

Abstract Submitted
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Defect Induced Polar Structures in Nematic Liquid Crystals¹

SHOKIR PARDAEV, Department of Physics, Kent State Univ - Kent, ANTAL JAKLI, Liquid Crystal Institute, Kent State Univ - Kent, JAMES GLEESON, BRETT ELLMAN, SAMUEL SPRUNT, Department of Physics, Kent State Univ - Kent — We use angle-resolved second harmonic light scattering as a tool to probe polar structures due to defects in a series of liquid crystal samples, including rod-like and bent-core molecules forming the standard uniaxial nematic phase, and dimers that exhibit the exotic twist-bend phase. We describe models to explain the spatial distribution and polarization of second harmonic scattered light, based on electric polarization induced by deformations of the molecular orientation associated with specific topological defect structures. We thank O. Parri at Merck Chemicals Ltd., Southampton, UK for providing the studied material for us

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