

**WIDE VIEWING ANGLE II**

Wednesday, May 23 / 5:10 – 6:40 pm / Room 104BC

**Chair:**

Yukito Saitoh, FUJIFILM Corp., Kanagawa, Japan

**Co-Chair:**

Shui-Chih Alan Lien, AU Optronics Corp., Hsinchu, Taiwan, ROC

**34.1: Electrode Structure for Fringe-Field-Switching Mode with Reduced Color Shift (5:10)**

G-S. Lee, J-C. Kim, T-H. Yoon  
Pusan National University, Busan, Korea

A new electrode structure for the fringe-field-switching (FFS) mode, which shows not only a smaller color shift but also higher transmittance than a conventional chevron-type structure for the FFS mode, is proposed. While a conventional chevron-type electrode mainly uses different directions of the electric field, the proposed structure uses both different directions and different strengths of the electric field. The proposed structure has the same effect of using chevron-type electrodes with different electrode widths in each pixel.

**34.2: Self-Compensating Quasi-Homeotropic Liquid-Crystal Device (5:30)**

J. Xue, T. Scheffer  
Cuspate, LLC, Broomfield, CO, U.S.A.

A quasi-homeotropic liquid-crystal device that is configured to suppress disclination line defects and to self-compensate for in-plane optical retardation and thereby exhibit an extremely high contrast ratio and fast electro-optic response will be presented

**34.3: A Novel Charge-Sharing S-PVA LCD (5:50)**

S-B. Park, J-J. Lyu, Y-S. Um, H-W. Do, S. Ahn, K. Choi,  
K-H. Kim, S-S. Kim  
Samsung Electronics Co., Ltd., Chungcheongnam-do, Korea

A novel patterned-ITO vertically aligned (PVA) LCD mode has been developed. This new PVA LCD that has a different luminance for two subpixels by charge sharing shows much better image qualities on the off-axis viewing angles without side effects. Moreover, it can remove the image-sticking problem caused by floating electrodes in current pixel structures. The operating schemes of this new charge-sharing-type S-PVA LCD mode and its display performances will be discussed.

**34.4: Investigation of Image Sticking by Using 3-D FEM Simulation for VA-Mode LCDs (6:10)**

Y-C. Liu, K-C, Chou  
Chunghwa Picture Tubes, Ltd., Taoyuan, Taiwan, ROC

By using 3D-FEM simulation software, the V-T curves associated with the disclination line for both CC- and TT-type cells were investigated. Experimental results reveal that the feedthrough voltage of CC-type cells is larger than that of TT types and the image sticking will be easily detected for the CC-type design. The influence on the image sticking for various anchoring energies and alignment layer thicknesses has been studied and an optimum process range was obtained.

**34.5L:Late-News Paper: Low-Cost Retarder-Less Transflective IPS-LCD (6:30)**

*T. Ochiai, T. Sasaki, T. Miyazawa, M. Maki, M. Morimoto,  
M. Ohkura  
Hitachi Displays, Ltd., Chiba, Japan*

A transflective IPS-LCD without retardation films, which degrade transmissive contrast, was developed. This was realized by altering the voltage applied to the transmissive and the reflective region independently. A 2.36-in. LCD fabricated using this technology attained the reflectance and a reflective contrast of 7.5% and 3.1, respectively, as well as the transmissive characteristics comparable to those of a conventional transmissive IPS-LCD.

**AUTHOR INTERVIEWS**

**(6:30–7:30)**