

Abstract Submitted
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The Hydrodynamic Optimization of a Cable-Flying Vehicle

BRIAN AMARAL, University of Rhode Island — Profiling the water column with high vertical and horizontal resolution in the deep ocean from a moving vessel is difficult with the current tools. Thus, a new, higher resolution-capable wire-flying vehicle, the WiFly, is being designed to profile the water column. The WiFly traverses up and down a ship-towed cable by generating lift from wings that protrude from the sides of vehicle. Because the success of the vehicle is based on its glide slope performance, the ratio of vertical velocity to horizontal velocity, the shape of the vehicle must be optimized for the flow conditions associated with its anticipated uses in oceanographic science. Results include evaluation methods, body shapes, and the parameters involved in selecting the most desirable shape characteristics.

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