

Velocity profile investigation of FFS microchannel at Re 100

Abstract

Recently, microfluidics system has been widely employed in various areas for instance biomedical, pharmaceuticals and cell biological research due to its advantages. The flow behavior in microchannels with different cross-sections has been topic in previous studies. In this paper, numerical simulation of fluid flow in Forward Facing Step (FFS) configuration was performed to investigate velocity profile after the step. Reynolds numbers (Re) 100 with different step heights, $1\mu\text{m}$ and $3\mu\text{m}$ were used to observe trend occurs in the flow characteristics. The result illustrated an increase of velocity distribution with the increase of the step height.

Keywords; ρ , Microfluidic, Step Height, Velocity Profile