Abstract Submitted
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Developing functional Optical Tweezers for Undergraduate Research[1] TANYA DAX, TONI SAUNCY, Angelo State University — Optical tweezers are useful for manipulation of microscopic materials without damage from physical contact. This project utilized a 20mW HeNe laser (wavelength 632.8nm) and a reconfigured standard teaching-laboratory microscope to form a stable diffraction limited trap. A simple method of live recording of moving particles was developed with the use of AVT SmartView and NI Vision Assistant. The physical setup was altered several times to eliminate sources of misalignment, until an optimal configuration was achieved and optical trapping and manipulation of a polystyrene microsphere was successfully recorded. Additionally, Calcite particles on the order of 1 micrometer were manipulated with the optical trap.

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