LDV Sensor Calibration

Due to the high accuracy and the brilliant long-time-stability LDV systems are especially adapted as reference standard for the calibration of sensors. For this application ILA has developed – in collaboration with PTB Braunschweig - LDV systems which have established as standard-tool in the area of calibration of speed sensors. Through the close cooperation with Westenberg Engineering, a manufacturer of calibration wind tunnels, LDV systems and wind tunnel can be optimally adapted and if required be delivered from one source.
Figure 1 shows the use of a LDV system based on a HeNe-laser within an accredited wind tunnel at Westenberg Engineering. Due to the high beam-quality LDV-systems with HeNe-lasers have particularly a low uncertainty of measurements and a particularly high long-term-stability. For higher laser power Nd:Yag-lasers are used with different wave-lengths up to max. 200mW.

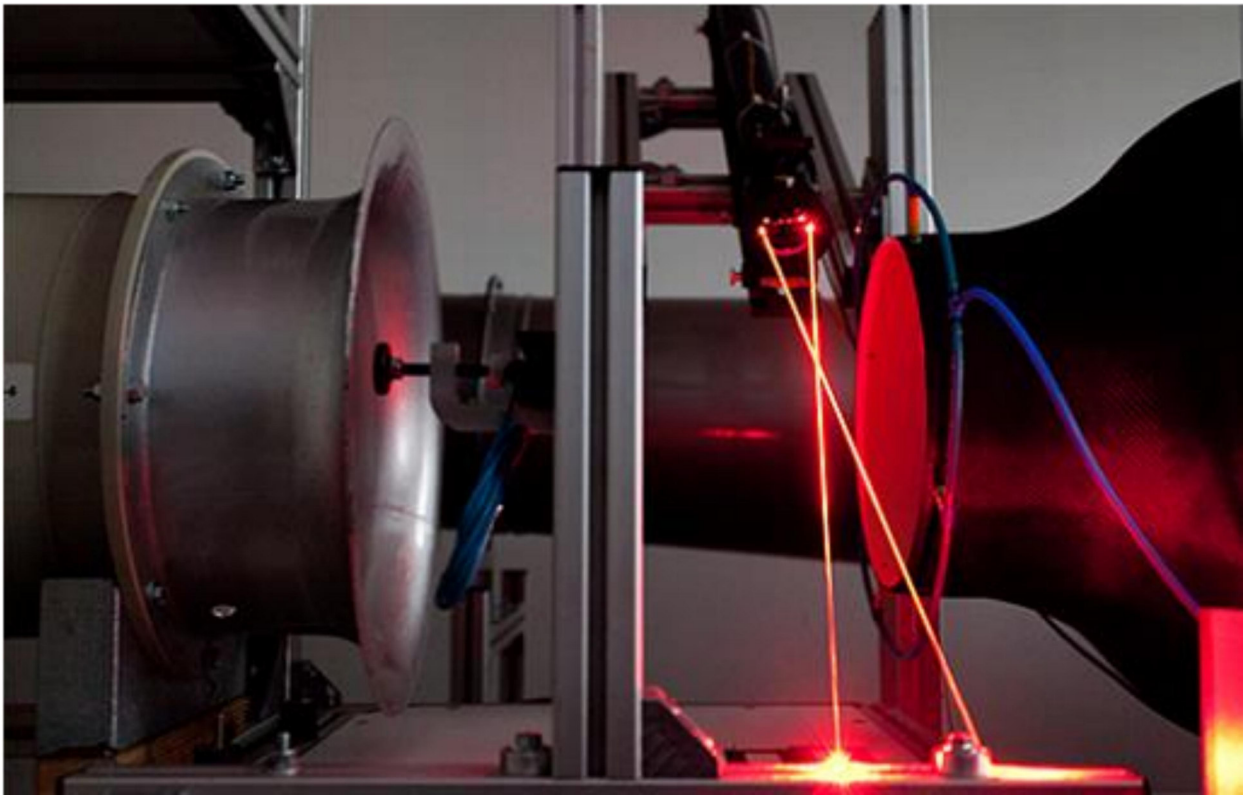

Fig. 1: Calibration Wind tunnel with HeNe- based LDV-System at Westenberg Engineering

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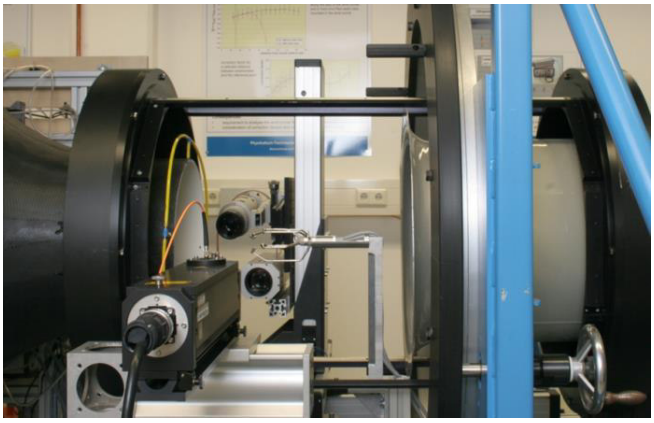

Fig.2: Sensor calibration with ILA LDV-systems at PTB

Figure 2 shows a ILA LDV-System with a 75mW Nd:Yag-Laser in a calibration wind tunnel of the PTB Braunschweig. This measuring system has been developed especially for an international key comparison of different European NMIs (National Metrology Institute) on the issue of flow velocity.

Also the national standard for air flow velocity in Austria is based on a LDV-system of ILA GmbH (Fig.3). The BEV (Federal Office of Metrology and Surveying) has engaged E+E Elektronik Ges.m.b.H. with the availability of the national measurement standard for air flow velocity. The BEV itself is not in practice on air flow velocity and found a competent partner in the sensor-specialist E+E (fig.3).

Fig.3: E+E Electronik, Austria

LDV Calibration Standard

- High accuracy
- High long term stability
- Solid
- Contact free
- Easy to use

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