Fluctuation Modes of a Bent-Core Nematic Liquid Crystal\textsuperscript{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 \textit{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.

\textsuperscript{1}Acknowledgement: NSF DMR-0606160.