Abstract Submitted
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Flexoelectric effect in a bent-core liquid crystal measured by Dynamic Light Scattering[1] MADHABI MAJUMDAR, K. NEUPANE, JAMES. T. GLEESON, ANTAL JAKLI, SAMUEL SPRUNT, Kent State University — Flexoelectricity is a linear coupling between electric polarization and elastic flexure in liquid crystals [1]. Although typically quite weak in calamitic LCs, the flexoelectric effect has recently been shown, by direct (electromechanical) measurement of the flexure-induced polarization, to be enhanced by several orders of magnitude in certain bent-core nematic (BCN) liquid crystals [2]. We report here an application of dynamic light scattering to measure the flexoelectric coefficient $(e1 + e3)$ of BCNs through coupling of polarization to elastic fluctuation modes of the optic axis. Our results agree in order of magnitude with the values obtained by the electromechanical method.

[1] R.B. Meyer, *Phys. Rev. Lett.* 22, 918 (1969).
[2] J. Harden, B. Mbanga, N. Eber, K. Fodor-Csorba, S. Sprunt, J. T. Gleeson, A. Jakli, *Phys. Rev. Lett.* 97, 157802 (2006).

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