Abstract Submitted
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Thermophoretic Levitation of Generic Materials[1] CONNOR FIEWEGER, CHENG CHIN[2], JOEY HE, MICHELLE CHONG, University of Chicago — We report the stable levitation of novel materials through the use of thermophoresis under vacuum. While previous experiment was limited to mostly point-like, solid particles, we now realize levitation of liquid water and porous paper through the use of two newly constructed levitation vacuum chambers. Water droplet mass is calculated from recorded radii of the droplets through absorption imaging and this mass is compared to theoretical prediction for the mass of a stably levitated particle, where good agreement is found. The behavior of 2-dimensional sheets and 3-dimensional folded structures of porous paper is reported in order to inform future theory describing thermophoretic effects on non-spherical objects, which is yet to be developed.

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