

Abstract Submitted
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Investigations of Abrupt Movements of Optically Trapped Water Droplets¹ SHAWNTEL MURPHY, LOWELL I. MCCANN, University of Wisconsin-River Falls — We have used a single beam optical trap (optical tweezers) to capture individual water droplets in air. A 3-dimensional viewing system consisting of a two axis microscope allows the trapped droplet to be viewed from the top and the side simultaneously. The position of the droplet is determined with a digital camera at a rate up to 700Hz. We have observed abrupt movements along the beam in two situations: As a pure water droplet evaporates, the movements occur at specific size intervals as the diameter decreases. For non-evaporating saltwater droplets the movements rapidly occur for certain ranges of beam power, and not at all for other ranges of power.

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