panrh@math.gatech.edu), School of Mathematics, Georgia Institute of Technology, 686 Cherry Street, Atlanta, GA 30332. *Uniform BV estimates on damped p-system.*

In contrast to the success in nonlinear hyperbolic conservation laws, BV theory for nonlinear hyperbolic balance laws is widely open. Previous results require special structure of nonlinearity or strong dissipation from source terms. However, most physical systems have not yet been included in the existing frameworks. Damped p-system is a simplest example where BV estimates are not available for generic small BV data. Based on some simple observations, we are able to solve this problem recently. This is a joint work with Constantine Dafermos. (Received August 23, 2005)