Barbara Lee Keyfitz and Charis Tsikkou* (tsikkou@math.ohio-state.edu), Department of Mathematics, The Ohio State University, 231 West 18th Avenue, Columbus, OH 43210. A system of conservation laws with no classical Riemann solution. Existence of Dafermos profiles for singular shocks.

We consider a system of two equations derived from isentropic gas dynamics. We show that there is no classical Riemann solution and that singular shocks have Dafermos profiles. (Received September 22, 2011)