

Modeling Indoor Scene by Determining its Reflection Parameters

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To realistically model indoor scene is crucial and a challenging problem. Indoor scene has a large number of 3D range data, spatial restriction in 2D photographing, and inevitable specularities in certain parts. In this research we intend to deal with such problems. Principally, our method uses 3D geometrical data and ordinary 2D color images. The 3D geometrical data are created using parallel alignment and merging of a large number of range data. We texture the 3D data with 2D color images by using simultaneous registering technique. Then, we estimate the reflection parameters of the diffuse and specular reflection components from a single image where specularities occur. Finally, using all acquired and estimated data, we can generate synthetic images of real objects realistically.

Publication

- [1] T. Harada, "Modeling Indoor Scene by Determining its Reflection Parameters," *Master Thesis*, Keio University, 2004 (in Japanese).
- [2] T. Harada, K. Hara, A. Nakazawa, H. Saito, K. Ikeuchi, "Modeling Indoor Scene by Determining its Reflection Parameters," in *IP SJ SIGNotes Computer Vision and Image Media*, 2004-CVIM-142, pp.45-52, Jan., 2004 (in Japanese).

