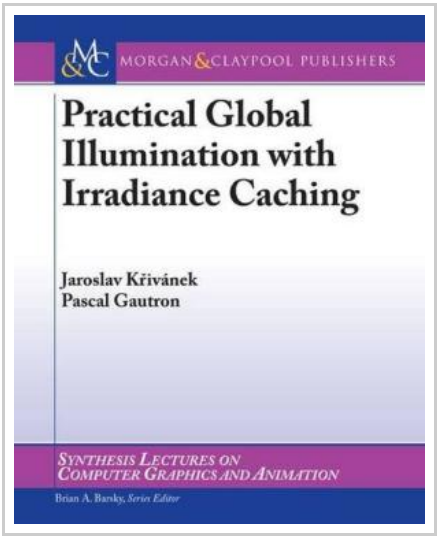




# Practical Global Illumination with Irradiance Caching

By -

Morgan & Claypool. Paperback. Book Condition: New. Paperback. 148 pages. Dimensions: 9.1in. x 7.5in. x 0.6in.Irradiance caching is a ray tracing-based technique for computing global illumination on diffuse surfaces. Specifically, it addresses the computation of indirect illumination bouncing off one diffuse object onto another. The sole purpose of irradiance caching is to make this computation reasonably fast. The main idea is to perform the indirect illumination sampling only at a selected set of locations in the scene, store the results in a cache, and reuse the cached value at other points through fast interpolation. This book is for anyone interested in making a production-ready implementation of irradiance caching that reliably renders artifact-free images. Since its invention 20 years ago, the irradiance caching algorithm has been successfully used to accelerate global illumination computation in the Radiance lighting simulation system. Its widespread use had to wait until computers became fast enough to consider global illumination in film production rendering. Since then, its use is ubiquitous. Virtually all commercial and open-source rendering software base the global illumination computation upon irradiance caching. Although elegant and powerful, the algorithm in its basic form often fails to produce artifact-free mages. Unfortunately, practical information on implementing the...



### Reviews

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