

Abstract Submitted
for the MAR11 Meeting of
The American Physical Society

Brownian motion of particles in nematic fluids XUXIA YAO, KARTHIK NAYANI, JUNG PARK, MOHAN SRINIVASARAO, Georgia Institute of Technology — We studied the brownian motion of both charged and neutral polystyrene particles in two nematic fluids, a thermotropic liquid crystal, E7, and a lyotropic chromonic liquid crystal, Sunset Yellow FCF (SSY). Homogeneous planar alignment of E7 was easily achieved by using rubbed polyimide film coated on the glass. For SSY planar monodomain, we used the capillary method recently developed in our lab. By tracking a single particle, the direction dependent diffusion coefficients and Stokes drag were measured in the nematic phase and isotropic phase for both systems.

Xuxia Yao
Georgia Institute of Technology

Date submitted: 10 Dec 2010

Electronic form version 1.4