

# Test Calculation of Flowfield in a Subcritical Airflow Meter Using the Fluid Numerical Instruments® Software Package (FNI)

## Objectives:

- to compare the computational results obtained in the FNI package and the experimental results.

The problem definition are referred to the paper “**Verification of the Theoretical Discharge Coefficient of a Subcritical Airflow Meter**” Lahti, D. J., GE Aircraft Engines, Cincinnati, OH; Hamed, A., Cincinnati Univ., OH Journal of Propulsion and Power 1993 0748-4658 vol.9 no.4 (615-621).

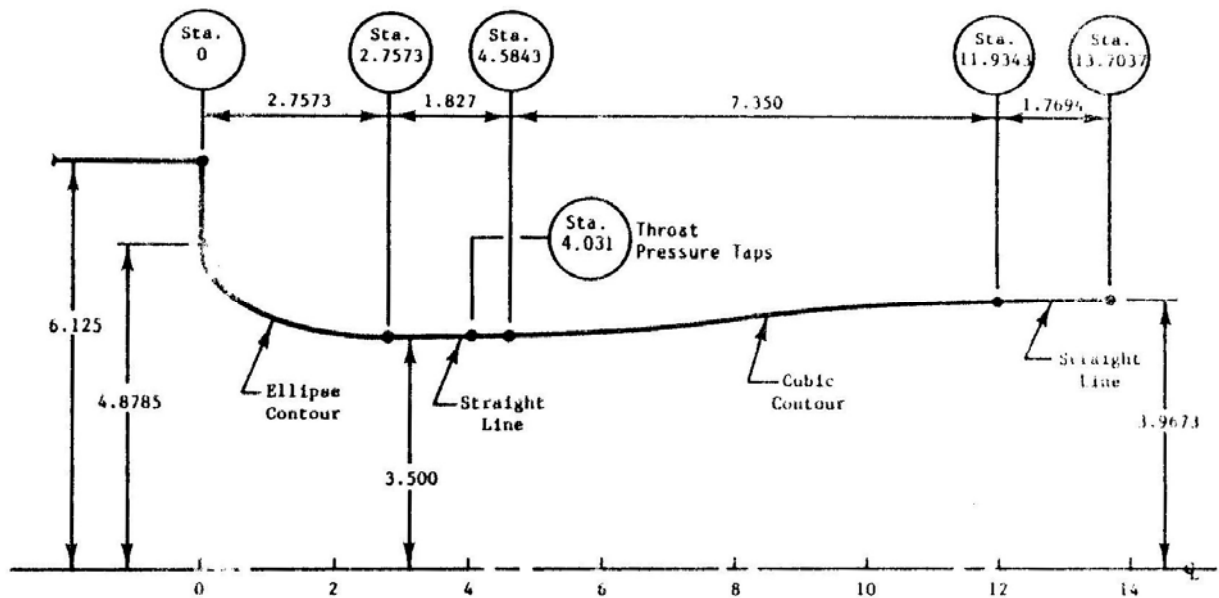


Fig.1. Flowmeter Geometry.

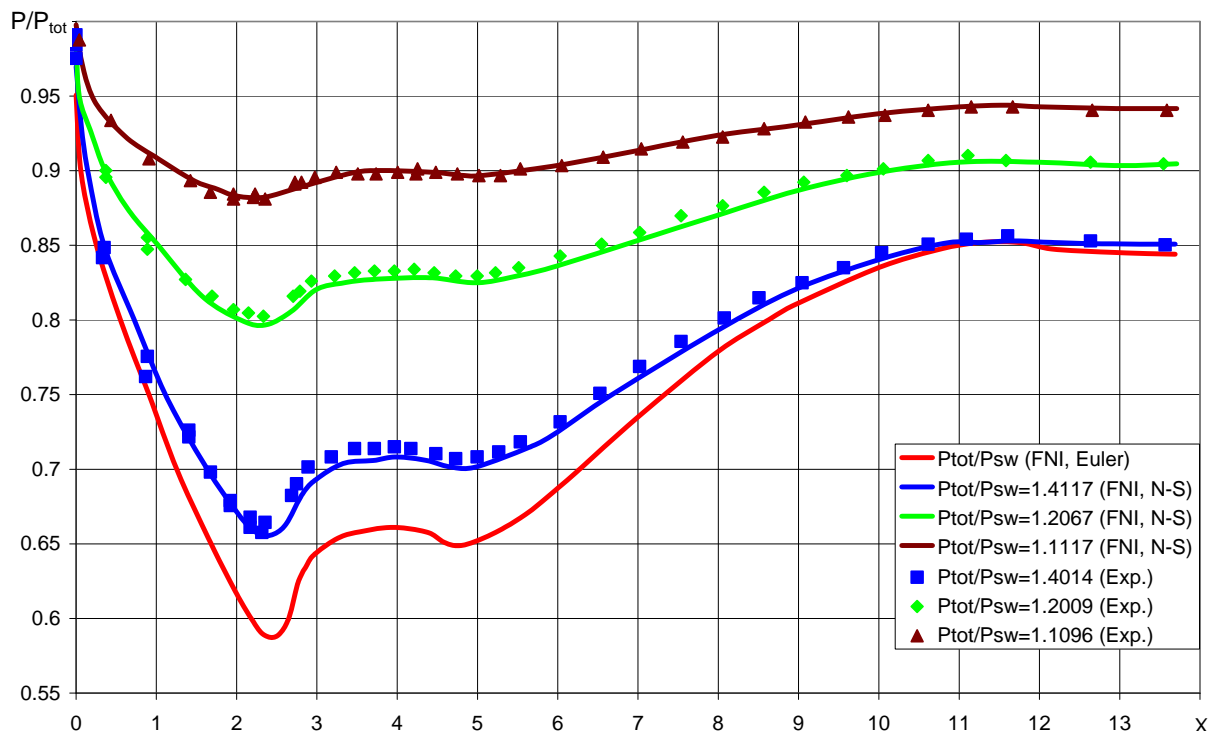


Fig.2. Predicted vs measured axial wall static pressure distribution.

