Abstract Submitted
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The water entry of streamlined bodies[1] KYLE BODILY, TADD TRUSCOTT, Brigham Young University — We present the results of an experimental study on the effects of nose shape, wetting angle, and impact angle on the water entry of axisymmetric bodies. Forces, velocity and trajectory are inferred from an inertial measurement unit embedded into the tail and validated by high-speed imaging. A hydrophone is used to record the sounds of cavity collapse to extract a unique signature for each nose shape. Horizontal motion is strongest when impacting with small oblique angles normal to the free surface and weakest when the surface of the body is coated in a half-hydrophobic and half-hydrophilic coating. Additionally, the nose shape has the largest effect on altering acoustic signature for impacts normal to the free surface.

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