

Abstract Submitted  
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**Footprint Geometry and Sessile Drop Resonance** CHUN-TI CHANG<sup>1</sup>, National Taiwan University, SUSAN DANIEL, PAUL H. STEEN, Cornell University — How does a sessile drop resonate if its footprint is square (square drop)? In this talk, we discuss the two distinct families of observed modes in our experiments. One family (spherical modes) is identified with the natural modes of capillary spherical caps, and the other (grid modes) with Faraday waves on a square bath (square Faraday waves). A square drop exhibits grid or spherical modes depending on its volume, and the two families of modes arise depending on how wavenumber selection of footprint geometry and capillarity compete. For square drops, a dominant effect of footprint constraint leads to grid modes which are constrained response; otherwise the drops exhibit spherical modes, the characteristic of sessile drops on flat plates.

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