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Differential Dynamic Microscopy for measuring viscoelastic ratios of Chromonic Liquid Crystals KARTHIK NAYANI, JUNG OK PARK, MOHAN SRINIVASARAO, Georgia Institute of Technology — Differential Dynamic Microscopy(DDM) enables one to access the scattering information from a sample by Fourier analyzing the real space images obtained from a light microscope. Thermal fluctuations of the director about the mean position allows one to study the viscoelastic properties of the nematic. Normally such measurements of the viscoelastic constants require time consuming and sensitive light scattering experiments. DDM enables us to extract the same data just by analyzing a real space movie a few seconds long using a high speed camera. We present results of viscoelastic measurements of Chromonic liquid crystal Sunset yellow using DDM measurements.

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