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Swimming near Tensorial Slip Surfaces CHRISTOPHER DUPRE, SAVERIO SPAGNOLIE, University of Wisconsin-Madison — Surfaces with anisotropic mobilities present an intriguing opportunity for passively influencing the motion of microorganisms or active particles in their presence. We study the self-propulsion of a classical model of microorganism locomotion, Taylor's swimming sheet, in the presence of one or two tensorial-slip surfaces. The swimming speed generically includes a lateral motion relative to the direction of undulatory waves on the body, and body rotation, and depends critically upon the distance to the wall(s). The theory also speaks to swimming and crawling near surfaces with rough boundaries.

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