

Rendering Bibliography

JOURNAL ARTICLES

- [1] E. Abraham, A. Younus, J. C. Delagnes, and P. Mounaix. 2010. Non-invasive investigation of art paintings by terahertz imaging. *Applied Physics A*, 100, 3. doi: [10/brwk8p](#).
- [2] Nils Abramson. 1978. Light-in-flight recording by holography. *Opt. Lett.*, 3, 4, 121–123. doi: [10/c4wkvsv](#).
- [3] Nils Abramson. 1983. Light-in-flight recording: high-speed holographic motion pictures of ultrafast phenomena. *Applied Optics*, 22, 2. doi: [10/b8b7sc](#).
- [4] A. Adam, C. Dann, O. Yair, S. Mazor, and S. Nowozin. 2016. Bayesian time-of-flight for realtime shape, illumination and albedo. *IEEE Transactions on Pattern Analysis and Machine Intelligence*.
- [5] Martin David Adams and Penny J. Probert. 1996. The interpretation of phase and intensity data from AMCW light detection sensors for reliable ranging. *The International Journal of Robotics Research*, 15, 5. doi: [10/dccqj7v](#).
- [6] Sidney Addelman and Oscar Kempthorne. 1961. Some main-effect plans and orthogonal arrays of strength two. *The Annals of Mathematical Statistics*, 32, 4, (December 1961), 1167–1176. doi: [10/cw6xh3](#).
- [7] S. J. Adelson and L. F. Hodges. 1995. Generating exact ray-traced animation frames by reprojection. *IEEE Computer Graphics & Applications*, 15, 43–52.
- [8] Sameer Agarwal, Ravi Ramamoorthi, Serge Belongie, and Henrik Wann Jensen. 2003. Structured importance sampling of environment maps. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 22, 3, (July 1, 2003), 605–612. ISSN: 0730-0301. doi: [10/b4728r](#).
- [9] S. Agostinelli, J. Allison, K. Amako, J. Apostolakis, H. Araujo, P. Arce, M. Asai, D. Axen, S. Banerjee, G. Barrand, F. Behner, L. Bellagamba, J. Boudreau, L. Broglia, A. Brunengo, H. Burkhardt, S. Chauvie, J. Chuma, R. Chytracsek, G. Cooperman, G. Cosmo, P. Degtyarenko, A. Dell’Acqua, G. Depaola, D. Dietrich, R. Enami, A. Feliciello, C. Ferguson, H. Fesefeldt, G. Folger, F. Foppiano, A. Forti, S. Garelli, S. Giani, R. Giannitrapani, D. Gibin, J. J. Gómez Cadenas, I. González, G. Gracia Abril, G. Greeniaus, W. Greiner, V. Grichine, A. Grossheim, S. Guatelli, P. Gumplinger, R. Hamatsu, K. Hashimoto, H. Hasui, A. Heikkinen, A. Howard, V. Ivanchenko, A. Johnson, F. W. Jones, J. Kallenbach, N. Kanaya, M. Kawabata, Y. Kawabata, M. Kawaguti, S. Kelner, P. Kent, A. Kimura, T. Kodama, R. Kokoulin, M. Kossov, H. Kurashige, E. Lamanna, T. Lampén, V. Lara, V. Lefebvre, F. Lei, M. Liendl, W. Lockman, F. Longo, S. Magni, M. Maire, E. Medernach, K. Minamimoto, P. Mora de Freitas, Y. Morita, K. Murakami, M. Nagamatsu, R. Nartallo, P. Nieminen, T. Nishimura, K. Ohtsubo, M. Okamura, S. O’Neale, Y. Oohata, K. Paech, J. Perl, A. Pfeiffer, M. G. Pia, F. Ranjard, A. Rybin, S. Sadilov, E. Di Salvo, G. Santin, T. Sasaki, N. Savvas, Y. Sawada, S. Scherer, S. Sei, V. Sirotenko, D. Smith, N. Starkov, H. Stoecker, J. Sulkimo, M. Takahata, S. Tanaka, E. Tcherniaev, E. Safai Tehrani, M. Tropeano, P. Truscott, H. Uno, L. Urban, P. Urban, M. Verderi, A. Walkden, W. Wander, H. Weber, J. P. Wellisch, T. Wenaus, D. C. Williams, D. Wright, T. Yamada, H. Yoshida, and D. Zschiesche. 2003. Geant4—a simulation toolkit. *Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*, 506, 3, (July 2003), 250–303. ISSN: 0168-9002. doi: [10/czv4cm](#).
- [10] A. G. M. Ahmed, J. Guo, D. M. Yan, J. Y. Franceschia, X. Zhang, and O. Deussen. 2017. A simple push-pull algorithm for blue-noise sampling. *IEEE Transactions on Visualization and Computer Graphics*, 23, 12, (December 2017), 2496–2508. ISSN: 1077-2626. doi: [10/gcj2v8](#).
- [11] Abdalla G. M. Ahmed, Hui Huang, and Oliver Deussen. 2015. AA patterns for point sets with controlled spectral properties. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 34, 6, (October 2015), 212:1–212:8. ISSN: 0730-0301. doi: [10/f7wqhk](#).
- [12] Abdalla G. M. Ahmed, Till Niese, Hui Huang, and Oliver Deussen. 2017. An adaptive point sampler on a regular lattice. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 36, 4, (July 2017), 138:1–138:13. ISSN: 0730-0301. doi: [10/gbxg5p](#).
- [13] Abdalla G. M. Ahmed, Hélène Perrier, David Coeurjolly, Victor Ostromoukhov, Jianwei Guo, Dong-Ming Yan, Hui Huang, and Oliver Deussen. 2016. Low-discrepancy blue noise sampling. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 35, 6, (November 2016), 247:1–247:13. ISSN: 0730-0301. doi: [10/f9cpt2](#).
- [14] Mingyao Ai, Xiangshun Kong, and Kang Li. 2016. A general theory for orthogonal array based Latin hypercube sampling. *Statistica Sinica*, 26, 2, 761–777. ISSN: 1017-0405. doi: [10/gfznbp](#).
- [15] John R. Airey. 1938. The radiation integrals. *Philosophical Magazine*, 25, 167, (February 1938), 273–282.
- [16] G. B. Airy. 1838. On the intensity of light in the neighbourhood of a caustic. *Trans. Cambridge Philos. Soc.*, 6, 379–403.
- [17] George B. Airy. 1838. On the intensity of light in the neighborhood of a caustic. *Transactions of the Cambridge Philosophical Society*, 6, 379–402.
- [18] L. D. Akulenko, N. N. Bolotnik, S. A. Kumakshev, and S. V. Nesterov. 2006. Control of motion of an inhomogeneous cylinder with internal movable masses along a horizontal plane. *Journal of Applied Mathematics and Mechanics*, 70, 6, (January 1, 2006), 843–858. ISSN: 0021-8928. doi: [10/fmp4gc](#).
- [19] Marc Alexa and Wojciech Matusik. 2010. Reliefs as images. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 29, 4, (July 26, 2010), 60:1–60:7. ISSN: 07300301. doi: [10/bftm2r](#).
- [20] O. Alexander, M. Rogers, W. Lambeth, Jen-Yuan Chiang, Wan-Chun Ma, Chuan-Chang Wang, and P. Debevec. 2010. The digital Emily project: achieving a photorealistic digital actor. *IEEE Computer Graphics & Applications*, 30, 4, (July 2010), 20–31. ISSN: 0272-1716. doi: [10/bvq7d8](#).
- [21] Pierre Alliez, David Cohen-Steiner, Olivier Devillers, Bruno Lévy, and Mathieu Desbrun. 2003. Anisotropic polygonal remeshing. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 22, 3, (July 2003), 485–493. ISSN: 0730-0301. doi: [10/fggmndm](#).
- [22] John Amanatides. 1984. Ray tracing with cones. *Computer Graphics (Proceedings of SIGGRAPH)*, 18, 3, (July 1, 1984), 129–135. ISSN: 00978930. doi: [10/b64smh](#).
- [23] Marco Ament, Christoph Bergmann, and Daniel Weiskopf. 2014. Refractive radiative transfer equation. *ACM Transactions on Graphics*, 33, 2, (April 2014), 17:1–17:22. ISSN: 0730-0301. doi: [10/gb3f23](#).
- [24] Xiaobo An and Fabio Pellacini. 2008. AppProp: all-pairs appearance-space edit propagation. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 27, 3, (August 1, 2008), 1. ISSN: 07300301. doi: [10/bj4x5j](#).
- [25] Xiaobo An, Xin Tong, Jonathan D. Denning, and Fabio Pellacini. 2011. AppWarp: retargeting measured materials by appearance-space warping. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 30, 6, (December 1, 2011), 1. ISSN: 07300301. doi: [10/dts5rb](#).
- [26] Baptiste Angles, Marco Tarini, Brian Wyvill, Loïc Barthe, and Andrea Tagliasacchi. 2017. Sketch-based implicit blending. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 36, 6, (November 2017), 181:1–181:13. ISSN: 0730-0301. doi: [10/gcqb4](#).
- [27] Thomas Annen, Zhao Dong, Tom Mertens, Philippe Bekaert, Hans-Peter Seidel, and Jan Kautz. 2008. Real-time, all-frequency shadows in dynamic scenes. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 27, 3, (August 2008), 34:1–34:8. doi: [10/fn7q3j](#).
- [28] Philip M. Anselone. 1958. Integral equations of the Schwarzschild-Milne type. *Journal of Mathematics and Mechanics*, 7, 4, (July 1958), 557–569.
- [29] Lakulish Antani, Anish Chandak, Micah Taylor, and Dinesh Manocha. 2012. Direct-to-indirect acoustic radiance transfer. *IEEE Transactions on Visualization and Computer Graphics*, 18, 12, 261–269. ISSN: 1077-2626. doi: [10/d9t2x7](#).
- [30] M. Aono and T. L. Kunii. 1982. Botanical tree image generation. *IEEE Computer Graphics & Applications*, 2, 5, 55–64.
- [31] Adam Arbree, Bruce Walter, and Kavita Bala. 2008. Single-pass scalable subsurface rendering with Lightcuts. *Computer Graphics Forum (Proceedings of Eurographics)*, 27, 2, (April 2008), 507–516. ISSN: 0167-7055, 1467-8659. doi: [10/cvpvpxz](#).
- [32] Adam Arbree, Bruce Walter, and Kavita Bala. 2011. Heterogeneous subsurface scattering using the finite element method. *IEEE Transactions on Visualization and Computer Graphics*, 17, 7, 956–969. ISSN: 1077-2626. doi: [10/cmnn8f](#).
- [33] Victor Arellano, Diego Gutierrez, and Adrian Jarabo. 2017. Fast back-projection for non-line of sight reconstruction. *Optics Express*, 25, 10, 11574–11583. doi: [10/gfz5kt](#).
