

Abstract Submitted  
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**An asymmetric Cheerio: Torque on objects floating on a liquid interface** MICHAEL MILLER, KHOI NGUYEN, SHREYAS MANDRE, Brown University — Objects suspended on a fluid interface by surface tension are subject to attractive and repulsive forces towards each other. When symmetry is broken, a capillary torque acts to rotate the objects into an equilibrium orientation. We employ optical refraction from the meniscus to obtain the shape of the liquid surface, and use the shape to calculate the torque. Through application of an analytical asymptotic analysis at a polygonal object's vertices, supported by empirical results, we gain an understanding of the rotational effects of sharp corners in a suspended object's contact line.

Michael Miller  
Brown University

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