On admissible positions of Transonic Shocks for Steady Euler Flows In A 3-D Axisymmetric Cylindrical Nozzle

Speaker: Xin Gao (Shanghai Jiao Tong University)

Time: 2021-06-03, 16:10 to 17:00

Location: Rm 1801, Guanghua East Tower

Advisor: Beixiang Fang (Shanghai Jiao Tong University)

Abstract: This paper concerns with the existence of transonic shocks for steady Euler flows in a 3-D axisymmetric cylindrical nozzle. One of the key points is determining the position of the shock front. Compared with 2-D case, new difficulties arise due to the additional 0-order terms and singularities along the symmetric axis. Once the initial approximation is obtained, a nonlinear iteration scheme can be carried out, which converges to a transonic shock solution to the problem.