

Abstract Submitted
for the MAS16 Meeting of
The American Physical Society

Construction and Testing of a Scanning Fabry-Perot Interferometer ROBIN DEPTO, Delaware Technical and Community College, WAYNE N MANRAKHAN¹, Delaware State University — Scanning Fabry-Perot interferometers (SFPI) are useful devices for determining the spectral characteristics of coherent light sources. Due to budget limitations, we constructed an inexpensive SFPI in the confocal arrangement with high enough precision for optical lab work. The SFPI's cavity length is adjusted via a voltage-controlled piezo transducer and the resulting changes in interference patterns are measured using an amplified photodetector. The output signal is then processed by either an oscilloscope or a spectrum analyzer. As a first test, the device was used to determine the longitudinal mode separation of a commercially available HeNe laser. An explanation of the design, a discussion of how components were selected, and the fabrication process will be presented. We will also present results that show our device performs as intended.

¹Also Delaware Technical and Community College

Wayne N Manrakhan
Delaware State University

Date submitted: 16 Sep 2016

Electronic form version 1.4