- [34] Okan Arikan, David A. Forsyth, and James F. O’Brien. 2005. Fast and detailed approximate global illumination by irradiance decomposition. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 24, 3, (July 1, 2005), 1108–1114. ISSN: 07300301. doi: [10/b9qbjz](#).
- [35] Raphael Aronson. 1995. Boundary conditions for diffusion of light. *Journal of the Optical Society of America A*, 12, 11, 2532–2539. doi: [10/dff63n](#).
- [36] James Richard Arvo and David Kirk. 1990. Particle transport and image synthesis. *Computer Graphics (Proceedings of SIGGRAPH)*, 24, 4, (September 1, 1990), 63–66. ISSN: 0097-8930. doi: [10/dtp6gd](#).
- [37] James Arvo and David Kirk. 1987. Fast ray tracing by ray classification. *Computer Graphics (Proceedings of SIGGRAPH)*, 21, 4, (July 1987), 55–64.
- [38] Ian Ashdown. 1993. Near-field photometry: a new approach. *Journal of the Illuminating Engineering Society*, 22, 1, 163–180. doi: [10/gfzv7b](#).
- [39] Michael Ashikhmin and Peter Shirley. 2000. An anisotropic phong BRDF model. *Journal of Graphics Tools*, 5, 2, (January 1, 2000), 23–32. ISSN: 1086-7651. doi: [10/gfzpsm](#).

- [40] J. R. Askew. 1971. Numerical methods applied to problems of neutron transport. *Journal of Quantitative Spectroscopy and Radiative Transfer*, 11, 905–919. doi: [10/d6zhkp](#).
- [41] Adnan A. Aswad and G. R. Dalton. 1966. Integral transport theory. *Nuclear Science and Engineering*, 24, 1, (January 1966), 49–59.
- [42] Peter R. Atherton, Kevin Weiler, and Donald P. Greenberg. 1978. Polygon shadow generation. *Computer Graphics (Proceedings of SIGGRAPH)*, 12, 3, (August 1978), 275–281.
- [43] Joel Atkins and David B. Zax. 2016. Nested orthogonal arrays, (January 24, 2016). arXiv: [1601.06459 \[stat\]](#).
- [44] Fabrice Aubert and Dominique Bechmann. 1997. Animation by deformation of space-time objects. *Computer Graphics Forum (Proceedings of Eurographics)*, 16, s3, C57–C66. ISSN: 1467-8659. doi: [10/cc3z7p](#).
- [45] F. Aurenhammer. 1987. Power diagrams: Properties, algorithms and applications. *SIAM Journal on Computing*, 16, 78–96.
- [46] Franz Aurenhammer. 1991. Voronoi diagrams—a survey of a fundamental geometric data structure. *Computing Surveys*, 23, 3, (September 1991), 345–405. ISSN: 0360-0300. doi: [10/bgct8t](#).
- [47] Franz Aurenhammer, F. Hoffmann, and Boris Aronov. 1998. Minkowski-type theorems and least-squares clustering. *Algorithmica*, 20, 61–76. doi: [10/bc6bp4](#).
- [48] Eugene H. Avrett. 1971. Solution of non-LTE transfer problems. *Journal of Quantitative Spectroscopy and Radiative Transfer*, 11, 511–529. doi: [10/d673mn](#).
- [49] Moritz Bächer, Bernd Bickel, Doug L. James, and Hanspeter Pfister. 2012. Fabricating articulated characters from skinned meshes. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 31, 4, (July 2012), 47:1–47:9. ISSN: 0730-0301. doi: [10/gbbv9q](#).
- [50] Moritz Bächer, Stelian Coros, and Bernhard Thomaszewski. 2015. LinkEdit: interactive linkage editing using symbolic kinematics. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 34, 4, (July 2015), 99:1–99:8. ISSN: 0730-0301. doi: [10/gfz897](#).
- [51] Moritz Bächer, Emily Whiting, Bernd Bickel, and Olga Sorkine-Hornung. 2014. Spin-it: optimizing moment of inertia for spinnable objects. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 33, 4, (July 2014), 96:1–96:10. ISSN: 0730-0301. doi: [10/gfz898](#).
- [52] Didier Badouel, Kadi Bouatouch, and Thierry Priol. 1994. Distributing data and control for ray tracing in parallel. *IEEE Computer Graphics & Applications*, 14, (July 1994), 69–77.
- [53] Soonmin Bae, Sylvain Paris, and Frédo Durand. 2006. Two-scale tone management for photographic look. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 25, 3, (July 1, 2006), 637–645. ISSN: 07300301. doi: [10/bjghk2](#).
- [54] Mahdi M. Bagher, John Snyder, and Derek Nowrouzezahrai. 2016. A non-parametric factor microfacet model for isotropic BRDFs. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 35, 5, (July 2016), 159:1–159:16. ISSN: 0730-0301. doi: [10/f85ktv](#).
- [55] Mahdi Mohammad Bagher, Cyril Soler, Kartic Subr, Laurent Belcour, and Nicolas Holzschuch. 2013. Interactive rendering of acquired materials on dynamic geometry using frequency analysis. *IEEE Transactions on Visualization and Computer Graphics*, 19, 5, (May 2013), 749–761. ISSN: 1077-2626. doi: [10/f4s6mj](#).
- [56] Steve Bako, Thijs Vogels, Brian McWilliams, Mark Meyer, Jan Novák, Alex Harvill, Pradeep Sen, Tony Derosé, and Fabrice Rousselle. 2017. Kernel-predicting convolutional networks for denoising Monte Carlo renderings. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 36, 4, (July 20, 2017), 1–14. ISSN: 07300301. doi: [10/gbxftb](#).
- [57] Csaba Bálint and Gábor Valasek. 2018. Accelerating sphere tracing. *Proceedings of Eurographics Short Papers*, 4 pages. ISSN: 1017-4656. doi: [10/gfz542](#).
- [58] Joseph A. Ball. 1975. A norm estimate for an integral operator. *Transport Theory and Statistical Physics*, 4, 2, 67–69.
- [59] Michael Balzer, Thomas Schlömer, and Oliver Deussen. 2009. Capacity-constrained point distributions: a variant of Lloyd’s method. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 28, 3, (July 27, 2009), 86:1–86:8. ISSN: 0730-0301. doi: [10/dcnbwv](#).
- [60] C. S. Bamji, P. O’Connor, T. Elkhatib, S. Mehta, B. Thompson, L. A. Prather, D. Snow, O. C. Akkaya, A. Daniel, A. D. Payne, T. Perry, M. Fenton, and V. H. Chan. 2015. A 0.13 Mm CMOS system-on-chip for a 512424 time-of-flight image sensor with multi-frequency photo-demodulation up to 130 mhz and 2 gs/s adc. *IEEE Journal of Solid-State Circuits*, 50, 1, (January 2015). doi: [10/gfz5kw](#).
- [61] Arindam Banerjee, Srujana Merugu, Inderjit S. Dhillon, and Joydeep Ghosh. 2005. Clustering with Bregman divergences. *Journal of Machine Learning Research*, 6, 1705–1749, Oct. ISSN: ISSN 1533-7928.
- [62] Hujun Bao and Qunsheng Peng. 1993. A progressive radiosity algorithm for scenes containing curved surfaces. *Computer Graphics Forum (Proceedings of Eurographics)*, 12, 3, (September 1993), 399–408.
- [63] Hujun Bao and Qunsheng Peng. 1993. Shading models for linear and area light sources. *Computers & Graphics*, 17, 2, 137–145. ISSN: 0097-8493. doi: [10/cf4f9p](#).
- [64] Ilya Baran, Jiawen Chen, Jonathan Ragan-Kelley, Frédo Durand, and Jaakko Lehtinen. 2010. A hierarchical volumetric shadow algorithm for single scattering. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 29, 6, (December 2010), 178:1–178:10. ISSN: 07300301. doi: [10/dv78tm](#).
- [65] Ilya Baran, Philipp Keller, Derek Bradley, Stelian Coros, Wojciech Jarosz, Derek Nowrouzezahrai, and Markus Gross. 2012. Manufacturing layered attenuators for multiple prescribed shadow images. *Computer Graphics Forum (Proceedings of Eurographics)*, 31, (May 2012), 603–610, 2pt3, (May 2012). ISSN: 01677055. doi: [10/gbbdcg](#).
- [66] Ilya Baran and Jovan Popović. 2007. Automatic rigging and animation of 3D characters. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 26, 3, (July 29, 2007), 72. ISSN: 07300301. doi: [10/d2ck5v](#).
- [67] Gladimir V. Guimaraes Baranoski. 1992. The parametric differential method: an alternative to the calculation of form-factors. *Computer Graphics Forum (Proceedings of Eurographics)*, 11, 3, (September 1992), 193–204.
- [68] Connelly Barnes, Dan B. Goldman, Eli Shechtman, and Adam Finkelstein. 2011. The PatchMatch randomized matching algorithm for image manipulation. *Communications of the ACM*, 54, 11, (November 2011), 103–110. ISSN: 0001-0782. doi: [10/d5mt9s](#).
- [69] Connelly Barnes, Eli Shechtman, Adam Finkelstein, and Dan B Goldman. 2009. PatchMatch: a randomized correspondence algorithm for structural image editing. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 28, 3, (July 27, 2009), 1. ISSN: 07300301. doi: [10/bs87g7](#).
- [70] Alan H. Barr. 1984. Global and local deformations of solid primitives. *Computer Graphics (Proceedings of SIGGRAPH)*, 18, 3, (July 1, 1984), 21–30. ISSN: 00978930. doi: [10/fcwvgw](#).
- [71] Alan H. Barr. 1986. Ray tracing deformed surfaces. *Computer Graphics (Proceedings of SIGGRAPH)*, 20, 4, (August 31, 1986), 287–296. ISSN: 00978930. doi: [10/cpqrg6](#).
- [72] Rasmus Barringer, Carl Johan Gribel, and Tomas Akenine-Möller. 2012. High-quality curve rendering using line sampled visibility. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 31, 6, (November 2012), 162:1–162:10. ISSN: 0730-0301. doi: [10/f25qkx](#).
- [73] Loic Barthe, Brian Wyvill, and Erwin De Groot. 2004. Controllable binary CSG operators for “soft objects”. *International Journal of Shape Modeling*, 10, 02, (December 1, 2004), 135–154. ISSN: 0218-6543. doi: [10/bbzcrj](#).
- [74] Ronen Barzel. 1997. Lighting controls for computer cinematography. *Journal of Graphics Tools*, 2, 1, (January 1, 1997), 1–20. ISSN: 1086-7651. doi: [10/gfz5vb](#).
