

CHOLESTERIC LCDs

Tuesday, May 22 / 10:50 am – 12:10 pm / Room 104BC

Chair:

Xiao-Yang Huang, *Ebulent Technologies Corp., Stow, OH, U.S.A.*

Co-Chair:

Deng-Ke Yang, *Kent State University, Kent, OH, U.S.A.*

- 6.1: **Invited Paper:** Recent Progress in Color Flexible Reflective Cholesteric Displays (10:50)

*A. Khan, T. Schneider, E. Montabach, D. Davis, N. Miller,
D. Marhefka, T. Ernst, J. W. Doane
Kent Displays, Inc., Kent, OH, U.S.A.*

Highly flexible layered full-color cholesteric displays built using ultra-thin substrates with encapsulation by using the phase-separation approach has been developed. Recent progress in the state of the art of cholesteric-display technology will be presented.

- 6.2: Dynamic Driving Schemes for Cholesteric LCDs to Eliminate Data-Dependent Defects (11:10)

*X-D. Mi, D. M. Johnson, S. W. Stephenson
Eastman Kodak Co., Rochester, NY, U.S.A.*

An improved dynamic driving scheme is proposed to eliminate data-pattern dependency in cholesteric LCDs by inserting a framing voltage pulse between each successive selected pixel voltage pulse such that the effective selection time is independent of the preceding and following non-selected pixel voltages.

- 6.3: Writable Cholesteric LCD and the Algorithm Used to Detect Its Image (11:30)

*D-W. Lee, J-W. Shiu, Y-A. Sha, Y-P, Chang
ITRI, Hsinchu, Taiwan, ROC*

A writable cholesteric LCD and the algorithm used to detect its image were developed. By measuring the capacitance of one pixel of a test cell (12mm x 15mm / 1 x 1), the F- or P-state could be detected. By measuring the capacitance of one pixel of a 4.1-in.ChLCD (241 μm x 241 μm / 320 x 320), the F- or P-state could not be detected due to the effect of parasitic capacitance. High-frequency measurements and an algorithm to detect the image on ChLCD were developed.

- 6.4: Single-Substrate Coatable Multicolor ChLCDs (11:50)

*I. Shiyonovskaya, S. Barua, S. Green, A. Khan, G. Magyar,
D. Marhefka, N. Miller, O. Pishnyak, J. W. Doane
Kent Displays, Inc., Kent, OH, U.S.A.*

New ultra-thin multicolor cholesteric LCDs with all functional layers sequentially coated on a single flexible substrate were developed. Shared electrode driving was implemented for the first time to drive passive-matrix multicolor emulsion-based displays comprised of three layers of cholesteric droplets embedded in a polymer matrix.

LUNCH

(12:10–2:00)

AUTHOR INTERVIEWS

(3:20–4:20)