

Abstract Submitted
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Identifying the relation between trapping force of Laser Tweezers and Size of Microsphere particles¹ ALEXANDRA DIABRE, Seton Hall University — Optical trapping technique is the method in which micron and sub-micron particles can be studied. In this technique the laser pressure radiation creates the essential force to trap particles. This force depends on several parameters including the particles' indices of refraction, the specification of the beads surrounding environment and the characteristics of the implemented laser. On this work we present the outcome of the experiment we designed to analyze the trapping force. In this experiment we used micro sized beads with different indices of refraction, changed the viscosity of the surrounding environment of the beads and adjusted the power of the laser implemented. By analyzing the motion of the beads in several trials, the trapping force was estimated and its dependency to the parameters mentioned above was identified. Finally the outcomes of our experiment were compared with the theoretical reported results.

¹This work was conducted under the supervision by Dr. Mitra Feizabadi

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