- [75] Daniel R. Baum, Holly E. Rushmeier, and James M. Winget. 1989. Improving radiosity solutions through the use of analytically determined form-factors. *Computer Graphics (Proceedings of SIGGRAPH)*, 23, 3, (July 1989), 325–334. ISSN: 0097-8930. doi: [10/cqv4k2](#).
- [76] Pablo Bauszat, Martin Eisemann, Elmar Eisemann, and Marcus Magnor. 2015. General and robust error estimation and reconstruction for Monte Carlo rendering. *Computer Graphics Forum*, 34, 2, (May 1, 2015), 597–608. ISSN: 0167-7055. doi: [10/f7mbqz](#).
- [77] Pablo Bauszat, Martin Eisemann, and Marcus Magnor. 2011. Guided image filtering for interactive high-quality global illumination. *Computer Graphics Forum*, 30, 4, (June 1, 2011), 1361–1368. ISSN: 0167-7055. doi: [10/bwz228](#).
- [78] Kenneth V. Beard and Catherine Chuang. 1987. A new model for the equilibrium shape of raindrops. *Journal of the Atmospheric Sciences*, 44, 11, (June 1, 1987), 1509–1524. ISSN: 0022-4928. doi: [10/fkmvxx](#).
- [79] Kenneth V. Beard, Rodney J. Kubesh, and Harry T. Ochs III. 1991. Laboratory measurements of small raindrop distortion. Part I: axis ratios and fall behavior. *Journal of the Atmospheric Sciences*, 48, 5, (March 1, 1991), 698–710. ISSN: 0022-4928. doi: [10/bt8h85](#).
- [80] J. Beckmann, H. N. Mhaskar, and J. Prestin. 2012. Quadrature formulas for integration of multivariate trigonometric polynomials on spherical triangles. *Int. Journal on Geomathematics*. doi: [10/gfz5nr](#).
- [81] J. Beckmann, H. N. Mhaskar, and J. Prestin. 2014. Local numerical integration on the sphere. *Int. Journal on Geomathematics*. doi: [10/gfz5nq](#).
- [82] Thabo Beeler, Bernd Bickel, Paul Beardsley, Bob Sumner, and Markus Gross. 2010. High-quality single-shot capture of facial geometry. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 29, 4, Article 40, 40:1–40:9. ISSN: 0730-0301. doi: [10/fcm9qm](#).
- [83] Thabo Beeler, Bernd Bickel, Gioacchino Noris, Paul Beardsley, Steve Marschner, Robert W. Sumner, and Markus Gross. 2012. Coupled 3D reconstruction of sparse facial hair and skin. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 31, 4, (July 2012), 117:1–117:10. ISSN: 0730-0301. doi: [10/gbbwcd](#).
- [84] Thabo Beeler, Fabian Hahn, Derek Bradley, Bernd Bickel, Paul Beardsley, Craig Gotsman, Robert W. Sumner, and Markus Gross. 2011. High-quality passive facial performance capture using anchor frames. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 30, 4, Article 75, 75:1–75:10. ISSN: 0730-0301. doi: [10/chkwsm](#).
- [85] Kristof Beets and Dave Barron. 2000. Super-sampling anti-aliasing analyzed. *Beyond3D*, 1–22.

- [86] Stephan Behrendt, Carsten Colditz, Oliver Franzke, Johannes Kopf, and Oliver Deussen. 2005. Realistic real-time rendering of landscapes using billboard clouds. *Computer Graphics Forum (Proceedings of Eurographics)*, 24, 3, 507–516. ISSN: 0167-7055. doi: [10/fd44kd](#).
- [87] Thaddeus Beier and Shawn Neely. 1992. Feature-based image metamorphosis. *Computer Graphics (Proceedings of SIGGRAPH)*, 26, 2, (July 1, 1992), 35–42. ISSN: 00978930. doi: [10/crjpph](#).
- [88] Laurent Belcour, Kavita Bala, and Cyril Soler. 2014. A local frequency analysis of light scattering and absorption. *ACM Transactions on Graphics*, 33, 5, (September 2014), 163:1–163:17. ISSN: 0730-0301. doi: [10/f6kmv5](#).
- [89] Laurent Belcour, Cyril Soler, Kartic Subr, Nicolas Holzschuch, and Frédo Durand. 2013. 5D covariance tracing for efficient defocus and motion blur. *ACM Transactions on Graphics*, 32, 3, (June 1, 2013), 31:1–31:18. ISSN: 0730-0301. doi: [10/gbdcxp](#).
- [90] Laurent Belcour, Guofu Xie, Christophe Hery, Mark Meyer, Wojciech Jarosz, and Derek Nowrouzezahrai. 2018. Integrating clipped spherical harmonics expansions. *ACM Transactions on Graphics*, 37, 2, (March 2018), 19:1–19:12. ISSN: 15577368. doi: [10/gd52pf](#).
- [91] Sean Bell, Paul Upchurch, Noah Snively, and Kavita Bala. 2013. OpenSurfaces: a richly annotated catalog of surface appearance. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 32, 4, (July 2013), 111:1–111:17. ISSN: 0730-0301. doi: [10/gfvm23](#).
- [92] Aner Ben-Artzi, Kevin Egan, Frédo Durand, and Ravi Ramamoorthi. 2008. A precomputed polynomial representation for interactive BRDF editing with global illumination. *ACM Transactions on Graphics*, 27, 2, (May 2008), 13:1–13:13. ISSN: 0730-0301. doi: [10/cvx85d](#).
- [93] Aner Ben-Artzi, Ryan Overbeck, and Ravi Ramamoorthi. 2006. Real-time BRDF editing in complex lighting. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 25, 3, (July 1, 2006), 945. ISSN: 07300301. doi: [10/fdbtmc](#).
- [94] Yoshua Bengio, Aaron Courville, and Pascal Vincent. 2013. Representation learning: A review and new perspectives. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 35, 8, 1798–1828. doi: [10/f42hw4](#).
- [95] Carsten Benthin, Ingo Wald, and Philipp Slusallek. 2003. A scalable approach to interactive global illumination. *Computer Graphics Forum (Proceedings of Eurographics)*, 22, (September 2003).
- [96] Jon Louis Bentley. 1975. Multidimensional binary search trees used for associative searching. *Communications of the ACM*, 18, 9, (September 1975), 509–517. ISSN: 0001-0782. doi: [10/fnpv3t](#).
- [97] Jon Louis Bentley. 1979. Multidimensional binary search trees in database applications. *IEEE Transactions on Software Engineering*, 5, 4, (July 1979), 333–340. ISSN: 0098-5589. doi: [10/dszg8b](#).
- [98] Jon Louis Bentley and Jerome H. Friedman. 1979. Data structures for range searching. *Computing Surveys*, 11, 4, (December 1979), 397–409. ISSN: 0360-0300. doi: [10/ddpbmx](#).
- [99] Jon Louis Bentley, Bruce W. Weide, and Andrew C. Yao. 1980. Optimal expected-time algorithms for closest point problems. *ACM Trans. on Math. Soft.*, 6, 4, (December 1980), 563–580. ISSN: 0098-3500. doi: [10/dcs75s](#).
- [100] Pascal Bérard, Derek Bradley, Maurizio Nitti, Thabo Beeler, and Markus Gross. 2014. High-quality capture of eyes. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 33, 6, Article 223, 223:1–223:12. ISSN: 0730-0301. doi: [10/f6r2f5](#).
- [101] Bryan Beresford-Smith, Derek Y. C. Chan, and D. John Mitchell. 1985. The electrostatic interaction in colloidal systems with low added electrolyte. *Journal of Colloid and Interface Science*, 105, 1, (May 1, 1985), 216–234. ISSN: 0021-9797. doi: [10/fdzmbd](#).
- [102] M. Berger, T. Trout, and N. Levit. 1990. Ray tracing mirages. *IEEE Computer Graphics & Applications*, 10, 3, (May 1990), 36–41. ISSN: 0272-1716. doi: [10/cfbfc3](#).
- [103] Larry Bergman, Henry Fuchs, and Eric Grant. 1986. Image rendering by adaptive refinement. *Computer Graphics (Proceedings of SIGGRAPH)*, 20, 4, (August 1986), 29–38.
- [104] Adrien Bernhardt, Loic Barthe, Marie-Paule Cani, and Brian Wyvill. 2010. Implicit blending revisited. *Computer Graphics Forum (Proceedings of Eurographics)*, 29, 2. ISSN: 1467-8659. doi: [10/fksg6](#).
- [105] J. T. Bevens and R. V. Dunkle. 1960. Radiation interchange within an enclosure. *ASME Journal of Heat Transfer*, 82, 1, (February 1960), 1–7.
- [106] J. T. Bevens and D. K. Edwards. 1965. Radiation exchange in an enclosure with directional wall properties. *Transactions of the American Society of Mechanical Engineers*, (August 1965), 388–396.
- [107] Ayush Bhandari, Christopher Barsi, and Ramesh Raskar. 2015. Blind and reference-free fluorescence lifetime estimation via consumer time-of-flight sensors. *Optica*, 2, 11. doi: [10/gfz5kx](#).
- [108] Ayush Bhandari, Achuta Kadambi, Refael Whyte, Christopher Barsi, Micha Feigin, Adrian Dorrington, and Ramesh Raskar. 2014. Resolving multipath interference in time-of-flight imaging via modulation frequency diversity and sparse regularization. *Opt. Lett.*, 39, 6. doi: [10/gfz5k2](#).
- [109] Ayush Bhandari and Ramesh Raskar. 2016. Signal processing for time-of-flight imaging sensors. *IEEE Signal Processing Magazine*, 33, 5. doi: [10/gfz5k3](#).
- [110] Bernd Bickel, Mario Botsch, Roland Angst, Wojciech Matusik, Miguel Otaduy, Hanspeter Pfister, and Markus Gross. 2007. Multi-scale capture of facial geometry and motion. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 26, 3, Article 33. ISSN: 0730-0301. doi: [10/d7wc75](#).
- [111] Bernd Bickel, Peter Kauffmann, Mélina Skouras, Bernhard Thomaszewski, Derek Bradley, Thabo Beeler, Phil Jackson, Steve Marschner, Wojciech Matusik, and Markus Gross. 2012. Physical face cloning. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 31, 4, Article 118, 118:1–118:10. ISSN: 0730-0301. doi: [10/gbbwkh](#).
- [112] Niels Billen and Philip Dutré. 2016. Line sampling for direct illumination. *Computer Graphics Forum (Proceedings of the Eurographics Symposium on Rendering)*, 35, 4, (July 1, 2016), 93–102. ISSN: 0167-7055. doi: [10/f84z2h](#).
- [113] V. Biri, D. Arquès, and S. Michelin. 2006. Real time rendering of atmospheric scattering and volumetric shadows. *Journal of the World Society for Computer Graphics (WSCG)*, 14, 1–3, 65–72.
