1139-35-94   **Sam G. Krupa*** (`skrupa@math.utexas.edu`) and **Alexis F. Vasseur**. *Proving Uniqueness of Solutions for Burgers Equation Entropic for a Single Entropy, with Eye Towards Systems Case.*

For hyperbolic systems of conservation laws, uniqueness of solutions is still largely open. We aim to expand the theory of uniqueness for systems of conservation laws. One difficulty is that many systems have only one entropy. This contrasts with scalar conservation laws, where many entropies exist. It took until 1994 to show that one entropy is enough to ensure uniqueness of solutions for the scalar conservation laws (Panov). This single entropy result was proven again by De Lellis, Otto and Westdickenberg in 2004. These two proofs both rely on the special connection between Hamilton–Jacobi equations and scalar conservation laws in one space dimension. However, this special connection does not extend to systems. In our new work, we prove the single entropy result for scalar conservation laws without using Hamilton–Jacobi. Our proof lays out new techniques that are promising for showing uniqueness of solutions in the systems case. This is joint work with A. Vasseur. (Received February 01, 2018)