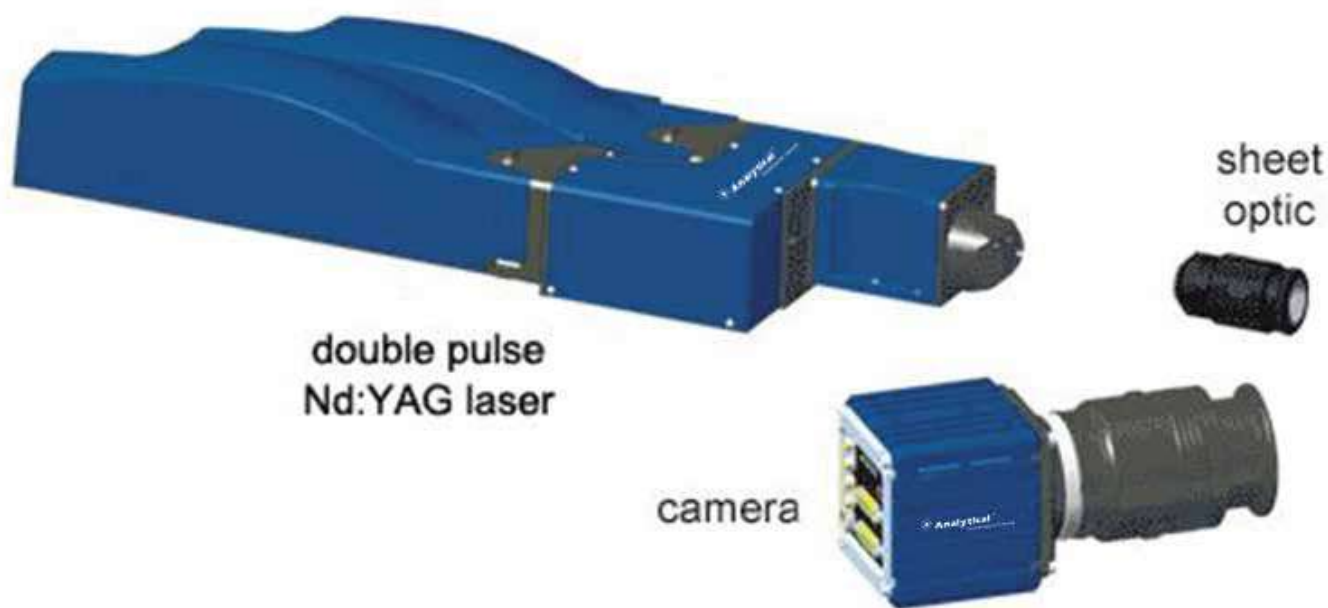


PIV-3300

Particle Image Velocimetry



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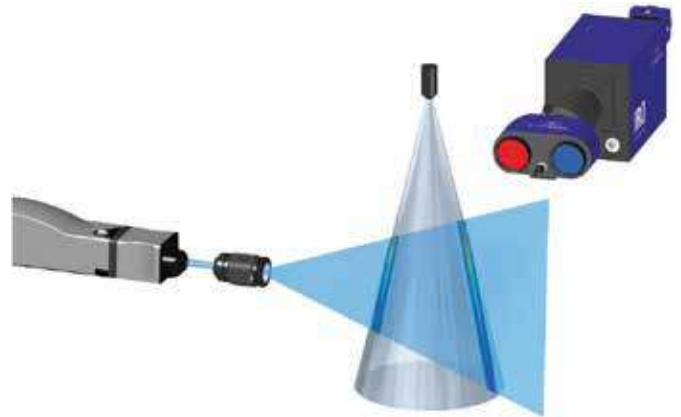
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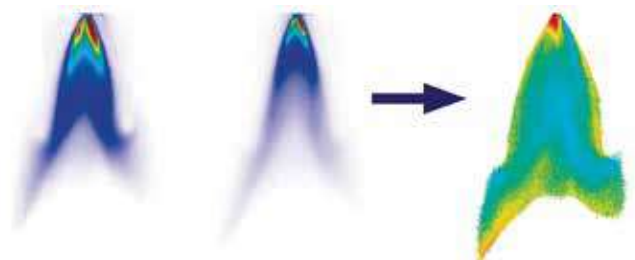
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►► Description

