

Abstract Submitted  
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**Energy and Momentum Transport in Microfluidic with Shear-driven Flows** S. SEN, National Institute of Aerospace and College of William & Mary, Hampton, VA 23666 — Transport of the pressure-driven perturbations with a sharp parallel velocity shear is studied in a microfluidic. Studies show when the second derivative of the parallel velocity with respect to the radial coordinate is positive, the linear mode may become unstable and turbulent momentum transport increases. On the other hand, when the second derivative of the parallel velocity is negative, the linear mode is completely stabilised and turbulent momentum transport reduces. Possible implications of this results in biomedical industry will be discussed.

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