- [114] Garrett Birkhoff. 1959. Reactor criticality in transport theory. *Proceedings of the National Academy of Sciences*, 45, 567–569. doi: [10/b4qt7q](#).
- [115] Garrett Birkhoff. 1963. Reactor criticality in neutron transport theory. *Rendiconti di Matematica*, 22, 102–126.
- [116] Benedikt Bitterli. 2016. Rendering resources. <https://benedikt-bitterli.me/resources/>.
- [117] Benedikt Bitterli. 2016. Virtual femto photography. <https://benedikt-bitterli.me/femto.html>.
- [118] Benedikt Bitterli, Wenzel Jakob, Jan Novák, and Wojciech Jarosz. 2018. Reversible jump Metropolis light transport using inverse mappings. *ACM Transactions on Graphics*, 37, 1, (January 2018), 1:1–1:12. ISSN: 0730-0301. doi: [10/gd52ph](#).
- [119] Benedikt Bitterli and Wojciech Jarosz. 2017. Beyond points and beams: higher-dimensional photon samples for volumetric light transport. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 36, 4, (July 2017), 1–12. ISSN: 15577368. doi: [10/gfzbnr](#).
- [120] Benedikt Bitterli, Jan Novák, and Wojciech Jarosz. 2015. Portal-masked environment map sampling. *Computer Graphics Forum (Proceedings of the Eurographics Symposium on Rendering)*, 34, 4, (July 1, 2015), 13–19. ISSN: 0167-7055. doi: [10/f7mbx7](#).
- [121] Benedikt Bitterli, Srinath Ravichandran, Thomas Müller, Magnus Wrenninge, Jan Novák, Steve Marschner, and Wojciech Jarosz. 2018. A radiative transfer framework for non-exponential media. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 37, 6, (November 2018), 225:1–225:17. doi: [10/gfz2cm](#).
- [122] Benedikt Bitterli, Fabrice Rousselle, Bochang Moon, José A. Iglesias-Gutián, David Adler, Kenny Mitchell, Wojciech Jarosz, and Jan Novák. 2016. Nonlinearly weighted first-order regression for denoising Monte Carlo renderings. *Computer Graphics Forum (Proceedings of the Eurographics Symposium on Rendering)*, 35, 4, (June 2016), 107–117. ISSN: 14678659. doi: [10/f842kc](#).
- [123] Miguel A. Blanco, M. Flórez, and M. Bermejo. 1997. Evaluation of the rotation matrices in the basis of real spherical harmonics. *Journal of Molecular Structure: THEOCHEM*, 419, 1, (December 8, 1997), 19–27. ISSN: 0166-1280. doi: [10/d9rwnn](#).
- [124] Philippe Blasi, Bertrand Le Saec, and Christophe Schlick. 1993. A rendering algorithm for discrete volume density objects. *Computer Graphics Forum (Proceedings of Eurographics)*, 12, 3, (September 1993), 201–210. ISSN: 1467-8659. doi: [10/c27h3j](#).
- [125] James F. Blinn. 1977. Models of light reflection for computer synthesized pictures. *Computer Graphics (Proceedings of SIGGRAPH)*, 11, 2, (July 1977), 192–198. ISSN: 0097-8930. doi: [10/dg64f5](#).
- [126] James F. Blinn. 1982. A generalization of algebraic surface drawing. *Computer Graphics (Proceedings of SIGGRAPH)*, 16, 3, (July 1, 1982), 273. ISSN: 00978930. doi: [10/fgvz3f](#).
- [127] James F. Blinn. 1982. Light reflection functions for simulation of clouds and dusty surfaces. *Computer Graphics (Proceedings of SIGGRAPH)*, 16, 3, (July 1, 1982), 21–29. ISSN: 00978930. doi: [10/dz2jzw](#).
- [128] James F. Blinn and Martin E. Newell. 1976. Texture and reflection in computer generated images. *Communications of the ACM*, 19, 10, (October 1976), 542–547. ISSN: 0001-0782. doi: [10/dct2v6](#).
- [129] Jules Bloomenthal. 1985. Modeling the mighty maple. *Computer Graphics (Proceedings of SIGGRAPH)*, 19, 3, (July 1985), 305–311.
- [130] Jules Bloomenthal and Ken Shoemake. 1991. Convolution surfaces. *Computer Graphics (Proceedings of SIGGRAPH)*, 25, 4, (July 1991), 251–256.
- [131] Adrian Blumberg, Jan Novák, Ralf Habel, Derek Nowrouzezahrai, and Wojciech Jarosz. 2016. Reduced aggregate scattering operators for path tracing. *Computer Graphics Forum*, 35, 7, (October 1, 2016), 461–473. ISSN: 0167-7055. doi: [10/f9c6w6](#).
- [132] Wolfgang Boehm. 1982. On cubics: a survey. *Computer Graphics and Image Processing*, 19, 201–226.
- [133] P. Bogacki and L. F. Shampine. 1989. A 3(2) pair of Runge–Kutta formulas. *Applied Mathematics Letters*, 2, 4, (January 1, 1989), 321–325. ISSN: 0893-9659. doi: [10/cwcdkx](#).

- [134] N. N. Bolotnik and T. Yu. Figurina. 2008. Optimal control of the rectilinear motion of a rigid body on a rough plane by means of the motion of two internal masses. *Journal of Applied Mathematics and Mechanics*, 72, 2, (August 1, 2008), 126–135. ISSN: 0021-8928. doi: [10/bcm4b2](#).
- [135] R. A. Bolt. 1980. "Put-That-There": voice and gesture at the graphics interface. *Computer Graphics (Proceedings of SIGGRAPH)*, 14, 3, (July 1980), 262–270.
- [136] T. E. Booth. 2007. Unbiased monte carlo estimation of the reciprocal of an integral. *Nuclear Science and Engineering*, 156, 3, 403–407. doi: [10/gfzq76](#).
- [137] Christoph C. Borel, Siegfried A. W. Gerstl, and Bill J. Powers. 1991. The radiosity method in optical remote sensing of structured 3-D surfaces. *Remote Sensing of the Environment*, 36, (May 1991), 13–44. doi: [10/fggfqm](#).
- [138] C. F. Borges. 1991. Trichromatic approximation for computer graphics illumination models. *Computer Graphics (Proceedings of SIGGRAPH)*, 25, 4, (July 1991), 101–104.
- [139] Anatoli Borovoi. 2002. On the extinction of radiation by a homogeneous but spatially correlated random medium: comment. *Journal of the Optical Society of America A*, 19, 12, (December 1, 2002), 2517–2520. ISSN: 1520-8532. doi: [10/dppwnh](#).
- [140] Carles Bosch and Gustavo Patow. 2010. Real-time path-based surface detail. *Computers & Graphics*, 34, 4, (August 1, 2010), 430–440. ISSN: 0097-8493. doi: [10/fw33mm](#).
- [141] Raj Chandra Bose. 1938. On the application of the properties of Galois fields to the problem of construction of hyper-Graeco-Latin squares. *Sankhyā: The Indian Journal of Statistics*, 3, 4, 323–338. ISSN: 00364452.
- [142] Raj Chandra Bose and K. A. Bush. 1952. Orthogonal arrays of strength two and three. *The Annals of Mathematical Statistics*, 23, 4, (December 1952), 508–524. ISSN: 0003-4851. doi: [10/dts6th](#).
- [143] Raj Chandra Bose and K. Rajasekharan Nair. 1941. On complete sets of Latin squares. *Sankhyā: The Indian Journal of Statistics*, 5, 4, 361–382. ISSN: 00364452.
- [144] Mario Botsch and Leif Kobbelt. 2005. Real-time shape editing using radial basis functions. *Computer Graphics Forum (Proceedings of Eurographics)*, 24, 3, 611–621. ISSN: 1467-8659. doi: [10/dk8mxn](#).
- [145] Mario Botsch, Mark Pauly, Martin Wicke, and Markus Gross. 2007. Adaptive space deformations based on rigid cells. *Computer Graphics Forum (Proceedings of Eurographics)*, 26, 3, 339–347. ISSN: 1467-8659. doi: [10/ct2hxx](#).
- [146] Kadi Bouatouch, Sumanta N. Pattanaik, and Eric Zeghers. 1996. Computation of higher order illumination with a non-deterministic approach. *Computer Graphics Forum (Proceedings of Eurographics)*, (August 1996), 327–338.
- [147] Sofien Bouaziz, Yangang Wang, and Mark Pauly. 2013. Online modeling for realtime facial animation. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 32, 4, Article 40, 40:1–40:10. ISSN: 0730-0301. doi: [10/gbdcgq6](#).
- [148] Tamy Boubekeur, Wolfgang Heidrich, Xavier Granier, and Christophe Schlick. 2006. Volume-surface trees. *Computer Graphics Forum (Proceedings of Eurographics)*, 25, 3, 399–406. ISSN: 1467-8659. doi: [10/bqt4pn](#).
- [149] Pierre Bouguer. 1729. Essai d'optique sur la gradation de la lumiere. *Jombert, Paris*, reprinted in: *Les maitres de la pensee scientifique, Paris*.
- [150] Kévin Boulanger, Kadi Bouatouch, and Sumant Pattanaik. 2008. Rendering trees with indirect lighting in real time. *Computer Graphics Forum (Proceedings of the Eurographics Symposium on Rendering)*, 27, 4, 1189–1198. ISSN: 1467-8659. doi: [10/cd3k5c](#).
- [151] Adrien Bousseau, Emmanuelle Chapoulie, Ravi Ramamoorthi, and Maneesh Agrawala. 2011. Optimizing environment maps for material depiction. *Computer Graphics Forum (Proceedings of the Eurographics Symposium on Rendering)*, 30, 1171–1180. doi: [10/b88np7](#).
- [152] John C. Bowers, Jonathan Leahey, and Rui Wang. 2011. A ray tracing approach to diffusion curves. *Computer Graphics Forum (Proceedings of the Eurographics Symposium on Rendering)*, 30, 4, 1345–1352. ISSN: 1467-8659. doi: [10/ctj4wv](#).
- [153] John Bowers, Rui Wang, Li-Yi Wei, and David Maletz. 2010. Parallel Poisson disk sampling with spectrum analysis on surfaces. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 29, 6, (December 2010), 166:1–166:10. ISSN: 0730-0301. doi: [10/cgqnx](#).
- [154] George Edward Pelham Box and Mervin Edgar Muller. 1958. A note on the generation of random normal deviates. *AMS*, 29, 2, (June 1958), 610–611. ISSN: 0003-4851. doi: [10/cdbhsb](#).
- [155] Simon Boyé, Pascal Barla, and Gaël Guennebaud. 2012. A vectorial solver for free-form vector gradients. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 31, 6, (November 2012), 173:1–173:9. ISSN: 0730-0301. doi: [10/f96zbb](#).
