

Abstract Submitted  
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**Levitation height for ordered arrays of microdroplets over solid-gas and liquid-gas interfaces** DMITRY ZAITSEV, DMITRY KIRICHENKO, Institute of Thermophysics, Russia, VLADIMIR AJAEV, Southern Methodist University, OLEG KABOV, Institute of Thermophysics, Russia — We report novel experimental observations of levitating droplets of liquid condensate which organize themselves into ordered arrays over hot liquid-gas and solid-gas interfaces. Mathematical models are developed that explain the mechanisms of droplet levitation for both configurations and lead to new power laws for the levitation height as a function of droplet size. The predictions of the models are shown to be in good agreement with the experimental data. Using the insights from the models and new experiments, we are able to resolve some long-standing controversies from previous studies of levitating droplets.

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