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Fullerene (C_{60}) nano-colloids in nematic liquid crystal[1] ANGELO VISCO, KEVIN SOBCZAK, RIZWAN MAHMOOD, Slippery Rock University — We report high resolution homodyne light scattering studies to probe director fluctuations in bend/splay mode in bulk nematic liquid crystal and as a function of fullerene (C_{60}) nanoparticles concentration. The preliminary analysis shows that the relaxation time of these fluctuations is fairly constant with in the experimental uncertainty despite the constraints imposed on the director fluctuations due to the insertion of nano colloids. The relaxation time extracted from the data found to be in nano seconds range and the diffusion constant (D) found to be, D = 4.29 x 10^6 cm/sec.

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