

Abstract Submitted
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The interplay between fluctuations in physical structure and power consumption in electroconvecting liquid crystals JOHN CRESSMAN, ZRINKA GREGURIC, TYRUS BERRY, TIMOTHY SAUER, George Mason University — We will present results from experiments performed on the nematic liquid crystal MBBA. We have made simultaneous measurements of the optical patterns formed in the weakly-driven electroconvective state, as well as the electrical power consumed by the sample. By performing a dimensionality reduction on the optical data we identify the dominant modes in the system and go on to elucidate the role of these modes in the measured power fluctuations. We will conclude by discussing these results in the context of the free energy derived by de Gennes for nematic liquid crystals.

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