- [156] Derek Bradley, Wolfgang Heidrich, Tiberiu Popa, and Alla Sheffer. 2010. High resolution passive facial performance capture. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 29, 4, Article 41, 41:1–41:10. ISSN: 0730-0301. doi: [10/cs2v9m](#).
- [157] L. Brandolini, S. Hofmann, and A. Iosevich. 2003. Sharp rate of average decay of the Fourier transform of a bounded set. *GAEA Geometric & Functional Analysis*, 13, 4, 671–680. doi: [10/bd2j6m](#).
- [158] Luca Brandolini, Leonardo Colzani, and Andrea Torlaschi. 2001. Mean square decay of Fourier transforms in Euclidean and non Euclidean spaces. *Tohoku Mathematical Journal*, 53, 3, 467–478. ISSN: 0040-8735, 2186-585X. doi: [10/dhnmng](#).
- [159] W. F. Breig and A. L. Crosbie. 1974. Two-dimensional radiative equilibrium. *Journal of Mathematical Analysis and Applications*, 46, 1, 104–125.
- [160] Leo Breiman, William Meisel, and Edward Purcell. 1977. Variable kernel estimates of multivariate densities. *Technometrics*, 19, 2, (May 1, 1977), 135–144. ISSN: 0040-1706. doi: [10/gfzqh3](#).
- [161] V.N. Bringi, V. Chandrasekar, and R. Xiao. 1991. Raindrop axis ratios and size distributions in Florida rainshafts: an assessment of multiparameter radar algorithms. *IEEE Transactions on Geoscience and Remote Sensing*, 36, 3, 703–715. doi: [10/ftqk7k](#).
- [162] Gabriel J. Brostow, Carlos Hernández, George Vogiatzis, Björn Stenger, and Roberto Cipolla. 2011. Video normals from colored lights. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 33, 10, 2104–2114. doi: [10/fqp2nv](#).
- [163] P. S. Brown and J. P. Pandolfo. 1969. An equivalent-obstacle model for the computation of radiative flux in obstructed layers. *Agricultural and Forest Meteorology*, 6, 407–421.
- [164] Eric Bruneton and Fabrice Neyret. 2012. A survey of non-linear pre-filtering methods for efficient and accurate surface shading. *IEEE Transactions on Visualization and Computer Graphics*, 18, 2, (February 2012), 242–260. ISSN: 1077-2626. doi: [10/chq5qh](#).
- [165] Eric Bruneton and Fabrice Neyret. 2012. Real-time realistic rendering and lighting of forests. *Computer Graphics Forum (Proceedings of Eurographics)*, 31, 373–382, 2pt1. doi: [10/f9965q](#).
- [166] Henry Brysk. 1975. Fredholm equations and Green's functions. *Transport Theory and Statistical Physics*, 4, 2, 87–95.
- [167] Antoni Buades, Bartomeu Coll, and Jean-Michel Morel. 2005. A review of image denoising algorithms, with a new one. *Multiscale Modeling & Simulation*, 4, 2, (January 1, 2005), 490–530. ISSN: 1540-3459. doi: [10/d4fhj8](#).
- [168] Antoni Buades, Bartomeu Coll, and Jean-Michel Morel. 2008. Nonlocal image and movie denoising. *International Journal of Computer Vision (IJCV)*, 76, 2, (February 1, 2008), 123–139. ISSN: 1573-1405. doi: [10/d5frb6](#).
- [169] Chris Buckalew and Donald Fussell. 1989. Illumination networks: fast realistic rendering with general reflectance functions. *Computer Graphics (Proceedings of SIGGRAPH)*, 23, 3, (July 1989), 89–98.
- [170] R. O. Buckius and M. M. Tseng. 1978. Radiative heat transfer in a planar medium with anisotropic scattering and directional boundaries. *Journal of Quantitative Spectroscopy and Radiative Transfer*, 20, 385–402. doi: [10/fh8dvc](#).
- [171] H. Buckley. 1927. On the radiation from the inside of a circular cylinder. *Philosophical Magazine*, 4, 23, (October 1927), 753–762.
- [172] G. Buffon. 1733. Editor's note concerning a lecture given 1733 by Mr. Le Clerc de Buffon to the Royal Academy of Sciences in Paris. *Histoire de l'Acad. Roy. des Sci.*, 43–45.
- [173] J. P. Burman and Robin L. Plackett. 1946. The design of optimum multifactorial experiments. *Biometrika*, 33, 4, (June 1946), 305–325. ISSN: 0006-3444. doi: [10/fmhkrj](#).
- [174] Geoffrey J. Burton and Ian R. Moorhead. 1987. Color and spatial structure in natural scenes. *Applied Optics*, 26, 1, 157–170. doi: [10/cxmdtz](#).
- [175] Jens Busck. 2005. Underwater 3-D optical imaging with a gated viewing laser radar. *Optical Engineering*, 44, 11, 44-44–7. doi: [10/cc8kvv](#).
- [176] Jens Busck and Henning Heiselberg. 2004. Gated viewing and high-accuracy three-dimensional laser radar. *Applied Optics*, 43, 24, 4705–4710. doi: [10/cxvzm2](#).
- [177] K. A. Bush. 1952. Orthogonal arrays of index unity. *The Annals of Mathematical Statistics*, 23, 3, 426–434. ISSN: 00034851. doi: [10/fgm6b8](#).
- [178] J. C. Butcher and H. Messel. 1958. Electron number distribution in electron-photon showers. *Physical Review*, 112, 6, (December 1958), 2096–2106. doi: [10/dmbvs8](#).
- [179] J. C. Butcher and H. Messel. 1960. Electron number distribution in electron-photon showers in air and aluminium absorbers. *Nuclear Physics*, 20, 15–128. ISSN: 0029-5582. doi: [10/bqxd9g](#).
- [180] Mauro Buttafava, Jessica Zeman, Alberto Tosi, Kevin Eliceiri, and Andreas Velten. 2015. Non-line-of-sight imaging using a time-gated single photon avalanche diode. *Optics Express*, 23, 16. doi: [10/gfz5k4](#).
- [181] Wright C. E. 1929. Note on a geometrical radiation theorem. *Philosophical Magazine*, 7, 946–950.
- [182] Brian Cabral, Nelson Max, and Rebecca Springmeyer. 1987. Bidirectional reflection functions from surface bump maps. *Computer Graphics (Proceedings of SIGGRAPH)*, 21, 4, (August 1, 1987), 273–281. ISSN: 00978930. doi: [10/fc27w8](#).
- [183] Martin Čadik, Robert Herzog, Rafal Mantiuk, Karol Myszkowski, and Hans-Peter Seidel. 2012. New measurements reveal weaknesses of image quality metrics in evaluating graphics artifacts. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 31, 6, (November 2012), 147:1–147:10. ISSN: 0730-0301. doi: [10/gfz6mv](#).

- [184] Jacques Cali, Dan A. Calian, Cristina Amati, Rebecca Kleinberger, Anthony Steed, Jan Kautz, and Tim Weyrich. 2012. 3D-printing of non-assembly, articulated models. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 31, 6, (November 2012), 130:1–130:8. ISSN: 0730-0301. doi: [10/f96zxc](#).
- [185] Stuart A. Campbell and John H. Borden. 2005. Bark reflectance spectra of conifers and angiosperms: implications for host discrimination by coniferophagous bark and timber beetles. *The Canadian Entomologist*, null, 06, (December 2005), 719–722. doi: [10/dn86qq](#).
- [186] Emmanuel J Candès and David L Donoho. 1999. Ridgelets: A key to higher-dimensional intermittency? *Philosophical Transactions of the Royal Society of London. Series A: Mathematical, Physical and Engineering Sciences*, 357, 1760, 2495–2509. doi: [10/fwvzbz](#).
- [187] M. Cani-Gascuel and M. Desbrun. 1997. Animation of deformable models using implicit surfaces. *IEEE Transactions on Visualization and Computer Graphics*, 3, 1, (January 1997), 39–50. ISSN: 1077-2626. doi: [10/c6bqg2](#).
- [188] Chen Cao, Qiming Hou, and Kun Zhou. 2014. Displaced dynamic expression regression for real-time facial tracking and animation. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 33, 4, Article 43, 43:1–43:10. ISSN: 0730-0301. doi: [10/f6c2c3](#).
- [189] Chen Cao, Zhong Ren, Baining Guo, and Kun Zhou. 2010. Interactive rendering of non-constant, refractive media using the ray equations of gradient-index optics. *Computer Graphics Forum*, 29, 4, 1375–1382. ISSN: 1467-8659. doi: [10/fbff4n](#).
- [190] L. L. Carter, E. D. Cashwell, and W. M. Taylor. 1972. Monte Carlo sampling with continuously varying cross sections along flight paths. *Nuclear Science and Engineering*, 48, 4, (August 1, 1972), 403–411. ISSN: 0029-5639. doi: [10/gfzngg](#).
- [191] Kenneth M. Case. 1957. Transfer problems and the reciprocity principle. *Reviews of Modern Physics*, 29, 4, (October 1957), 651–663. doi: [10/fpvc9](#).
- [192] Kenneth M. Case. 1960. Elementary solutions of the transport equation and their applications. *Annals of Physics*, 9, 1–23.
- [193] Kenneth M Case, George Placzek, and Frederic Hoffmann. 1953. Introduction to the theory of neutron diffusion, v. 1.
- [194] Z. J. Cendes and S. H. Wong. 1987. C^1 quadratic interpolation over arbitrary point sets. *IEEE Computer Graphics & Applications*, 7, 11, (November 1987), 8–16.
- [195] Eva Cerezo, Frederic Pérez, Xavier Pueyo, Francisco J. Seron, and François X. Sillion. 2005. A survey on participating media rendering techniques. *The Visual Computer*, 21, 5, (June 2005), 303–328. ISSN: 0178-2789. doi: [10/cjxqdt](#).
- [196] Duygu Ceylan, Wilmot Li, Niloy J. Mitra, Maneesh Agrawala, and Mark Pauly. 2013. Designing and fabricating mechanical automata from mocap sequences. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 32, 6, (November 2013), 186:1–186:11. ISSN: 0730-0301. doi: [10/gbd5mt](#).
- [197] Chakravarty R. Alla Chaitanya, Anton S. Kaplanyan, Christoph Schied, Marco Salvi, Aaron Lefohn, Derek Nowrouzezahrai, and Timo Aila. 2017. Interactive reconstruction of Monte Carlo image sequences using a recurrent denoising autoencoder. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 36, 4, (July 2017), 98:1–98:12. ISSN: 0730-0301. doi: [10/gbxhcv](#).
- [198] Anish Chandak, Christian Lauterbach, Micah T. Taylor, Zhimin Ren, and Dinesh Manocha. 2008. AD-frustum: adaptive frustum tracing for interactive sound propagation. *IEEE Transactions on Visualization and Computer Graphics*, 14, 6, 1707–1722. doi: [10/fn2wn7](#).
