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Numerical simulation of microfluidic separators

Abstract

Microfluidic devices present a powerful platform for working with living cells and even gases. Parameter such as the length and volume scales of these devices in miniaturize system makes it possible to develops and perform detailed analyses with several advantages. The objective of this project is to do a design of 1μmmicrofluidic separator device that consist the microchannel. Furthermore, another objective is to understand the fundamental physical processes of fluid flow in these devices and to predict their behavior and every method using in the simulation of COMSOL Multiphysics 3.5 software will be elaborate innumerical simulation technique section. Finally, result from the simulation such as concentration, fluidic flow pressure and velocity field will be observed and explained in the result section

Keywords

Fluidic flow; Microchannel; Microfluidic devices; Separator