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Flexo-Opto-Electric Studies of fullerene (C_{60}) nano-colloids in namatic liquid crystal JON FOUST, ANGELO VISCO, KEVIN SOBCZAK, RIZWAN MAHMOOD, Slippery Rock University — We have explored the effects of fullerene (C_{60}) nano colloids on the elastic, dielectric and optical properties of thermotropic liquid crystal in nematic phase as a function of C_{60} concentration and temperature. Data suggest softening of elastic behavior and divergence of dielectric properties as the temperature approaches to the isotropic phase. We will also report critical concentration and the critical exponent as extracted by fitting data to a model equation. These studies are important because of the potential applications in liquid crystal devices, drug delivery vehicles, and solar energy systems.

Angelo Visco
Slippery Rock University

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