- [199] Subrahmanyan Chandrasekhar. 1947. On the radiative equilibrium of a stellar atmosphere. XIV. *Astrophysical Journal*, 105, 164.
- [200] Heping Chen, Thomas A. Fuhlbrigge, and Xiongzi Li. 2009. A review of CAD-based robot path planning for spray painting. *Industrial Robot: the international journal of robotics research and application*, 36, 1, (January 9, 2009), 45–50. ISSN: 0143-991X. doi: [10/dfxvzt](#).
- [201] J. Chen. 2013. Leaf-level measurements.
- [202] Jiajie Chen and Peter Z.G. Qian. 2014. Latin hypercube designs with controlled correlations and multi-dimensional stratification. *Biometrika*, 101, 2, (February 2014), 319–332. ISSN: 1464-3510. doi: [10/f5549t](#).
- [203] Jiating Chen, Xiaoyin Ge, Li-Yi Wei, Bin Wang, Yusu Wang, Huamin Wang, Yun Fei, Kang-Lai Qian, Jun-Hai Yong, and Wenping Wang. 2013. Bilateral blue noise sampling. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 32, 6, (November 2013), 216:1–216:11. ISSN: 0730-0301. doi: [10/gbd538](#).
- [204] Jiating Chen, Bin Wang, Yuxiang Wang, Ryan S. Overbeck, Jun-Hai Yong, and Wenping Wang. 2011. Efficient depth-of-field rendering with adaptive sampling and multiscale reconstruction. *Computer Graphics Forum*, 30, 6, 1667–1680. ISSN: 1467-8659. doi: [10/fmc3zx](#).
- [205] Lieu-Hen Chen, Tsung-Chih Tsai, and Yu-Sheng Chen. 2010. Grouped photon mapping. *The Visual Computer*, 26, 3, (March 1, 2010), 217–226. ISSN: 1432-2315. doi: [10/c7c5jk](#).
- [206] Min Chen and James Arvo. 2000. Perturbation methods for interactive specular reflections. *IEEE Transactions on Visualization and Computer Graphics*, 6, 3, (July 2000), 253–264.
- [207] Min Chen and James Arvo. 2000. Theory and application of specular path perturbation. *ACM Transactions on Graphics*, 19, 4, (October 2000), 246–278. ISSN: 0730-0301. doi: [10/fpdwnc](#).
- [208] Shenchang Eric Chen, Holly E. Rushmeier, Gavin Miller, and Douglass Turner. 1991. A progressive multi-pass method for global illumination. *Computer Graphics (Proceedings of SIGGRAPH)*, 25, 4, (July 2, 1991), 165–174. Thomas W. Sederberg, editor. ISSN: 00978930. doi: [10/dzvd fm](#).
- [209] Yanyun Chen, Xin Tong, Jiaping Wang, Stephen Lin, Baining Guo, and Heung-Yeung Shum. 2004. Shell texture functions. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 23, 3, (August 1, 2004), 343–353. ISSN: 07300301. doi: [10/cjcxdr](#).
- [210] Ying-Chieh Chen and Chun-Fa Chang. 2008. A prism-free method for silhouette rendering in inverse displacement mapping. *Computer Graphics Forum (Proceedings of Pacific Graphics)*, 27, 7, 1929–1936. ISSN: 1467-8659. doi: [10/ddwxdb](#).
- [211] Zhonggui Chen, Zhan Yuan, Yi-King Choi, Ligang Liu, and Wenping Wang. 2012. Variational blue noise sampling. *IEEE Transactions on Visualization and Computer Graphics*, 18, 10, (October 2012), 1784–1796. ISSN: 1077-2626. doi: [10/f38g82](#).
- [212] Ewen Cheslack-Postava, Rui Wang, Oskar Akerlund, and Fabio Pellacini. 2008. Fast, realistic lighting and material design using nonlinear cut approximation. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 27, 5, (December 1, 2008), 1. ISSN: 07300301. doi: [10/d2998k](#).
- [213] Matt Jen-Yuan Chiang, Benedikt Bitterli, Chuck Tappan, and Brent Burley. 2016. A practical and controllable hair and fur model for production rendering. *Computer Graphics Forum (Proceedings of Eurographics)*, 35, 2, 275–283. ISSN: 1467-8659. doi: [10/gfz5ss](#).
- [214] Cheol Ho Choi, Joseph Ivanic, Mark S. Gordon, and Klaus Ruedenberg. 1999. Rapid and stable determination of rotation matrices between spherical harmonics by direct recursion. *The Journal of Chemical Physics*, 111, 19, (November 1, 1999), 8825–8831. ISSN: 0021-9606. doi: [10/d54d9s](#).
- [215] Per H. Christensen. 1999. Faster photon map global illumination. *Journal of Graphics Tools*, 4, 3, (January 1999), 1–10. ISSN: 1086-7651. doi: [10/gfznc4](#).
- [216] Per H. Christensen. 1999. Importance for ray tracing. *Ray Tracing News*, 12, 2, (December 1999). (www.acm.org/tog/resources/RTNews/html/rtnv12n2.html).
- [217] Per H. Christensen. 2003. Adjoints and importance in rendering: an overview. *IEEE Transactions on Visualization and Computer Graphics*, 9, 3, (July 2003), 329–340. ISSN: 1077-2626. doi: [10/d3gjs5](#).
- [218] Per H. Christensen and Wojciech Jarosz. 2016. The path to path-traced movies. *Foundations and Trends® in Computer Graphics and Vision*, 10, 2, (October 2016), 103–175. ISSN: 1572-2740. doi: [10/gfjwjc](#).
- [219] Per H. Christensen, David M. Laur, Julian Fong, Wayne L. Wooten, and Dana Batali. 2003. Ray differentials and multiresolution geometry caching for distribution ray tracing in complex scenes. *Computer Graphics Forum (Proceedings of Eurographics)*, 22, 3, 543–552.
- [220] Per H. Christensen, Dani Lischinski, Eric J. Stollnitz, and David H. Salesin. 1997. Clustering for glossy global illumination. *Computer Graphics Forum*, 16, 1, (January 1997), 3–33. doi: [10/dd37mg](#).
- [221] Per H. Christensen, Eric J. Stollnitz, David H. Salesin, and Tony D. DeRose. 1996. Global illumination of glossy environments using wavelets and importance. *ACM Transactions on Graphics*, 15, 1, (January 1996), 37–71. ISSN: 0730-0301. doi: [10/bkb7z8](#).
- [222] Per Christensen, Julian Fong, Jonathan Shade, Wayne Wooten, Brenden Schubert, Andrew Kensler, Stephen Friedman, Charlie Kilpatrick, Cliff Ramshaw, Marc Bannister, Brenton Rayner, Jonathan Brouillat, and Max Liani. 2018. RenderMan: an advanced path-tracing architecture for movie rendering. *ACM Transactions on Graphics*, 37, 3, (August 2018), 30:1–30:21. ISSN: 0730-0301. doi: [10/gfznb5](#).
- [223] Per Christensen, Andrew Kensler, and Charlie Kilpatrick. 2018. Progressive multi-jittered sample sequences. *Computer Graphics Forum (Proceedings of the Eurographics Symposium on Rendering)*, 37, 4, (July 2018), 21–33. ISSN: 0167-7055. doi: [10/gdvj4n](#).
- [224] Per Christensen, Andrew Kensler, and Charlie Kilpatrick. 2018. Progressive Multi-Jittered Sample Sequences. *Computer Graphics Forum (Proceedings of the Eurographics Symposium on Rendering)*, 37, 4, (June 2018). doi: [10/gdvj4n](#).
- [225] Asger Nyman Christiansen, Ryan Schmidt, and J. Andreas Bærentzen. 2015. Automatic balancing of 3D models. *Computer Aided Design. Solid and Physical Modeling* 2014 58, (January 1, 2015), 236–241. ISSN: 0010-4485. doi: [10/gfz899](#).
- [226] Hung-Kuo Chu, Wei-Hsin Hsu, Niloy J. Mitra, Daniel Cohen-Or, Tien-Tsin Wong, and Tong-Yee Lee. 2010. Camouflage images. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 29, 4, (July 26, 2010), 1. ISSN: 07300301. doi: [10/fb2w88](#).
- [227] John P. Church. 1963. Homogeneous-medium Green’s functions applied to the transport equation in heterogeneous media. *Transactions of the American Nuclear Society*, 6, 2, (November 1963), 231.

- [228] John P. Church. 1965. Solving the transport equation in heterogeneous media using first-flight Green's functions for homogeneous media. *Nuclear Science and Engineering*, 21, 1, (January 1965), 49–61.
- [229] O. Chwolson. 1890. Grundzüge einer mathematischen theorie der inneren diffusion des lichtes. *L'académie Impériale des Sciences de St.-Petersbourg, Nouvelle Series*, 33, 1, 221–256.
- [230] Petrik Clarberg and Tomas Akenine-Möller. 2008. Exploiting visibility correlation in direct illumination. *Computer Graphics Forum (Proceedings of the Eurographics Symposium on Rendering)*, 27, 4, 1125–1136. doi: [10/d2gd6k](#).
- [231] Petrik Clarberg and Tomas Akenine-Möller. 2008. Practical product importance sampling for direct illumination. *Computer Graphics Forum (Proceedings of Eurographics)*, 27, 2, 681–690. ISSN: 0167-7055. doi: [10/ccwrhc](#).
- [232] Petrik Clarberg, Wojciech Jarosz, Tomas Akenine-Möller, and Henrik Wann Jensen. 2005. Wavelet importance sampling: efficiently evaluating products of complex functions. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 24, 3, (July 2005), 1166–1175. ISSN: 07300301. doi: [10/c79g6q](#).
- [233] James H. Clark. 1976. Hierarchical geometric models for visible surface algorithms. *Communications of the ACM*, 19, 10, (October 1976), 547–554. doi: [10/fh2sqx](#).
- [234] L. Claustres, M. Paulin, and Y. Boucher. 2003. BRDF measurement modelling using wavelets for efficient path tracing. *Computer Graphics Forum*, 22, 4, 701–716. ISSN: 1467-8659. doi: [10/dk24gt](#).
- [235] Luc Claustres, Yannick Boucher, and Mathias Paulin. 2004. Wavelet projection for modelling of acquired spectral BRDF. *Optical Engineering*, 43, 10, 2327–2339.
- [236] John G. Cleary, Brian M. Wyvill, Graham M. Birtwistle, and Reddy Vatti. 1986. Multiprocessor ray tracing. *Computer Graphics Forum*, 5, 1, (March 1986), 3–12. doi: [10/dbsj9g](#).
