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WSS investigation in microfluidic FFS channel at Re 500

Abstract

Wall shear stress (WSS) is one of the important variables in microfluidic devices. In this paper WSS distribution for a microfluidic device in Forward Facing Step (FFS) configuration has been investigated using Reynolds number 500 and step height 1µm. Numerical simulation was performed usingAnsys-CFX software with the assumption of Newtonian fluid and laminar condition. The simulation result showed that wall shear stress distribution increased after the fluid passing through the step.

Keywords; Forward Facing Step, Laminar, Microfluidic, Newtonian Fluid, Wall Shear Stress (WSS)