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Studies of the Polymer-Stabilized Cholesteric Texture Films Doped with
SmC*

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Abstract

Cells of polymer-stabilized cholesteric texture (PSCT) were fabricated by adding various ferroelectric liquid crystal (SmC*) dopant concentrations. Measuring the electro-optical characteristics of these cells indicated that adding a small amount of a SmC* could significantly improve the cells' electro-optical characteristics. Both the device's threshold voltage and the rise time were decreased, while the hysteresis width was increased. Such an improvement was attributed to the increase of the dielectric anisotropy of the liquid crystal and the modification of cells' polymer network with the addition of a small amount of SmC* in the mixture.

Key words : Cholesteric liquid crystal; Ferroelectric liquid crystal;
Polymer network