

1030-35-7

**Marshall Slemrod\*** ([slemrod@math.wisc.edu](mailto:slemrod@math.wisc.edu)), Mathematics Department, University of Wisconsin-Madison, Madison, WI 53706. *Transonic steady irrotational flow of a compressible gas.*

This talk will outline the history of the problem of proving existence of solutions to the equations describing steady transonic flow of a compressible gas over an airfoil. Furthermore I will show how recent work of G-Q Chen, M Slemrod, D Wang provides some ( but not all) of the keys for completing C Morawetz's program of applying the Murat-Tartar theory of compensated compactness to resolve the existence problem. (Received May 08, 2007)