

Abstract Submitted
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Kinematics and Fluid Dynamics of Jellyfish Maneuvering LAURA MILLER, ALEX HOOVER, University of North Carolina — Jellyfish propel themselves through the water through periodic contractions of their elastic bells. Some jellyfish, such as the moon jellyfish *Aurelia aurita* and the upside down jellyfish *Cassiopea xamachana*, can perform turns via asymmetric contractions of the bell. The fluid dynamics of jellyfish forward propulsion and turning is explored here by analyzing the contraction kinematics of several species and using flow visualization to quantify the resulting flow fields. The asymmetric contraction and structure of the jellyfish generates asymmetries in the starting and stopping vortices. This creates a diagonal jet and a net torque acting on the jellyfish. Results are compared to immersed boundary simulations

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