Laser light sheet imaging applied to sprays reveals instantaneous 2-dimensional maps of the relative Sauter Mean Diameter (SMD or D). Each snapshot represents the 2D distribution of the average droplet size, showing the dynamic behavior and the spatial structure of spray evolution.

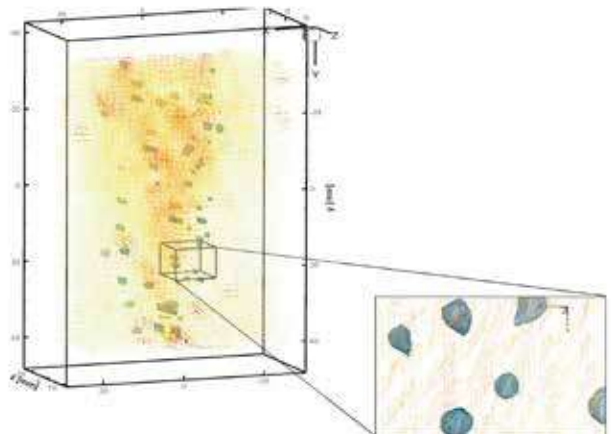


A ParticleMaster system can be used as a calibration device to convert the relative size information from the LIF/Mie technique into absolute numbers.



►► Tomographic shadowgraphy in multi-phase flows

Tomographic shadow imaging is used to reconstruct the bubbles in 3D space as well as the locations of the much smaller seeding particles dispersed in the liquid phase. Phase separation is performed using a software filter sensitive to the size difference between the seeding particles and the bubbles.



►► System features ParticleMaster Tomo-Shadow

- 3D imaging based on tomographic shadowgraphy
- phase separation based on shadow image size only
- state-of-the-art “Shake-the-Box” 4D-PTV algorithm
- bubble shape, size and velocity
- 3D velocity and acceleration field of the liquid phase
- only one backlight for volumetric illumination
- TecPlot[™] presentation of both phases in one coordinate system

3D snapshot imaging of the two-phase flow shows nicely the interaction between rising bubbles and the induced flow field in the water tank. The tomographic shadow imaging technique is scalable in space and time: larger and smaller volumes can be investigated depending on the desired spatial resolution. With a selection of high-speed cameras the recording rate can be increased to study faster flow phenomena at a higher time resolution.

►► Features

Non intrusive, planar or volumetric technique	Velocity range 0 to supersonic
Two or three velocity components simultaneously	Measurement areas from smaller than 1 mm ² up to bigger than 1 m ²
Snapshots of flowfields	Instantaneous velocity vector maps in a cross-section or volume of the flow
Statistics, spatial correlations and other relevant data are available	Results are similar to computational fluid dynamics, i.e. large eddy simulations.

Regulatory compliances



Corporate Social Responsibility

Analytical Foundation is a nonprofit organization (NGO) found for the purpose of:



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1. Research & Innovation Scientist's awards/QC Professional Award : Quality life is possible by innovation only and the innovation is possible by research only, hence ANALYTICAL FOUNDATION is committed to identify such personalities for their contributions across various field of Science and Technology and awarding them yearly. To participate for award, send us your details of research / testing / publication at Info@analyticalfoundation.org

2. Improving quality of life by offering YOGA Training courses, Work shops/Seminars etc.

3. ANALYTICAL FOUNDATION aims to DETOXYFY human minds,souls and body by means of yoga, Meditation, Ayurveda, Health Care, Awards, Media, Events, Camps etc.

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