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Thermally Erasable Color-Reflective Bistable Display Device

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Abstract

We investigate optical properties of the thermally erasable color-reflective bistable display device, made of a cholesteric liquid crystal (CLC) mixture whose pitch length is independent of the temperature. Thermal annealing experiments show that the electrically addressed cell focal conic state is stable when the annealing temperature is under the clear temperature (T_c) of the CLC mixture. However, when the annealing temperature exceeds T_c , the addressed focal conic state rapidly transforms into the planar state. Utilizing a thin cell or annealing the cell near T_c effectively improves the cell planar orientation and optical properties.

Key words : Bistable; Cholesteric; Liquid crystal