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Hybrid Aligned Nematics and second order elasticity

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Abstract. The effect of the second order elasticity on the critical thickness of Hybrid Aligned Nematic cells possessing either weak planar or weak homeotropic anchoring has been analysed. It is found that the critical thickness of such cells is strictly dependent on the surface elastic constant K_{13} and on the second order bulk elastic constant K^* .

Moreover, an experimental method for an indirect measurement of K_{13} and K^* is proposed.

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