1120-35-186   **Dylan Muckerman*** (`muckerma@live.unc.edu`). *Stabilization rates for transport-diffusion equations.* Preliminary report.

We consider a transport-diffusion equation arising in microfluidic mixing devices. Under a geometric control condition, we show that the L^2 norm decays exponentially. Weakening the geometric control condition to allow for transport vanishing near the boundary, as well as diffusion vanishing near the boundary, we show polynomial decay estimates, with an additional assumption on the initial data. (Received February 21, 2016)