

Abstract Submitted
for the MAR15 Meeting of
The American Physical Society

Second Harmonic Light Scattering Study of a Twist-Bend Nematic Liquid Crystal¹ SHOKIR PARDAEV, JAMES GLEESON, Department of Physics, Kent State University, ANTAL JAKLI, Chemical Physics Interdisciplinary Program and Liquid Crystal Institute, Kent State University, SAMUEL SPRUNT, Department of Physics, Kent State University — The twist-bend nematic phase exhibited by certain liquid crystalline dimers has been the subject of intensive recent investigation. In this report we present the results of angle-resolved second harmonic (SH) light scattering measurements from a twist-bend (TB) nematic liquid crystal for various combinations of the fundamental and second harmonic polarizations. These measurements reveal a polarization-dependent pretransitional temperature dependence of the SH signal, as well as an evolution of the SH scattering pattern below the transition (in the TB phase). We will discuss our results in terms of other recent experiments, as well as the current theoretical understanding of the nematic to TB transition and the nature of the TB phase. We thank O. Parri at Merck Chemicals Ltd., Southampton, UK for providing the studied material for us.

¹Acknowledgement: NSF DMR-0964765 and DMR-1307674.

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Date submitted: 13 Nov 2014

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