

On parameter determination in polarimetric measurements of nematic liquid crystals

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The material corresponding to this talk was published in [1]. This work is motivated by a polarimetric experiment (performed in HP Labs) where a thin slab of nematic liquid crystal was placed on a cylindrical mount, and illuminated by a focused polarized laser beam. As the slab is rotated and the polarimetric measurement data (the so-called Stokes parameters) varies with the angle of incidence. The object of this work was to determine what information on the dielectric permittivity of the liquid crystal could be retrieved from this data.

- [1] Capdeboscq Y Tsering-Xiao B 2013 On one-dimensional inverse problems arising from polarimetric measurements of nematic liquid crystals *Inverse Problems* **29** 125003