1030-35-8   **Qui-Qiang Chen** and **Jun Chen*** (`jchen@math.wisc.edu`), 480 Lincoln Drive, Madison, WI 53706, and **Mikhail Feldman**. *Transonic flows for full Euler equations in 2-D nozzles.*

We study two dimensional steady transonic and subsonic flows governed by full Euler equations. The existence, uniqueness, stability and asymptotic behavior is established for transonic flows in an infinite nozzle of slowly varying cross-sections. Given a supersonic flow upstream, we can find a subsonic flow downstream and a transonic shock in between. We use some potential function to reduce the Euler system to one elliptic equation in subsonic region. With delicate elliptic estimates, the solution is obtained by Hahn-Bananch fixed point arugment. (Received May 15, 2007)