

2nd International Conference and Exhibition on **Lasers, Optics & Photonics**

September 08-10, 2014 Hilton Philadelphia Airport, USA

New type of light xerox: Optically rewritable E-paper

V G Chigrinov and J Sun

Hong Kong University of Science and Technology, Hong Kong

The idea of the photoaligned optically rewritable (ORW) liquid crystal is to write, store and rewrite again the information generated by computer on a glass or flexible carrier. The displays based on this principle are called electronic paper (E-paper) displays. Optically rewritable technique is highly desirable, as common E-paper displays suffer from the high level complexity of driving electronic due to the insufficient durability of flexible conductor and contact bonding. To make a new type of ORW light xerox the following problems should be solved: (i) development of new highly sensitive ORW photoaligning materials and layers; (ii) optimization of operation to allow to use cheap and low power consuming high efficient light sources such as blue LED. The possible but not limiting applications of the new ORW E-paper based on photoaligning are light printable rewritable paper, labels and plastic card displays, as well as rewritable 3D paper for security applications and indoor and outdoor information boards.

Biography

V G Chigrinov is a SID Fellow since 2008. He is Professor in ECE Dept, HKUST, Hong Kong. He has received the Research Excellence Award of SENG, HKUST, that recognizes the efforts of an outstanding faculty member, May 2012. He has (i) pioneered LC photoaligning technology for the new LCD generations; (ii) elaborated the new highly sensitive optically rewritable (ORW), a new type of light xerox; (iii) developed a novel generation of ferroelectric LCD with fast response time and high resolution used for new green low power LCD; (iv) made a computer system MOUSE-LCD for efficient LCD modeling and (v) elaborated new LC photonics devices, including sensors, LC lenses and voltage controllable gratings.

eechigr@ust.hk