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Ghost Image Reduction in 3d Images by Multi-Zone Digital Crosstalk Reduction

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***Abstract*—** In commercial 3D display system, the optical crosstalk is a major issue which produces ghost image. Crosstalk is a critical factor which determines the image quality of displays. A digital image processing technique called Multi-Zone digital crosstalk reduction has been used to reduce the crosstalk in 3D displays. Multi-zone digital crosstalk reduction is an advanced technique that uses the software approach as well as the pixel structure of the display. It reduces the crosstalk by modifying the output gray level of the image. The pixel layout of a patterned retarder display is taken and in order to apply multi zone digital crosstalk reduction to a patterned retarder display a 2 data line and 1 gate line (2D1G) panel is used. For the multi view systems where the viewing angle is high the crosstalk is much higher and it reduces the 3D image quality. By applying multi zone digital crosstalk reduction to such systems the crosstalk will be reduced while maintaining the luminance of the image without any extra devices.

Index Terms— Crosstalk suppression, image processing, patterned retarder 3D display, 3D display.