

Abstract Submitted
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Laser Interferometry and Precision Measurements NICHOLAS TOMLINSON, ARDEN LESLEY, MICHAEL DOUCETTE, DR. R. S. SMITH, Francis Marion University — A basic Michelson Interferometer was built using a 633 nanometer Helium-Neon Laser along with mirrors, a beamsplitter and a photodiode detector placed on the optical breadboard of a Newtonian Labs Laser Interferometry apparatus. One of the mirrors contains a Piezoelectric Transducer that is used to move the mirror with an applied voltage. Electronic signals output from the apparatus were analyzed using a Tektronix TBS 1052B 50 MHz 1GS/s Dual Channel Digital Oscilloscope. Various methods were utilized to determine the minimum displacement that the interferometer could measure. Results on the order of a picometer were obtained.

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