

Abstract Submitted
for the MAR16 Meeting of
The American Physical Society

Interfacial Bubble Deformations¹ BRIAN SEYMOUR, James Madison University, PARVIS SHABANE, Virginia Tech, OLIVIA CYPULL, James Madison University, SHENGFENG CHENG, Virginia Tech, KLEBERT FEITOSA, James Madison University — Soap bubbles floating at an air-water experience deformations as a result of surface tension and hydrostatic forces. In this experiment, we investigate the nature of such deformations by taking cross-sectional images of bubbles of different volumes. The results show that as their volume increases, bubbles transition from spherical to hemispherical shape. The deformation of the interface also changes with bubble volume with the capillary rise converging to the capillary length as volume increases. The profile of the top and bottom of the bubble and the capillary rise are completely determined by the volume and pressure differences.

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Date submitted: 06 Nov 2015

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