

# Caractérisation des écoulements en micro fluide par vélocimétrie à l'échelle micron appliquée aux microsystèmes

**Z. Zahali**

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**Abstract:** Microfluidics has been a field of research in full expansion for ten years, whose vitality is nourished by the diversity of its applications. Today, new technologies indeed make it possible to manufacture electromechanical systems of micro and nanometric size, up to 'at significant levels of complexity, and equipped with all kinds of functionalities. These new possibilities have been used in spectacular way for many applications, such as DNA microarrays, or lab-onchip. In all these systems, the problem of controlling flows in devices whose dimensions or internal patterns vary from a few hundred nanometers to a few tens of micrometers arises, this work will be devoted to an analysis and characterization of the flows applied to microsystems.

**Keywords :** microfluidics, DNA microarrays, microsystems