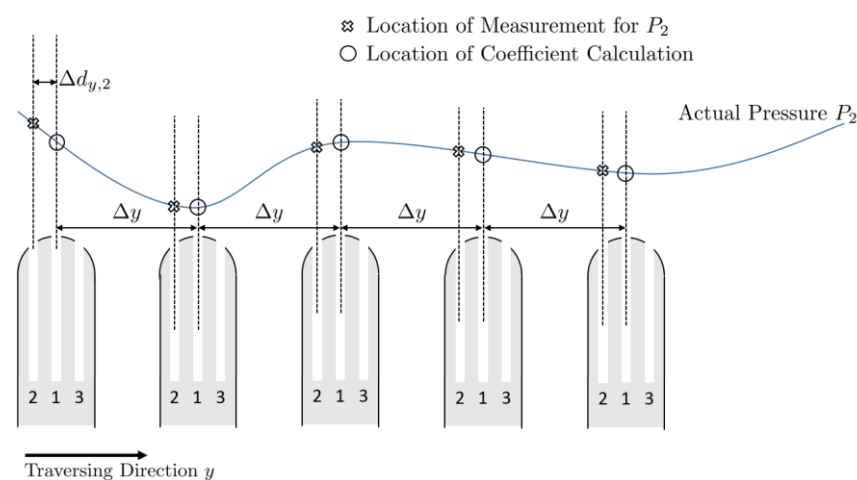


## Multi-Hole Pressure Measurements in Flows with Velocity Gradients: Implementation of Correction Methods and Experimental Validation

During the calibration of multi-hole pressure probes known flow conditions are set in a calibration wind tunnel ( $\alpha, \beta, U_\infty$ ). The pressures at the pressure ports are measured and nondimensional pressure coefficients are calculated. When applying the probe in an unknown flow, the coefficients can be interpolated and the actual flow conditions at the location of measurement can be determined. In case of velocity or pressure gradients in the unknown flow field, errors can be made when calculating the flow conditions. Those errors are mainly due to a the spatial distance between the pressure ports at the probe which is described by  $\Delta d$ . In the literature there are different ways of correcting those errors. In this thesis those correction methods should be understood, evaluated, implemented and tested.



Preliminary work packages:

1. Familiarization with working principles of multi-hole probes
2. Selection and implementation of different correction methods
3. Experimental validation

If you are interested in this topic or you have questions, feel free to contact me.

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