

3D Crosstalk Measurement Methods for Autostereoscopic Multiview 3D Display

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In recent years, 3D Display technology have been noticed lots of attentions in appliances. 3D Display optical characteristic analysis and evaluation methods were still debated in both academic and industrialization research area [1]. Futhermore, to design for the human suitable 3D display, human factor is important factor, but the most evaluation methods suggest without eye vergence factor [2]. Therefore, our research suggests the correlation between eye vergence and crosstalk.

In the research, we used the parallax barrier multiview 3D display. Typically, parallax barrier 3D display has the fixed viewing zone, because of the optical plate [3]. So human can perceived proper stereo image when they are placed in the viewing zone. As shown in Fig. 1, we measured the luminance of autostereoscopic display for different measuring metods by horizontal line and arc line. Measurement performed with light measuring device(VH-4MC, Vieworks) and the measurement point were set by the same interval. All measurements were progressed at the optimum viewing distance. From the result in the Fig. 2., all numbers of views show the crosstalk characterisitic.

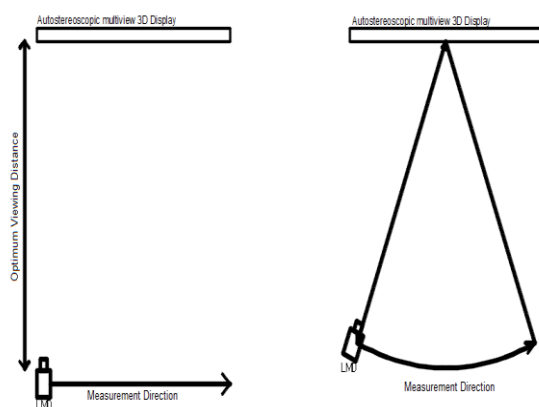


Fig. 1. Schematic diagram of the measurement methods

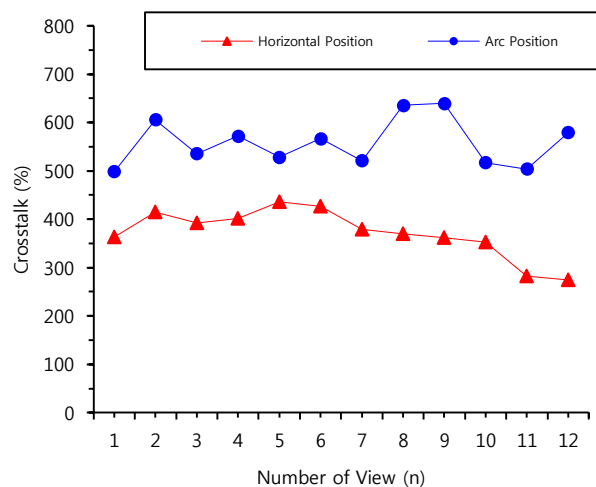


Fig. 2. Crosstalk distribution according to the measurement position

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References

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