

Abstract Submitted
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Cavity rippling during the entry of solid objects into water TOR-
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post-impact pinch-off of the cavity formed behind a projectile (solid object or fluid
drop) often leads to the volumetric oscillation of the entrained air bubble, accom-
panied by acoustic emissions. Here we present experimental observations of a well-
defined rippling of the air cavity behind different types of solid projectiles. The
ripples begin just after the pinch-off (deep seal) of the cavity, simultaneous with the
acoustic emission, and are typically fixed in the lab frame. The ripple wavelength
scales linearly with both the diameter of the projectile and its velocity, consistent
with a scaling based on the Minnaert frequency of an axisymmetric cavity.

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