

1106-VL-1377      **Xinli Wang\*** ([xwang@uscupstate.edu](mailto:xwang@uscupstate.edu)), 800 University Way, Spartanburg, SC 29303, and  
**German Drazer** ([german.drazer@rutgers.edu](mailto:german.drazer@rutgers.edu)), 98 Brett Rd, Piscataway, NJ 08854. *Biased transport of Brownian particles in a serpentine channel.*

We consider the biased transport of Brownian particles in a serpentine channel. Particles are confined either by solid walls or by a parabolic potential. The asymptotic method is applied to investigate the macro transport properties (the mobility and the effective diffusion coefficient) in a narrow channel. Our results show that both quantities are independent on the Peclet number. Furthermore, we show that the numerical results from the Brownian dynamic simulation match the analytical results very well. (Received September 12, 2014)