

Abstract Submitted
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Resonance of water balloons CHUN-TI CHANG, Natl Taiwan Univ,
PAUL STEEN, Cornell University — Water balloons and water drops exhibit similar resonance behaviors. For water drops, numerous resonance modes have been reported. The dynamics of drops is the competition between inertia and surface tension. In contrast, the inertia competes the elasticity of the membrane for resonating water balloons. Despite such difference, a one-to-one correspondence is observed between the mode shapes of drops and balloons. In this talk, we showcase the families of resonance modes for drops and balloons. Additionally, we compare their dispersion relations and symmetry-breaking mechanisms. Based on these, we conclude that water balloons are essentially drops with a much higher effective surface tension.

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