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Effect of carbon nanotubes on field-induced nematic switching RAJRATAN BASU, US Naval Academy — A small quantity of carbon nanotubes (CNT) was doped in a nematic liquid crystal (LC), and the LC+CNT hybrid was found to exhibit a faster field-induced nematic switching compared to that of the pure LC. The field-induced switching time was probed by means of the electro-optic response of the samples. The hybrid system also revealed a reduced rotational viscosity and an enhanced dielectric anisotropy. The results suggest that the hybrid system undergoes a faster field-induced switching, as the CNTs favorably alter the rotational viscosity and the dielectric anisotropy of the nematic matrix.

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