

Ultrafast Dynamics in Conducting Polymers

Aaron M. Massari (PI), Audrey Eigner

Department of Chemistry, University of Minnesota

- Goal: Prepare platforms that allow electrical and optical characterization of conducting polymer thin films
 - ◆ Interdigitated Array (IDA) Electrodes on Calcium Fluoride
 - ◆ Spin-casting conductive poly(aniline) and poly(phenylenevinylene) over electrodes
- MAJOR OBSERVATIONS
 - ◆ IDA geometry combined with profilometric thickness measurements allow the bulk conductivity of the polymers to be determined
 - ◆ Electrode dimensions and spacing permits in-situ characterization of polymer dynamics (picosecond to femtosecond) through time-resolved IR spectroscopy
 - ◆ Two- and three-electrode electrochemical experiments are feasible on the spin-cast polymers

