

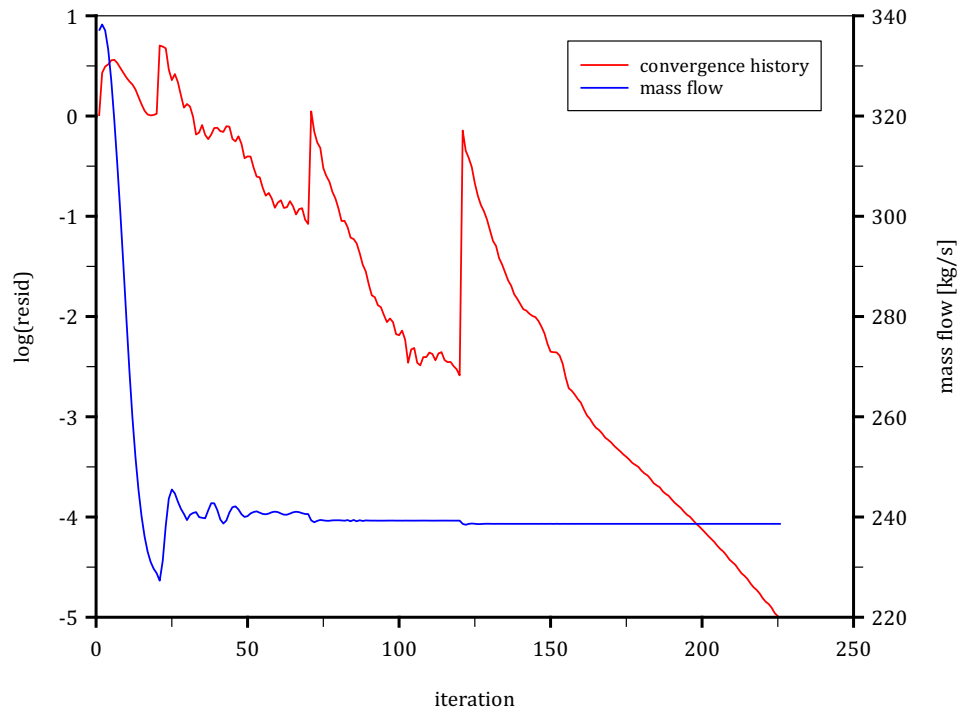
## Solution of Quasi 1-D Euler Equations (Laval Nozzle)

Central scheme with scalar artificial dissipation and multigrid with 5 grid levels:

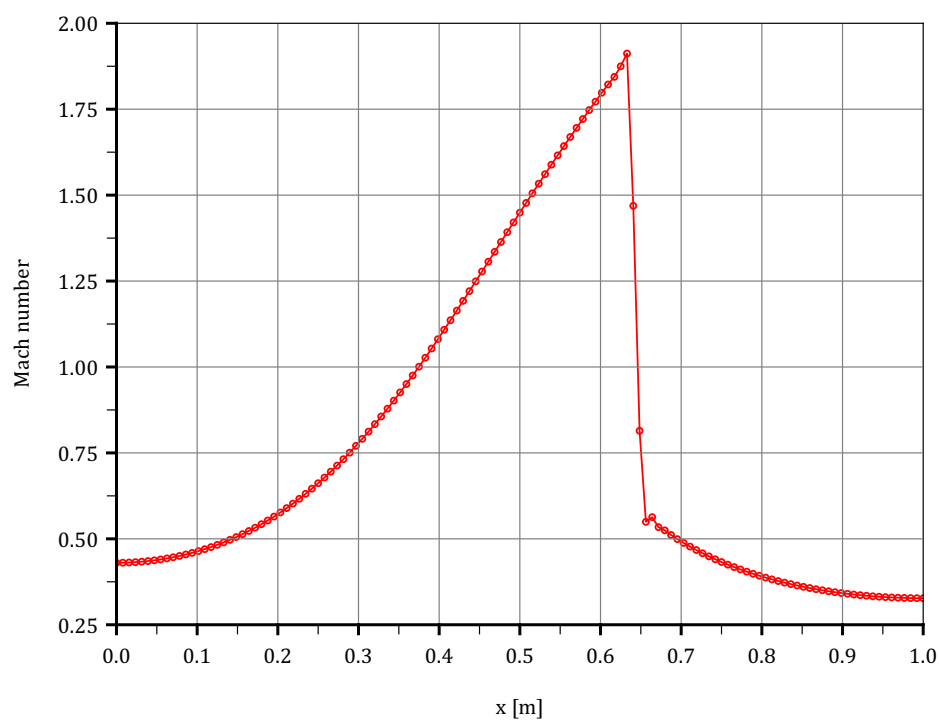
$$\sigma = 7.5, \varepsilon = 0.8, k^{(2)} = 0.7, k^{(4)} = 1/64.$$

Boundary conditions:

$$p_{t,in} = 1.0 \cdot 10^5 \text{ Pa}, T_{t,in} = 288.0 \text{ K}, p_{out} = 7.0 \cdot 10^4 \text{ Pa}.$$



Convergence history.



Mach number distribution over nozzle length.