- [237] David Cline, Justin Talbot, and Parris Egbert. 2005. Energy redistribution path tracing. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 24, 3, (July 2005), 1186–1195. ISSN: 0730-0301. doi: [10/b3xtrn](#).
- [238] D. Cohen-Or, Y. L. Chrysanthou, C. T. Silva, and F. Durand. 2003. A survey of visibility for walkthrough applications. *IEEE Transactions on Visualization and Computer Graphics*, 9, 3, (July 2003), 412–431. ISSN: 1077-2626. doi: [10/fksr6t](#).
- [239] Michael F. Cohen, Shenchang Eric Chen, John R. Wallace, and Donald P. Greenberg. 1988. A progressive refinement approach to fast radiosity image generation. *Computer Graphics (Proceedings of SIGGRAPH)*, 22, 4, (August 1988), 75–84.
- [240] Michael F. Cohen and Donald P. Greenberg. 1985. The hemi-cube; a radiosity solution for complex environments. *Computer Graphics (Proceedings of SIGGRAPH)*, 19, 3, (August 1985), 31–40. ISSN: 0097-8930. doi: [10/b6rxmn](#).
- [241] Michael F. Cohen, Donald P. Greenberg, David S. Immel, and P. J. Brack. 1986. An efficient radiosity approach for realistic image synthesis. *IEEE Computer Graphics & Applications*, 6, 2, (March 1986), 26–35. doi: [10/c3mmt4](#).
- [242] Michael F. Cohen, Jonathan Shade, Stefan Hiller, and Oliver Deussen. 2003. Wang tiles for image and texture generation. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 22, 3, (July 2003), 287–294. ISSN: 0730-0301. doi: [10/ffwtnk](#).
- [243] Mark Colbert, Sumanta Pattanaik, and Jaroslav Krivánek. 2006. BRDF-Shop: creating physically correct bidirectional reflectance distribution functions. *IEEE Computer Graphics & Applications*, 26, 1, 30–36. ISSN: 0272-1716. doi: [10/ddvm35](#).
- [244] Mark Colbert, Erik Reinhard, and C. E. Hughes. 2007. Painting in high dynamic range. *Journal of Visual Communication and Image Representation*. Special Issue on High Dynamic Range Imaging 18, 5, 387–396. ISSN: 1047-3203. doi: [10/fpw5pc](#).
- [245] W. A. Coleman. 1968. Mathematical verification of a certain Monte Carlo sampling technique and applications of the technique to radiation transport problems. *Nuclear Science and Engineering*, 32, 1, (April 1968), 76–81. doi: [10/gfzndg](#).
- [246] David C. Conner, Aaron L. Greenfield, Prasad Atkar, Alfred Rizzi, and Howie Choset. 2005. Paint deposition modeling for trajectory planning on automotive surfaces. *IEEE Transactions on Automation Science and Engineering*, 2, 4, (October 2005), 381–392. ISSN: 1545-5955. doi: [10/bbzmgg](#).
- [247] Robert L. Cook. 1986. Stochastic sampling in computer graphics. *ACM Transactions on Graphics*, 5, 1, (January 1986), 51–72. ISSN: 0730-0301. doi: [10/cqwhcc](#).
- [248] Robert L. Cook, Loren Carpenter, and Edwin Catmull. 1987. The Reyes image rendering architecture. *Computer Graphics (Proceedings of SIGGRAPH)*, 21, 4, 95–102. ISSN: 0097-8930. doi: [10/bk6dpr](#).
- [249] Robert L. Cook, Thomas Porter, and Loren Carpenter. 1984. Distributed ray tracing. *Computer Graphics (Proceedings of SIGGRAPH)*, 18, 3, (July 1, 1984), 137–145. ISSN: 00978930. doi: [10/c9thc3](#).
- [250] Robert L. Cook and Kenneth E. Torrance. 1981. A reflectance model for computer graphics. *Computer Graphics (Proceedings of SIGGRAPH)*, 15, 3, (August 1981), 307–316. ISSN: 0097-8930. doi: [10/br5ps6](#).
- [251] Ronald Cools and Philip Rabinowitz. 1993. Monomial cubature rules since “Stroud”: a compilation. *Journal of Computational & Applied Mathematics*. doi: [10/cvwx4v](#).
- [252] K. Cooper, J. A. Smith, and D. Pitts. 1982. Reflectance of a vegetation canopy using the adding method. *Applied Optics*, 21, 22, (November 1982), 4112–4118.
- [253] Sabine Coquillart. 1990. Extended free-form deformation: a sculpturing tool for 3D geometric modeling. *Computer Graphics (Proceedings of SIGGRAPH)*, 24, 4, (September 1, 1990), 187–196. ISSN: 00978930. doi: [10/cg5vcd](#).
- [254] Stelian Coros, Bernhard Thomaszewski, Gioacchino Noris, Shinjiro Sueda, Moira Forberg, Robert W. Sumner, Wojciech Matusik, and Bernd Bickel. 2013. Computational design of mechanical characters. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 32, 4, (July 2013), 83:1–83:12. ISSN: 0730-0301. doi: [10/gbdc8c](#).
- [255] R. R. Coveyou, V. R. Cain, and K. J. Yost. 1967. Adjoint and importance in Monte Carlo application. *Nuclear Science and Engineering*, 27, 2, 219–234. doi: [10/gfzq75](#).
- [256] R. R. Coveyou and R. D. Macpherson. 1967. Fourier analysis of uniform random number generators. *Journal of the Association for Computing Machinery*, 14, 1, (January 1967), 100–119. ISSN: 0004-5411. doi: [10/fd4br8](#).
- [257] Radu V. Craiu and Christiane Lemieux. 2007. Acceleration of the multiple-try Metropolis algorithm using antithetic and stratified sampling. *Statistics and Computing*, 17, 2, (January 30, 2007), 109. ISSN: 1573-1375. doi: [10/fq3ksx](#).
- [258] L. E. Cram. 1978. Inversion problems in radiative transfer theory: the Backus-Gilbert formalism. *Journal of Quantitative Spectroscopy and Radiative Transfer*, 20, 305–315. doi: [10/czhz9t](#).
- [259] H. Cramer. 1946. Methods of mathematical statistics.
- [260] S. N. Cramer. 1978. Application of the fictitious scattering radiation transport model for deep-penetration Monte Carlo calculations. *Nuclear Science and Engineering*, 65, 2, 237–253. doi: [10/gfzq74](#).
- [261] R. Cranley and T. N. L. Patterson. 1976. Randomization of number theoretic methods for multiple integration. *SIAM Journal on Numerical Analysis*, 13, 6, 904–914. ISSN: 0036-1429. doi: [10/ds968q](#).
- [262] Cyril Crassin, Fabrice Neyret, Miguel Sainz, Simon Green, and Elmar Eisemann. 2011. Interactive indirect illumination using voxel cone tracing. *Computer Graphics Forum (Proceedings of Pacific Graphics)*, 30, 7, (September 2011), 207–207. doi: [10/fqnc9v](#).
- [263] Franklin C. Crow. 1977. Shadow algorithms for computer graphics. *Computer Graphics (Proceedings of SIGGRAPH)*, 11, 2, 242–248. ISSN: 00978930. doi: [10/fs5f2k](#).
- [264] Franklin C. Crow. 1977. The aliasing problem in computer-generated shaded images. *Communications of the ACM*, 20, 11, 799–805. ISSN: 0001-0782. doi: [10/bscx9p](#).
- [265] Franklin C. Crow. 1984. Summed-area tables for texture mapping. *Computer Graphics (Proceedings of SIGGRAPH)*, 18, 3, 207–212. doi: [10/bbrtvf](#).
- [266] Luis M. Cruz-Orive. 1989. On the precision of systematic sampling: a review of Matheron's transitive methods. *Journal of Microscopy*, 153, 3, 315–333. doi: [10/bjbgwr](#).
- [267] Luis M. Cruz-Orive. 1989. On the precision of systematic sampling: a review of Matheron's transitive methods. *Journal of Microscopy*, 153, 3, 315–333. ISSN: 1365-2818. doi: [10/bjbgwr](#).
- [268] O.G. Cula, K.J. Dana, F.P. Murphy, and B.K. Rao. 2004. Bidirectional imaging and modeling of skin texture. *IEEE Transactions on Biomedical Engineering*, 51, 12, 2148–2159. ISSN: 0018-9294. doi: [10/cbk7pd](#).
- [269] Karel Culik II and Jarkko Kari. 1995. An aperiodic set of Wang cubes. *Journal of Universal Computer Science*, 1, 10, 675–686. Hermann Maurer, Cristian Calude, and Arto Salomaa, editors. doi: [10/gfz99f](#).
- [270] C. Cuttle. 1971. Lighting patterns and the flow of light. *Lighting Research and Technology*, 3, 3, 171–189. doi: [10/gfz2bh](#).
- [271] Tom Cuyppers, Tom Haber, Philippe Bekaert, Se Baek Oh, and Ramesh Raskar. 2012. Reflectance model for diffraction. *ACM Transactions on Graphics*, 31, 5. doi: [10/gbbbrp4](#).
- [272] Eugene d'Eon. 2013. Rigorous asymptotic and moment-preserving diffusion approximations for generalized linear Boltzmann transport in arbitrary dimension. *Transport Theory and Statistical Physics*, 42, 6-7, (September 19, 2013), 237–297. ISSN: 0041-1450, 1532-2424. doi: [10/gfzp5x](#). arXiv: [1312.1412](#).
- [273] Eugene d'Eon. 2018. A reciprocal formulation of non-exponential radiative transfer. 1: Sketch and motivation, (March 8, 2018). arXiv: [1803.03259](#) [nuc1-th, physics:physics].
- [274] Eugene d'Eon, Guillaume Francois, Martin Hill, Joe Letteri, and Jean-Marie Aubry. 2011. An energy-conserving hair reflectance model. *Computer Graphics Forum (Proceedings of the Eurographics Symposium on Rendering)*, 30, 4, (June 1, 2011), 1181–1187. ISSN: 0167-7055. doi: [10/cbnfj](#).
- [275] Eugene d'Eon and Geoffrey Irving. 2011. A quantized-diffusion model for rendering translucent materials. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 30, 4, (July 1, 2011), 56:1–56:14. ISSN: 0730-0301. doi: [10/df9dtd](#).
- [276] Kostadin Dabov, Alessandro Foi, Vladimir Katkovnik, and Karen Egiazarian. 2007. Image denoising by sparse 3-D transform-domain collaborative filtering. *IEEE Transactions on Image Processing*, 16, 8, (August 2007), 2080–2095. ISSN: 1057-7149. doi: [10/fv7528](#).

- [277] Carsten Dachsbaecher. 2010. Analyzing visibility configurations. *IEEE Transactions on Visualization and Computer Graphics*, 17, 4, 475–486. ISSN: 1077-2626. DOI: [10/cjw86q](#).
