

Abstract Submitted  
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**Hydrodynamic interactions in colloidal systems confined to linear geometries with a singular corner.**<sup>1</sup> BINHUA LIN, RYAN ZARCONE, STUART A. RICE, University of Chicago — Here we investigate the question of whether or not the requirement that particles diffuse around a corner affects their hydrodynamic coupling. We report the results of studies of the collective diffusion coefficients of particles in quasi-one-dimensional linear channels of widths 3 and 5 $\mu\text{m}$ , each with a singular central corner of angle: 60-, 90-, 120-, and 180-degrees. We find that for large angles, the channels are so close in their geometry to 180-degrees that the corner has very little to no effect on the hydrodynamic coupling of particles on opposite sides of the apex. For small angles, the corner's effect is to increase the particle separation at which the maximum hydrodynamic coupling occurs.

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Binhua Lin  
University of Chicago

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