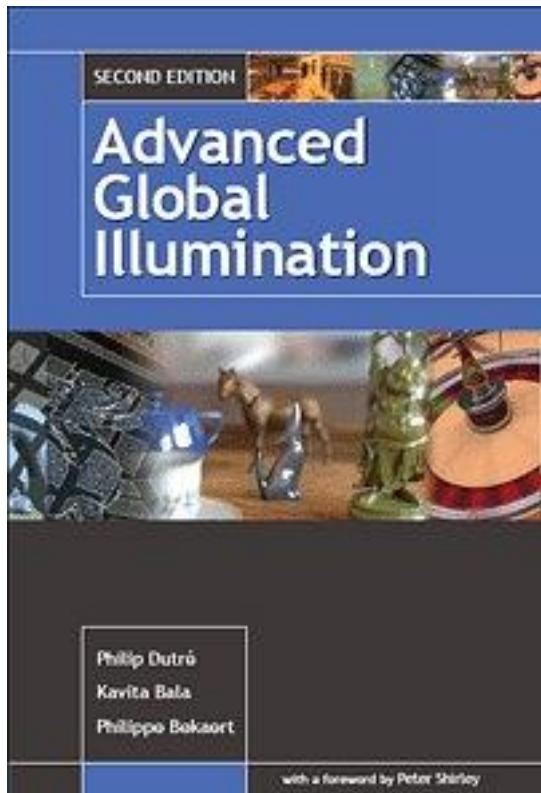


Advanced Global Illumination



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This book provides a fundamental understanding of global illumination algorithms. It discusses a broad class of algorithms for realistic image synthesis and introduces a theoretical basis for the algorithms presented. Topics include: physics of light transport, Monte Carlo methods, general strategies for solving the rendering equation, stochastic path-tracing algorithms such as ray tracing and light tracing, stochastic radiosity including photon density estimation and hierarchical Monte Carlo radiosity, hybrid algorithms, metropolis light transport, irradiance caching, photon mapping and

instant radiosity, beyond the rendering equation, image display and human perception. If you want to design and implement a global illumination rendering system or need to use and modify an existing system for your specific purpose, this book will give you the tools and the understanding to do so.

作者介绍:

Philip Dutre is a Professor in the Department of Computer Science at the Katholieke Universiteit Leuven (Belgium). His research areas of interest include photorealistic graphics, real-time global illumination, texture synthesis and perceptual-based rendering algorithms. He received his Ph.D. from the University of Leuven and spent several years at the Program of Computer Graphics at Cornell University. Philippe Bekaert is associate professor in computer graphics at the Expertise Center for Digital Media of Hasselt University, Belgium. He obtained a Masters degree in physics (1991) and computer science (1993), as well as a Ph.D. in computer science (1999) from the Katholieke Universiteit Leuven. Kavita Bala is an Assistant Professor in the Computer Science Department and Program of Computer Graphics at Cornell University. She specializes in scalable computer graphics leading research projects in interactive rendering, scalable illumination, perceptually-based rendering, feature-based graphics, perceptually-based rendering, and image-based texturing. Bala received her B. Tech. from the Indian Institute of Technology (IIT, Bombay), and her S.M. and Ph.D. from MIT.

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标签

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计算机技术

计算机

评论

这本书完全是写给researcher的，所有的算法都用数学公式表达，深入的讨论也都是围绕这些公式的，所以读着很费劲。

该书的覆盖面非常广，内容也很新，比如现在流行的Ambient Occlusion，还有Lightcuts，就是作者之一在Cornell提出的。

读完此书可以对GI理论有一个比较全面的认识，再读其他相关的工程类书籍完全可以做到高屋建瓴。欲求深入GI者必读。

算是survey吧，参照理解下概念还是不错。

侧重于全局光照算法的理论的详细说明，给出了少量伪代码。语言方面较为晦涩，数学符号有少量错误。

比较硬核，比PBR那书好看

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书评

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