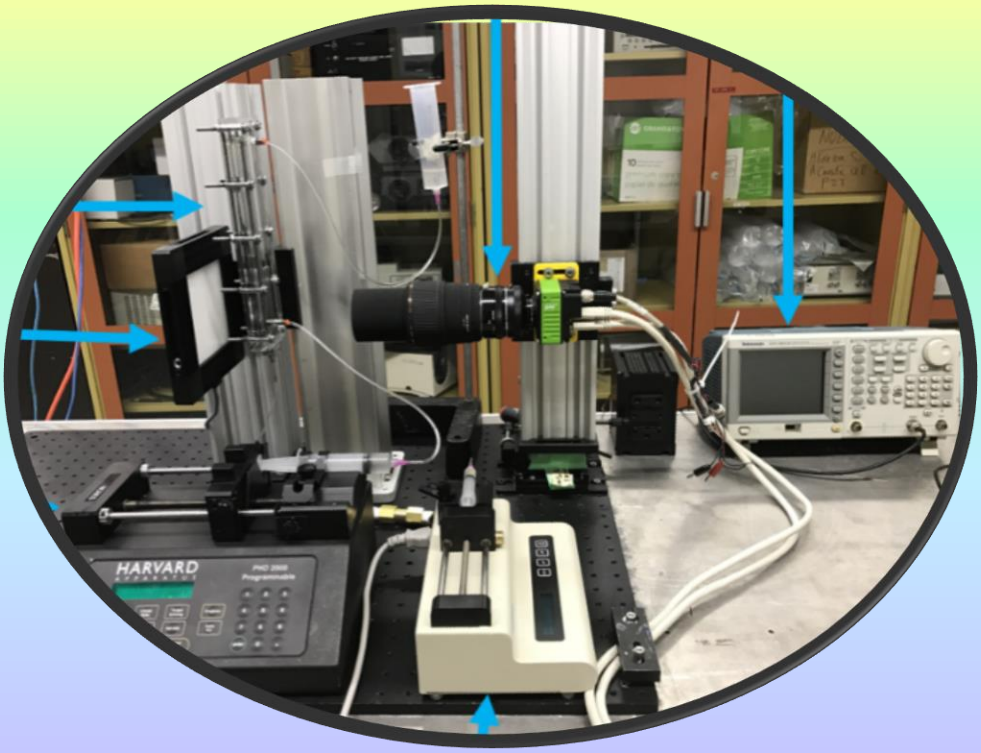
SimAltum

Testing Department

Shadow Imaging (SI) system



Virtual Prototyping Services
https://SimAltum.com
807-700-5504

The experimental setup contains a flow cell, high speed camera (CMOS SP-5000M-PMCL), macro lens (Sigma 105mm f/2.8 EX DG) and an LED source (BX0404, 4" × 4" Side-Fired LED Back Light). In this set-up, light passes through the flow cell and camera captures the shadow casted by tracer particles. The commercial software (Davis 8.2.4, LaVision GmbH) is used to calculate the velocity field by performing particle image velocimetry (PIV) image processing.

CAPACITY

- Camera Resolution of 2560 pixel × 2048 pixels at 135 frames per second rate
- Velocity measurement at a controlled flow rate from syringe pumps
- Flow measurement in narrow slots and complex structures such as porous media
- Provision of extension tubes, stepper rings to capture fluid motion within a narrow field of view

SPECIAL FEATURES

- Highly customized set-up to visualize scale formation as well as study of droplet passage through slots, and to investigate flow through porous media
- Estimation of pressure field from velocity field
- Non-intrusive velocity measurements within entire field of view
- Flexibility in image capturing features and automation by in-built CVI program

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