Annotated Bibliography

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1 List

1.1 Global Illumination via Density-Estimation

This sample density based technique manages well luminare-reflection to achieve high-quality global illumination. As Interactive Global Illumination in Complex and Highly Occluded Environments[13] points out, it does not consider occlusion well, hence it is not suited for much occluded scenes. [11]

1.2 An Anisotropic BRDF Model for Fitting and Monte Carlo Rendering

This physically-plausible method represents both isotropic and anisotropic materials effectively. Using normalized microfacet distribution function, its anisotropic BRDF model displays better albedo figures for 3 materials from 'A data driven reflectance model.'[7, 8]

1.3 Interactive Global Illumination using Fast Ray Tracing

This technique well displays that interactive global illumination is achieveable from fast parallel ray tracing incorporating coherence between object groups.[14]

1.4 Measuring and Modeling Anisotropic Reflection

This paper presents a device for measuring BRDFs called gonioreflectometer. Its economical measurement on anisotropic reflectance allows the general representation of isotropic model to be possible.[15]

1.5 A Model for Anisotropic Reflection

This technique uses both cylinders and the analytic method to represent anisotropic surfaces. With proper sampling and groups of cylinders throughout the surface, multidirectional anisotropic traits can be achieved.[10]

1.6 A Reflectance Model for Computer Graphics

In this method, spectral energy distribution is described. It is based on the displayed object and etc. Specifically, the directional distribution and spectral composition of the reflected light is predicted based on the size and intensity of light sources, materials, relative direction of light to the surface and etc. [2]

1.7 A Global Illumination Solution for General Reflectance Distributions

This work presents methods to represent global illumination in both viewer-dependant and viewer-independant ways. Through two steps combined with both view-dependant and independant algorithms, it well models computationally decent BRDF.[12]

1.8 The Rendering Equation

Rendering phenomenon has been ubiquitous; however, this paper shows well-suited rendering equation for Computer Graphics from well-known radiative heat transfer literature- Thermal Radiation Heat Trarsfer.[6]

1.9 Perception-Guided Global Illumination Solution for Animation Rendering

This technique presents perceptually plausible global illumination method. Using photon tracing and density estimation techniques, this well computes the illumination in dynamic environments. By using temporal coherence in a dynamic environment, it successfully combine existing methods to generate indirect lighting solution.[9]

1.10 Global Illumination using Photon Maps

This work optimizes the previously presented illumination algorithm with photon maps of different resolutions. This technique also optimizes shadow using shadow photon map and at the same time, shadow monte carlo ray tracing.[5]

1.11 A Comprehensive Physical Model for Light Reflection

A new general reflectance model for computer graphics is presented. The formula are compared favorably with experimental measurements based on materials. It also presents an improved method by setting constraints, more suited for computer graphics applications.[4]

1.12 Illumination Networks:Fast Realistic Rendering with General Reflectance Functions

A technique incorporating a range of reflectance functions is presented. This fast method for diffuse and non-diffuse surfaces divides the world into patches. Processing reflection matrices and in-links out-links in each patch, fast and view-independant scene can be rendered.[1]

1.13 Modeling the Interaction of Light Between Diffuse Surfaces

In this work, it is described how irradiance from diffuse surfaces cause other objects to light, such as the color-bleeding effect.[3]

References

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