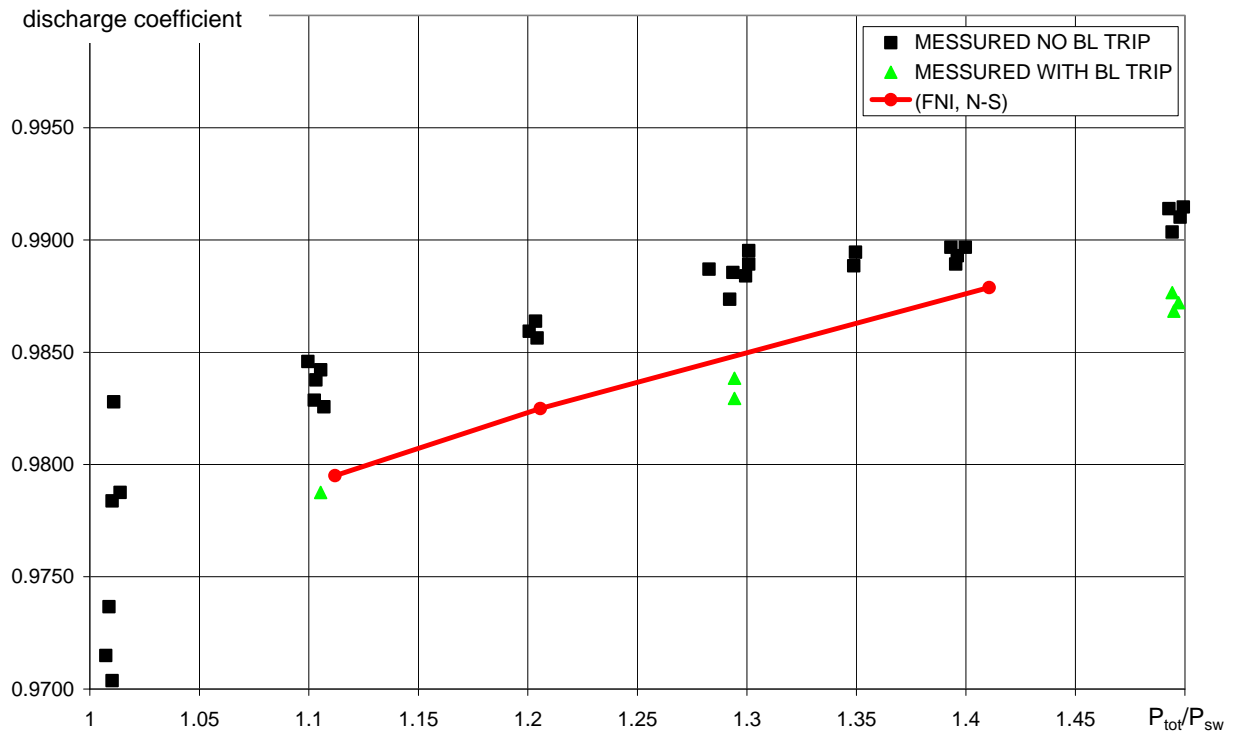


Fig.3. Discharge coefficient vs wall pressure ratio.

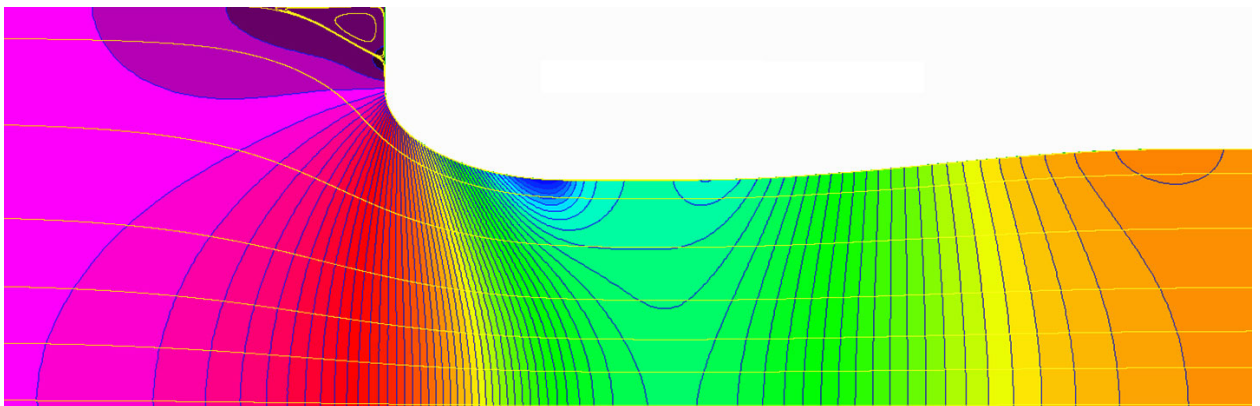


Fig.4. Pressure distribution and streamlines in flowmeter.