

Abstract Submitted  
for the DFD19 Meeting of  
The American Physical Society

**Measurements of capillary-gravity wave reflection from surface intersecting structures.**<sup>1</sup> LIKUN ZHANG, XINYUE GONG, ROBERT LIRETTE, ZHEGUANG ZOU, The University of Mississippi — A full understanding of the fluid surface wave interactions with solid boundaries in micro-gravity environments is essential for the containment and control of liquids during manned space missions. When containing fluids using minimal support structures, capillary oscillations occur and capillary wave energy is dissipated at contact lines. We present results of experimental measurements on the reflection and transmission of capillary-gravity waves encountering a surface piecing barrier. Dissipation near the contact lines for capillary waves is deduced from the transmission and reflection measurements. The surface perturbation is measured by the ultrasonic Doppler-shift method. We determine the dependence of the interactions with the wave frequency. The frequency is varied from the gravity wave limit to the short-wavelength regime where surface tension effects are dominant over gravity effects.

<sup>1</sup>supported by 2019 MS NASA EPSCoR RID Seed Grants

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Date submitted: 09 Oct 2019

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