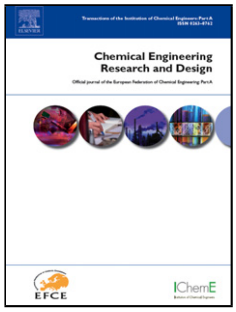

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Ghost Particle Velocimetry as an alternative to μPIV for micro/milli-fluidic devices

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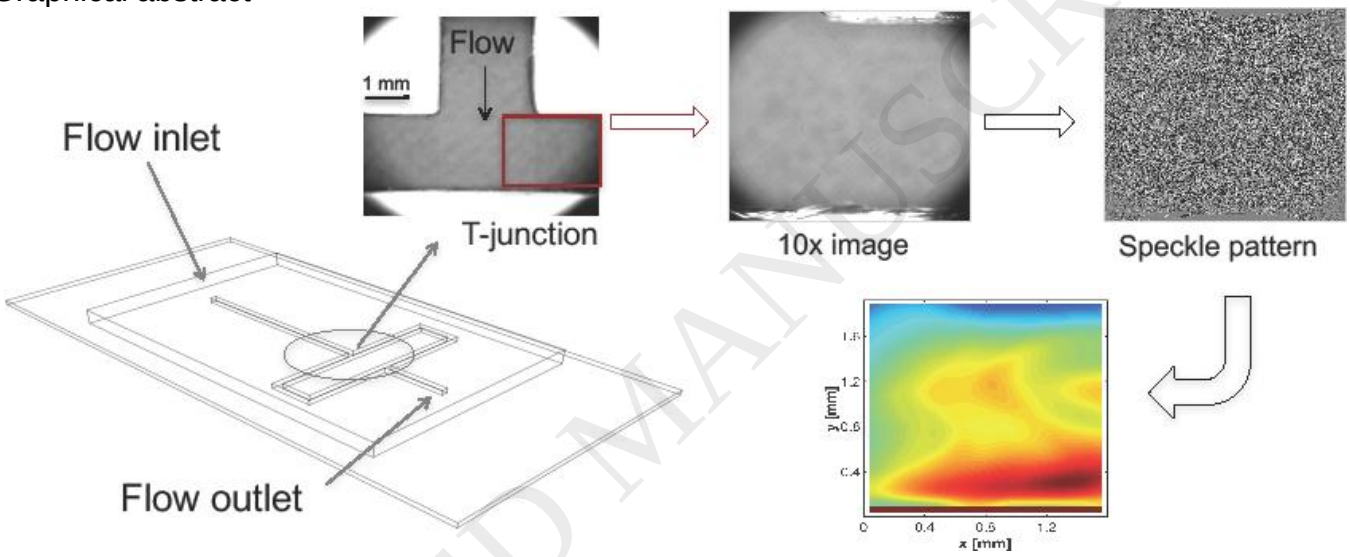
Graphical abstract



Highlights

- Ghost Particle Velocimetry and micron-scale Particle Image Velocimetry are compared;
- GPV performance are comparable to μPIV up to Reynolds number 250;
- Complex flow structures at a T-junction are analysed by GPV and μPIV;
- GPV is a reliable, easier and cheaper alternative to μPIV for micro/milli-fluidic devices.

Abstract

Ghost Particle Velocimetry (GPV) has only been recently introduced and has already been proven useful in small scale phenomena investigations, such as the study of the flow field during single droplets generation in microfluidic devices. In this work, GPV was used to experimentally investigate fluid flow close to a T-shaped