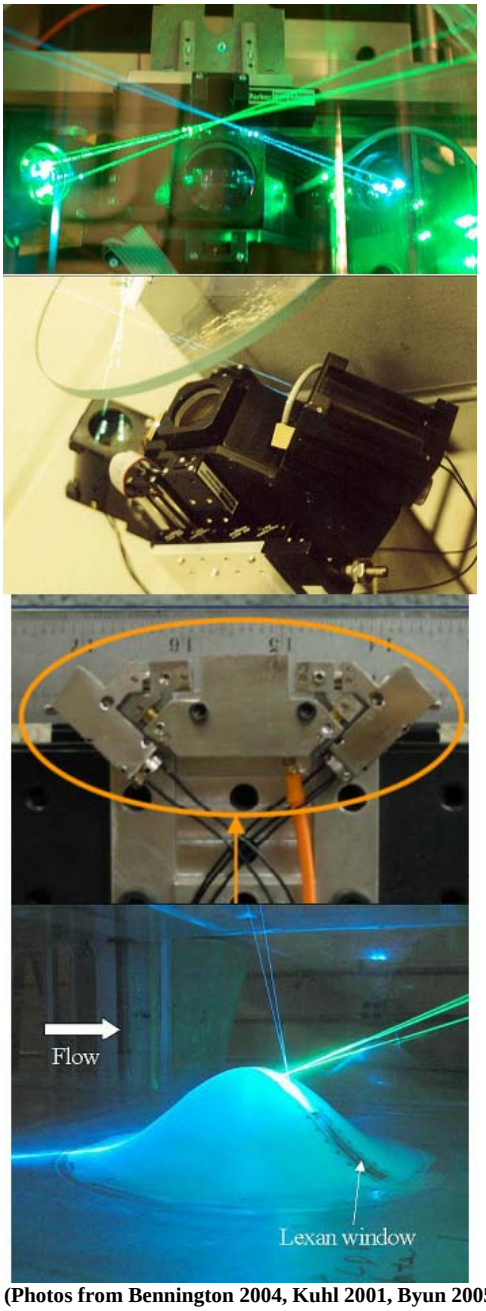
Custom Laser Doppler Velocimeters

Drawing upon extensive experience in developing cutting-edge laser Doppler flow measurement technology, we offer customized non-intrusive flow measurement solutions for your application.

Features

- **Guaranteed performance**
- **On-site installation and alignment**
- **17% Reduced complexity compared with conventional 3-velocity component systems**
- **Many probe sizes possible using fiber optic technologies—from sub-miniature to extended-access systems**
- **User-friendly data acquisition and processing**
- **Instrument diagnostics nearly eliminate downtime**
- **Wide range of applications**
- **Proven track record of innovation**
- **Greatly enhanced spatial resolution systems available**



(Photos from Bennington 2004, Kuhl 2001, Byun 2005; these and additional literature available upon request)

Applied University Research

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General Specifications

Three-component probe access lengths	**Up to 600 mm**
Probe configuration	**Two-color fiber optic; two-beams for single-component head (488 nm) and three-beams for two-component head (514.5 nm)**
Spatial resolution	**Down to 30 microns**
Fringe spacing	**1 micron to 8 microns**
Probe construction	**Anodized aluminum**
Transmitting fibers	**Armored 4 micron diameter polarization-preserving fibers with damage-tolerant ferrules at coupling end**
Receiving fiber	**Multimode**
Probe Optics	**All achromatic lenses except in sub-miniature designs**
Light detection	**Photomultiplier tubes**
Data Acquisition System	**250 MS/s PC-controlled digitizer with industrial rack-mount PC. Optional contiguous measurement durations of 0.032 s, 0.256 s or 1.024 s.**
Data Acquisition Software	**LabView, we can customize to your flow needs**
Signal Processing Software	**LabView online processing or offline WINXP or UNIX (C++ source available)**
Signal Processing Method	**Frequency-domain processing using FFT**

Custom Laser Doppler Sub-systems Available

- **Fiber optic probes**
- **Data acquisition and signal processing systems**
- **Laser-to-fiber optical train**
- **Ultra low-noise color-discriminating light detection and signal conditioning**
- **Seeding systems for low-speed applications**
- **Traverse systems**

Contact us today to discuss your applications or request more information.

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