

Abstract Submitted
for the MAR16 Meeting of
The American Physical Society

Effect of an applied electric field on a weakly anchored non-planar Nematic Liquid Crystal (NLC) layer¹ ENSELA MEMA, LINDA J. CUMMINGS, LOU KONDIC, New Jersey Institute of Technology — We consider a mathematical model that consists of a NLC layer sandwiched between two parallel bounding plates, across which an external field is applied. We investigate its effect on the director orientation by considering the dielectric and flexoelectric contributions and varying parameters that represent the anchoring conditions and the electric field strength. In particular, we investigate possible director configurations that occur in weakly anchored and non-planar systems. We observe that non-planar anchoring angles destroy any hysteresis seen in a planar system by eliminating the fully vertical director configuration and the "saturation threshold" seen in weakly anchored planar Freedericksz cells.

¹Supported by NSF Grant No. DMS-1211713

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Date submitted: 06 Nov 2015

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