Lab # 6  Flow Velocity Field Measurements in a Micro-channel by using Micro-PIV Technique

Objectives:

1. To get “hands-on” experiences about Micro-PIV technique.

2. To learn how to do the optics alignment and experimental setup of Micro-PIV measurements.

3. To visualize the fluid flow movement inside a micro channel.

The microchannel and the experimental setup:

Micro-PIV technique is a most commonly-used technique for the in-situ flow velocity field measurements inside the microchannels of the Microfluidics or lab-on-a-chip devices. The microchannel and the experimental setup used for the present laboratory are shown in the Fig. 1 and Fig. 2 respectively.

Figures 1. the micro channel used for the present study.
Figure 2. The experimental setup used for the micro-PIV measurements

Requirements for the Lab Report

No formal report is required for this laboratory.