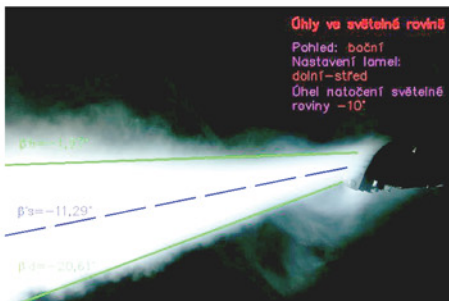


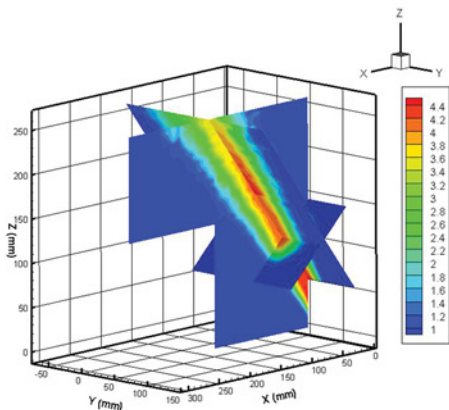
LABORATORY EQUIPMENT

There are number of advanced diagnostic methods available to study fluid flow at the laboratory such as laser Doppler anemometry or Particle Image Velocimetry, but also traditional yet still developing methods such as hot-wire anemometry. For flow visualization, the method of smoke, fog or bubbles introduction is employed in combination with laser sheet and high-speed camera recording.

The computer controlled measurement is conducted under LabVIEW interface by National Instruments and covers common flow parameters such as flow rate, pressure drop and temperature but also parameters related to environmental engineering such as noise and vibrations, pressure in the fluid, temperature. For results visualization and processing the following codes are used: Origin, Tecplot, AutoCAD and Matlab.



■ Air terminal device issuing jet visualization

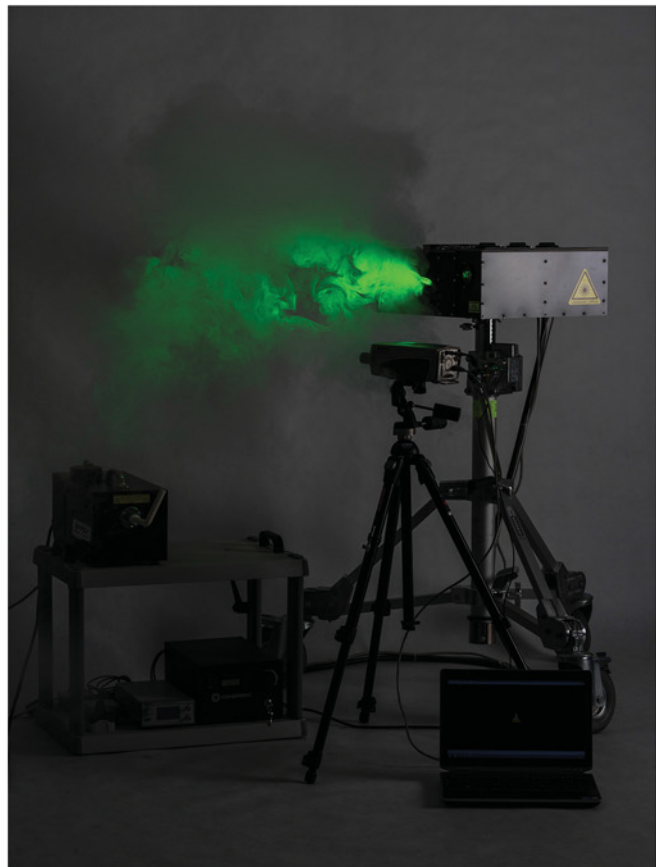


■ Air terminal device generated jet velocity field

Laboratory of local ventilation systems

The Department of Thermodynamics and Environmental Engineering runs a laboratory of ventilation systems that is fitted with high quality experimental equipment and advanced instrumentation.

The laboratory allows to solve a wide spectrum of problems associated with air flow with the use of advanced optical methods. It is intended and accordingly equipped for testing of devices that are associated with ventilation of rooms or vehicle cabins. The current research carried out at the laboratory focuses on car vents development and their measurement in operation; the fundamental research conducted concerns pipe flow and close-to-wall flow.



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