

Abstract Submitted  
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**A comparison of microspheres and sediment drag using a Visual Accumulation Tube** JOHN GARCIA, BRUCE J HARRISON, MICHAEL HARGATHER, New Mexico Tech — A Visual Accumulation Tube (VAT) is an instrument used to measure particle sizes in a collected sand sample based on terminal velocity and Stokes Law. The particles of interest have diameters between 1 and 1000 micrometers and samples, which are typically collected from rivers as suspended sediment, can be as small as 0.05 grams dry weight. A modernized VAT was constructed at New Mexico Tech consisting of a stepper motor to release particles into a 1.2 meter distilled water column, a video camera to collect settling data, and an automated MATLAB routine to extract particle sizes from the video recordings. Fundamental experiments were performed to validate particle size measurements and Stokes Law drag assumptions for spherical particles of a known size and coarse-grained sand samples of known size distributions.

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