

FlameMaster

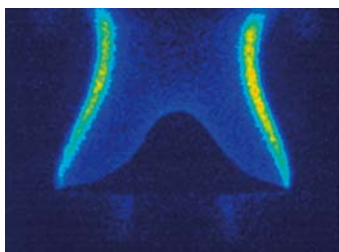
designed for the development of
more efficient and cleaner
combustion systems

Combustion is the major source of energy production and at the same time the principle source of air pollution.

LaVision's **FlameMaster** system family is designed to help the scientific and engineering community to find new concepts for the realization of more efficient and cleaner combustion devices. In-situ and on-line flame visualization is provided as well as quantitative information about species concentration and flame temperature.

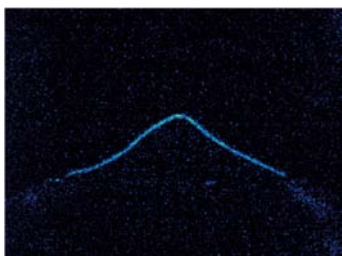


Applications



OH-PLIF signal

Information



CH-PLIF signal

Investigation of combustion phenomena in

- ▶ flames
 - ▶ burners
 - ▶ jet engine
 - ▶ furnaces
 - ▶ propulsion systems
 - ▶ chemical reactors
 - ▶ shock tubes
-
- ▶ fuel LIF imaging, air-fuel mixing
 - ▶ flame front visualization
 - ▶ flame radical distributions (OH, NO, CH ...)
 - ▶ flame structure and stability
 - ▶ flame and soot temperature
 - ▶ soot concentration and size of primary soot particles

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System Features

- ▶ integrated turnkey laser imaging systems based on application matched best selection of laser and camera
- ▶ complete hardware control using DaVis software
- ▶ accurate hardware and signal calibration
- ▶ flexible beam delivery and sheet forming optics
- ▶ laser sheet correction incl. local laser beam absorption compensation
- ▶ most efficient LIF excitation technique for each application and flame radical
- ▶ spectroscopic data base and background literature
- ▶ combination of techniques, multi-parameter laser imaging

Specials

- ▶ endoscopes for keyhole imaging
- ▶ high speed LIF systems
- ▶ soot imaging with in-situ calibration
- ▶ fast shutter and high speed imaging pyrometers
- ▶ volume scanning for 3D information
- ▶ tunable Nd:YAG laser module for OH-LIF imaging
- ▶ high speed spectral analysis of transient processes
- ▶ imaging stereoscopes
- ▶ calibration burners

Upgrades

- ▶ **SprayMaster** for spray characterization
- ▶ **FlowMaster** for velocity field measurements

Data provided by LaVision are believed to be true. However, no responsibility is assumed for possible inaccuracies or omissions. All data are subject to change without notice.

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