

Abstract Submitted  
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**Simulation of flagellar motions near a rigid surface**<sup>1</sup> RICARDO ORTIZ, RICARDO CORTEZ, Tulane University, MARTIN BEES, University of Glasgow, JOHN KESSLER, LUIS CISNEROS, University of Arizona — Simulations of the hydrodynamic interaction of rotating flagella with a neighboring solid surface are presented using the method of Regularized Stokeslets. We include in the method the use of regularized rotlets and a system of images that exactly cancels the fluid velocity at the wall. The results show features such as an attraction towards the surface and rotations that generate a drag force that allows the flagellum to “roll” along the surface. Other compute flows resemble observed features of the flow when organisms are near the bottom of the plate in an experimental setting.

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