

Portfolio Paper

Application of Anaglyph Stereo Visualization Technique Using Depth Information

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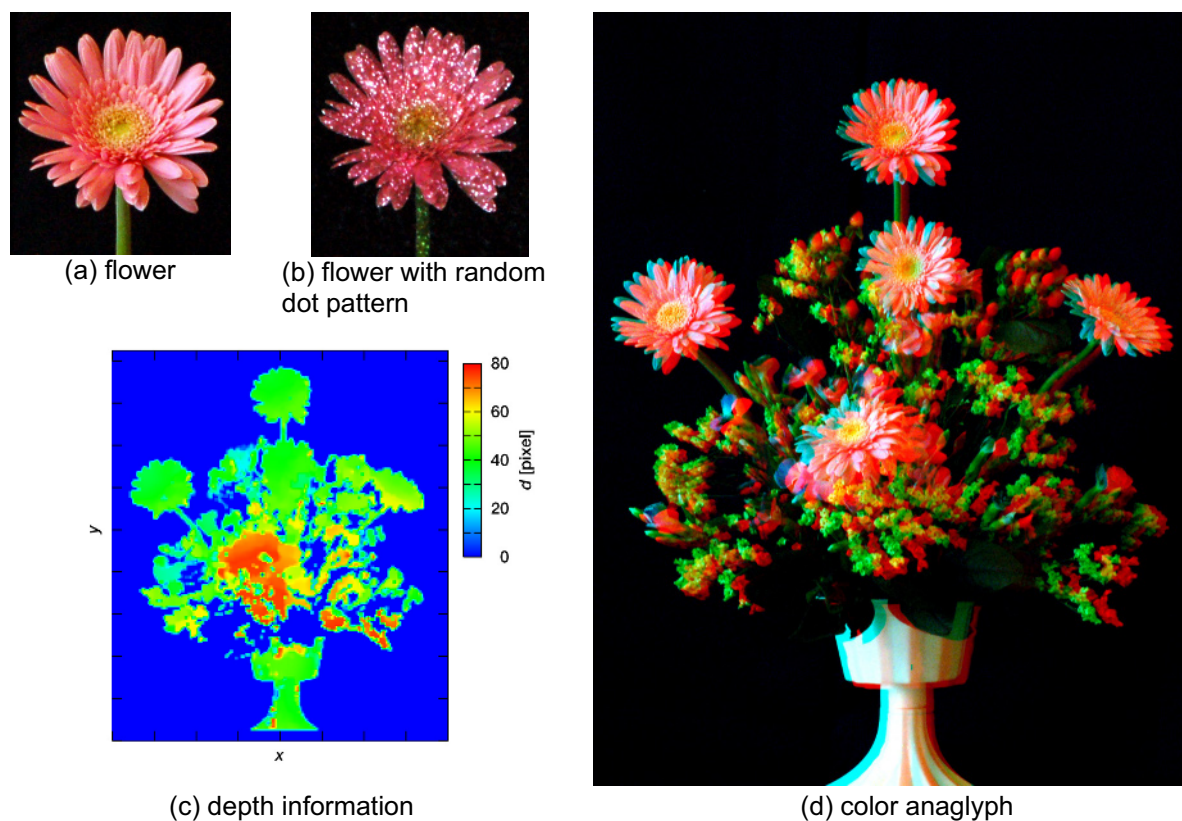


Fig. 1. Anaglyph stereo visualization of flower arrangement using depth information.

This portfolio paper demonstrates the anaglyph stereo visualization technique using depth information⁽¹⁾, which allows 3D visualization of target object by commercial digital color cameras in parallel placement with a certain distance. This technique is applicable to the generation of highly brilliant stereo color images of scientific art^{(2), (3)} with reasonable cost in comparison with the standard method⁽⁴⁾. The figures show the procedure of anaglyph stereo imaging and the generated color anaglyph, which is a target object of flower arrangement in white light illumination (a), that in a random dot pattern illuminated by a LCD projector (b), the depth information analyzed by correlation-based-template-matching analysis (c) and the anaglyph stereo image generated by this method (d). The spatial resolution of anaglyph stereo image is high enough (3008 x 2000 pixels) to reproduce well the brilliance of flower arrangement, which is designed by S. Fujisawa and J. Endo. The 3D image of color anaglyph can be seen through red-cyan glasses.

References : (1) Matsuura, F. and Fujisawa, N., Journal of Visualization, 11-1 (2008), 79-86. (2) Bruno, F. et al., Journal of Visualization, 9-3 (2006), 319-329. (3) Fujisawa, N. et al., Journal of Visualization, 10-2 (2007), 163-170. (4) Ideses, I. and Yaroslavsky, L., Journal of Optics A.: Pure and Applied Optics, 7 (2005), 755-762.