

Measurement Techniques: Re-Implementation and Optimization of Interpolation Code for Hot-Wire Anemometry

At the Chair of Aerodynamics and Fluid Mechanics constant temperature anemometry (CTA) with hot wire probes is used when measuring unsteady flow phenomena. When calculating the velocity components the measured voltages are the input for an interpolation routine. This routine was implemented in FORTRAN code.

In this thesis, the code should be **re-implemented in a modern coding language** and further **optimized**. Furthermore, some **corrections on the measured voltages** are made in the code due to temperature drift. Due to recent findings, better and more powerful correction routines can be found in the literature.

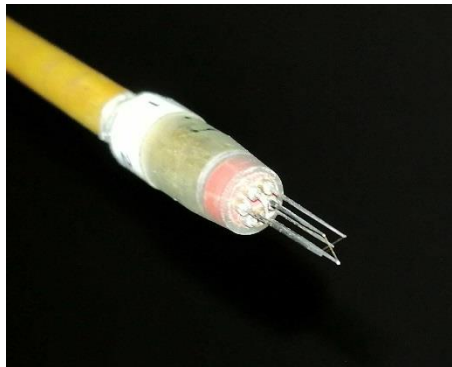


Figure 1: Triple-wire probe

Preliminary work packages:

1. Familiarization with working principles of hot-wire measurements
2. Choosing an appropriate code language
3. Re-Implementation
4. Optimization of temperature correction
5. Testing and Validation

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

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