

Abstract Submitted
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Investigating polarized fluorescence emission of Naphthalene Diimide polymer films via Stokes Spectroscopy¹ STEVEN ULRICH, THABITA SUTCH, The University of Alabama, MATTHIAS SCHWEIZER, Technische Universitt Kaiserslautern, GREG SZULCZEWSKI, The University of Alabama, NEWTON BARBOSA NETO, Federal University of Para, PAULO ARAUJO, The University of Alabama, SZULCZEWSKI'S GROUP. COLLABORATION, NANOLAB@UA COLLABORATION — Structural studies of materials, especially polymers, has been an area of growing interest in the past decades. This is due to the wide variety of physical, optical and chemical properties which can be tuned to obtain desired outcomes. Such polymers include P(NDI2OD-T2) an organic n-type, donor-acceptor polymer. Techniques to measure the structure, chemical and optical properties of these materials include XRD, time resolved spectroscopy and other timely and expensive methods. This work seeks to implement Stokes parameter analysis to create a new spectroscopic method, which can be implemented at a fraction of the cost and with relative ease. This technique, when used to probe P(NDI2OD-T2), has been able to discern information about polymer aggregate formation, energy transfer and out of plane stacking on the basis of solvent choice and sample thickness. Additionally, this technique gives information regarding the polarized emission from excited sources, which could provide insight for increased device performance.

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