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Growth and Evaporation of Optically Trapped Liquid Droplets Viewed with a Two Axis Microscope SCOTT DEWOLF, LOWELL I. MCCANN, Physics Dept., University of Wisconsin-River Falls — Water droplets in air can be trapped in a single-beam optical trap (optical tweezers) for extended periods of time. The trap used in this work is a unique two axis microscope system that allows the trapped object to be viewed from the top and the side simultaneously. Both views are imaged onto a single digital camera with temporal resolution of better than 5ms. We will report on the behavior of water droplets as they grow and evaporate while in the trap. We will discuss changes in the size and shape of the droplets over time, the onset of instabilities during the evaporation process, and how the trapping laser power affects the droplet. This research was supported by an award from Research Corporation.

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