

Abstract Submitted  
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**Characterization of Thermo-optic and Thermal Expansion Coefficients of Semiconductors** CHRISTOPHER DIROCCO, University of Dayton, Electro-Optics Department, GLEN GILLEN, SHEKHAR GUHA, Air Force Research Laboratory, Materials and Manufacturing Directorate, Wright Patterson Air Force Base, OH 45433 — The functionality of any material depends on our knowledge of its fundamental properties. A better understanding of these properties can be used to predict the behavior of the material under various conditions, evaluate possible applications of the material or to classify the makeup of unidentified materials. Two valuable properties of a material are the thermo-optic and the thermal expansion coefficients. These coefficients are specifically necessary for any material used in non-linear experiments or modeling where the thermal environment is a variable. This session will describe the application of a Fabry-Perot interferometer setup in order to investigate temperature's effect on a material's optical path length between room and cryogenic temperatures and how to use this information to determine a material's thermo-optic and thermal expansion coefficients.

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