

Abstract Submitted
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Nematic Anchoring on Carbon Nanotubes RAJRATAN BASU, GERMANO IANNACCHIONE, Worcester Polytechnic Institute — A dilute suspension of carbon nanotubes (CNTs) in a nematic liquidcrystal (LC) does not disturb the LC director. Due to a strong LC-CNT anchoring energy and structural symmetry matching, CNT long axis follows the director field, possessing enhanced dielectric anisotropy of the LC media. This strong anchoring energy stabilizes local *pseudone-matic* domains, resulting in nonzero dielectric anisotropy in the isotropic phase. These anisotropic domains respond to external electric fields and show intrinsic frequency response. The presence of these domains makes the isotropic phase electric field-responsive, giving rise to a large dielectric hysteresis effect.

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