

Rendering Techniques '95:
Proceedings of the
Eurographics Workshop in
Dublin, Ireland, June 12-14,
1995 /

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Monografía

Following five successful workshops in the previous five years, the Rendering Workshop is now well established as a major international forum and one of the most reputable events in the field of realistic image synthesis. Including the best 31 papers which were carefully evaluated out of 68 submissions the book gives an overview on hierarchical radiosity, Monte Carlo radiosity, wavelet radiosity, nondiffuse radiosity, and radiosity performance improvements. Some papers deal with ray tracing, reconstruction techniques, volume rendering, illumination, user interface aspects, and importance sampling. Also included are two invited papers by James Arvo and Alain Fournier. As is the style of the Rendering Workshop, the contributions are mainly of algorithmic nature, often demonstrated by prototype implementations. From these implementations result numerous color images which are included as appendix. The Rendering Workshop proceedings are certainly an obligatory piece of literature for all scientists working in the rendering field, but they are also very valuable for the practitioner involved in the implementation of state of the art rendering system certainly influencing the scientific progress in this field

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Contenido: Pyramid Clipping for Efficient Ray Traversal -- A 5D Tree to Reduce the Variance of Monte Carlo Ray Tracing -- Space Deformation using Ray Deflectors -- Bridging between Surface Rendering and Volume Rendering for Multi-resolution Display -- Multiple Scattering as a Diffusion Process -- Optimized Maximum Intensity Projection (MIP) -- Spatial Domain Characterization and Control of Reconstruction Errors -- Rendering Trees from Precomputed Z-Buffer Views -- Comparing Real and Synthetic Images: Some Ideas about Metrics -- A Framework for Global Illumination in Animated Environments -- Making Global Illumination User-friendly -- The Role of Functional Analysis in Global Illumination -- From Local to Global Illumination and Back -- A Radiosity Approach for the Simulation of Daylight -- Modeling the Spatial Energy Distribution of Complex Light Sources for Lighting Engineering -- Painting Surface Characteristics -- Linear Radiosity with Error Estimation -- Accurate Computation of the Radiosity Gradient for Constant and Linear Emitters -- A Clustering Algorithm for Radiance Calculation in General Environments -- The Stochastic Ray Method for Radiosity -- Global Illumination via Density Estimation -- Global Monte Carlo. A Progressive Solution -- Smart Links and Efficient Reconstruction for Wavelet Radiosity -- Spherical Wavelets: Texture Processing -- Integration Methods for Galerkin Radiosity Couplings -- Reconstruction of Illumination from Area Luminaires -- A Two-Pass Solution to the Rendering Equation with a Source Visibility Process -- Separating Reflection Functions for Linear Radiosity -- Potentialdriven Monte Carlo Particle Tracing for Diffuse Environments with Adaptive Probability Functions -- Importance-Driven Progressive Refinement Radiosity -- Importance Driven Path Tracing using the Photon Map -- The Constant Radiosity Step -- Fast Radiosity Solutions for Environments with High Average Reflectance -- Appendix: Color **Images** 

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