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Fluctuation Modes of a Bent-Core Nematic Liquid Crystal[1] MADHABI MAJUMDAR, SAONTI CHAKRABORTY, YOGESH SINGH, JAMES T. GLEESON, Physics Department, Kent State University, ANTAL JAKLI, LCI, Kent State University, SAMUEL SPRUNT, Physics Department, Kent State University
— We present a dynamic light scattering study of the bent-core nematic liquid crystal compound *DT6Py6E6.* We utilize a "dark" scattering geometry, which allows us to search for fluctuation modes that are not purely associated with the uniaxial director. Indeed, we observe two modes (hydrodynamic and non-hydrodynamic) in addition to the expected twist-bend director mode. We present a model for the additional modes based on fluctuations of the biaxial order parameter, which leads to an estimate of 10-100 nm for the correlation length associated with these fluctuations.

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