



9. 3D Display & System I

Chair G. Barbastathis (MIT, USA)

Co-Chair J.-H. Park (Chungbuk Nat'l Univ., Korea)

9-1

13:10~13:35

[Invited] Future 3D Display Technologies and Applications

E.-S. Kim (Kwangwoon Univ., Korea)

Since the invention of 'the Stereoscope' in 1838, many kinds of 3D display systems have been developed and used for various applications. In fact they have been at least proposed for virtually every application that uses 2D displays. In this paper, we introduce the various 3D display techniques and its products.

9-2

13:35~14:00

[Invited] 3D Display : From Autostereoscopic to True 3D

Q. Feng, G. Lv, and Y. Hu (Hefei Univ. of Tech., China)

Developing from stereoscopic to autostereoscopic, researchers on display technology are trying to provide more depth cues to viewer, leading to the advent of true 3D display. Volumetric 3D displays seem to be practical technology at present. Ultimate display will function like human vision system, with characteristics of providing all depth cues and free interaction.

9-3

14:00~14:20

Local Dimming Technique for High Dynamic Range LCD by White LED Backlight with New Control Algorithm

K. T. Huang, B. Lee, C. W. Tsai, C. C. Wu, C. F. Cheng, A. Chao, and C. H. Yu (HannStar Display Corp., Taiwan)

Dynamic range of LCD panel can be dramatically improved by adaptive dimming technique. Adaptive control of LED backlight by input signal can reduce the light leakage of LCD panel and achieve high contrast ratio. An algorithm is proposed to distinguish the input signal and get proper luminance level. ...

9-4

14:20~14:40

High-visibility 2D/3D LCD with HDDP Arrangement and Its Optical Characterization Methods

S.-i. Uehara, T. Hiroya, H. Kusanagi, K. Shigemura, and H. Asada (NEC LCD Technologies, Ltd., Japan)

We have developed a 3.1-inch diagonal 2D/3D LCD with a novel pixel arrangement, called HDDP (Horizontally Double-Density Pixels), for high-quality 3D images. We have improved 3D visibility by broadening the 3D viewing zone where high-quality images can be seen, and we propose optical characterization methods which can evaluate the high-visibility autostereoscopic displays correctly.