- [278] Carsten Dachsbaecher, Jaroslav Krivánek, Miloš Hašan, Adam Arbree, Bruce Walter, and Jan Novák. 2014. Scalable realistic rendering with many-light methods. *Computer Graphics Forum*, 33, 1, (February 1, 2014), 88–104. ISSN: 0167-7055. DOI: [10/f5twgd](#).
- [279] H. Dammertz, A. Keller, and H. P. A. Lensch. 2010. Progressive point-light-based global illumination. *Computer Graphics Forum*, 29, 8, (December 2010), 2504–2515. ISSN: 01677055. DOI: [10/fg2n3x](#).
- [280] Holger Dammertz, Johannes Hanika, and Alexander Keller. 2008. Shallow bounding volume hierarchies for fast SIMD ray tracing of incoherent rays. *Computer Graphics Forum (Proceedings of Eurographics)*, 27, 2, 1225–1233. DOI: [10/dtj26n](#).
- [281] Kristin J. Dana, Bram van Ginneken, Shree K. Nayar, and Jan J. Koenderink. 1999. Reflectance and Texture of Real-world Surfaces. *ACM Transactions on Graphics*, 18, 1, (January 1999), 1–34. ISSN: 0730-0301. DOI: [10/dq89g8](#).
- [282] J. V. Dave. 1964. Meaning of the successive iteration of the auxiliary equation in the theory of radiative transfer. *Astrophysical Journal*, 140, 3, (October 1964), 1292–1303.
- [283] Tomáš Davidovič, Jaroslav Krivánek, Miloš Hašan, Philipp Slusallek, and Kavita Bala. 2010. Combining global and local virtual lights for detailed glossy illumination. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 29, 6, (December 2010), 143:1–143:8. ISSN: 0730-0301. DOI: [10/bmktxb](#).
- [284] Anthony B. Davis and Alexander Marshak. 2004. Photon propagation in heterogeneous optical media with spatial correlations: enhanced mean-free-paths and wider-than-exponential free-path distributions. *Journal of Quantitative Spectroscopy and Radiative Transfer*, 84, 1, 3–34. ISSN: 0022-4073. DOI: [10/c9mcc66](#).
- [285] Anthony B. Davis, Alexander Marshak, H. Gerber, and Warren J. Wiscombe. 1999. Horizontal structure of marine boundary layer clouds from centimeter to kilometer scales. *Journal of Geophysical Research: Atmospheres*, 104, D6, 6123–6144. ISSN: 2156-2202. DOI: [10/fd2bzc](#).
- [286] Anthony B. Davis and Mark B. Mineev-Weinstein. 2011. Radiation propagation in random media: From positive to negative correlations in high-frequency fluctuations. *Journal of Quantitative Spectroscopy and Radiative Transfer*, 112, 4, (March 2011), 632–645. DOI: [10/fgxnc4](#).
- [287] Anthony B. Davis and Feng Xu. 2014. A generalized linear transport model for spatially correlated stochastic media. *Journal of Computational and Theoretical Transport*, 43, 1-7, 474–514. DOI: [10/gfz722](#).
- [288] James Davis, Bernd Jähne, Andreas Kolb, Ramesh Raskar, and Christian Theobalt. 2012. Time-of-flight imaging: algorithms, sensors and applications. *Dagstuhl Reports*. Dagstuhl Seminar 12431 2, 10.
- [289] Leila De Floriani, Daniela Mirra, and Enrico Puppo. 1993. Extracting contour lines from a hierarchical surface model. *Computer Graphics Forum (Proceedings of Eurographics)*, 249–260.
- [290] Fernando De Goes and Doug L. James. 2017. Regularized Kelvinlets: sculpting brushes based on fundamental solutions of elasticity. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 36, 4, (July 2017), 40:1–40:11. ISSN: 0730-0301. DOI: [10/gfz56k](#).
- [291] Fernando de Goes, Katherine Breeden, Victor Ostromoukhov, and Mathieu Desbrun. 2012. Blue noise through optimal transport. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 31, 6, (November 2012), 171:1–171:11. ISSN: 0730-0301. DOI: [10/gbb6n9](#).
- [292] Rodrigo de Toledo, Bin Wang, and Bruno Lévy. 2008. Geometry textures and applications. *Computer Graphics Forum*, 27, 8, 2053–2065.
- [293] Paul Debevec, Andreas Wenger, Chris Tchou, Andrew Gardner, Jamie Waese, and Tim Hawkins. 2002. A lighting reproduction approach to live-action compositing. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 21, 3, 547–556. ISSN: 0730-0301. DOI: [10/dbz7t9](#).
- [294] Doug DeCarlo and Anthony Santella. 2002. Stylization and abstraction of photographs. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 21, 3, (July 1, 2002), 769–776. ISSN: 07300301. DOI: [10/fpj3mg](#).
- [295] Xavier Décoret, Frédéric Durand, François X. Sillion, and Julie Dorsey. 2003. Billboard clouds for extreme model simplification. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 689–696. DOI: [10/cn8bn5](#).
- [296] Christopher DeCoro, Tim Weyrich, and Szymon Rusinkiewicz. 2010. Density-based outlier rejection in Monte Carlo rendering. *Computer Graphics Forum (Proceedings of Pacific Graphics)*, 29, 7, (September 1, 2010), 2119–2125. ISSN: 0167-7055. DOI: [10/dsjs9s](#).
- [297] Michael Deering, Stephanie Winner, Bic Schediwy, Chris Duffy, and Neil Hunt. 1988. The triangle processor and normal vector shader: a VLSI system for high performance graphics. *Computer Graphics (Proceedings of SIGGRAPH)*, 22, 4, (June 1988), 21–30. ISSN: 0097-8930. DOI: [10/dw5g9h](#).
- [298] Mauricio Delbracio, Pablo Musé, Antoni Buades, Julien Chauvier, Nicholas Phelps, and Jean-Michel Morel. 2014. Boosting Monte Carlo rendering by ray histogram fusion. *ACM Transactions on Graphics*, 33, 1, (February 2014), 8:1–8:15. ISSN: 0730-0301. DOI: [10/gbfr98](#).
- [299] A. P. Dempster, N. M. Laird, and D. B. Rubin. 1977. Maximum likelihood from incomplete data via the EM algorithm. *Journal of the Royal Statistical Society. Series B (Methodological)*, 39, 1, (September 1, 1977), 1–22. ISSN: 0035-9246. DOI: [10/gfxzrv](#).
- [300] Aloke Dey and Deepayan Sarkar. 2014. A note on the construction of orthogonal Latin hypercube designs. *Journal of Combinatorial Designs*, 24, 3, (August 2014), 105–111. ISSN: 1063-8539. DOI: [10/gfznbv](#).
- [301] Jesús Díaz-García, Pere Brunet, Isabel Navazo, Frederic Perez, and Pere-Pau Vázquez. 2016. Adaptive transfer functions. *The Visual Computer*, 32, 6, (June 1, 2016), 835–845. ISSN: 1432-2315. DOI: [10/f8vyk4](#).
- [302] Christian Dick, Jens Krüger, and Rüdiger Westermann. 2009. GPU ray-casting for scalable terrain rendering. *Computer Graphics Forum (Proceedings of Eurographics)*, 8 pages. ISSN: 1017-4656. DOI: [10/gfz553](#).
- [303] Robert E. Dickinson, Piers J. Sellers, and Daniel S. Kimes. 1987. Integration errors in a three-dimensional model for canopy albedos. *Agricultural and Forest Meteorology*, 40, 177–190.
- [304] Robert R. Dickinson. 1989. The interactive editing and contouring of empirical fields. *IEEE Computer Graphics & Applications*, 9, 3, (May 1989), 34–43.
- [305] A. R. DiDonato. 1982. Recurrence relations for the indefinite integrals of the associated Legendre functions. *Mathematics of Computation*, 38, 158, (April 1982), 547–551. ISSN: 0025-5718, 1088-6842. DOI: [10/cvc8bf](#).
- [306] David L. DiLaura. 1992. On the development of a recursive method for the solution of radiative transfer problems. *Journal of the Illuminating Engineering Society*, 21, 2, 108–112. DOI: [10/gfzv78](#).
- [307] David L. DiLaura and Jeffrey Quinlan. 1995. Non-diffuse radiative transfer I: planar area sources and point receivers. *Journal of the Illuminating Engineering Society*, 24, 2, 102–112. DOI: [10/gfzv8h](#).
- [308] Mark A. Z. Dippé and Erling Henry Wold. 1985. Antialiasing through stochastic sampling. *Computer Graphics (Proceedings of SIGGRAPH)*, 19, 3, (July 1, 1985), 69–78. ISSN: 0097-8930. DOI: [10/cmtt4s](#).
- [309] David P. Dobkin, David Eppstein, and Don P. Mitchell. 1996. Computing the discrepancy with applications to supersampling patterns. *ACM Transactions on Graphics*, 15, 4, (October 1996), 354–376. ISSN: 0730-0301. DOI: [10/d4cwr6](#).
- [310] David P. Dobkin, Silvio V. F. Levy, and William P. Thurston. 1990. Contour tracing by piecewise linear approximations. *ACM Transactions on Graphics*, 9, 4, (October 1990), 389–423. DOI: [10/bhrzwt](#).
- [311] Aleksandar Donev, Ibrahim Cisse, David Sachs, Evan A. Varianno, Frank H. Stillinger, Robert Connelly, Salvatore Torquato, and P. M. Chaikin. 2004. Improving the density of jammed disordered packings using ellipsoids. *Science*, 303, 5660, (February 13, 2004), 990–993. ISSN: 0036-8075, 1095-9203. DOI: [10/bqhw87](#). PMID: [14963324](#).
- [312] Yue Dong, Xin Tong, Fabio Pellacini, and Baining Guo. 2011. AppGen: interactive material modeling from a single image. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 30, 6, (December 1, 2011), 1. ISSN: 07300301. DOI: [10/dqftbg](#).
- [313] Yue Dong, Jiaping Wang, Fabio Pellacini, Xin Tong, and Baining Guo. 2010. Fabricating spatially-varying subsurface scattering. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 29, 4, (July 2010), 62:1–62:10. DOI: [10/fkp7xx](#).
- [314] Craig Donner and Henrik Wann Jensen. 2005. Light diffusion in multi-layered translucent materials. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 24, 3, (July 1, 2005), 1032–1039. ISSN: 0730-0301. DOI: [10/chbmvgw](#).
- [315] Craig Donner, Jason Lawrence, Ravi Ramamoorthi, Toshiya Hachisuka, Henrik Wann Jensen, and Shree Nayar. 2009. An empirical BSSRDF model. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 28, 3, (July 2009), 30:1–30:10. ISSN: 0730-0301. DOI: [10/d2vdgk](#).
- [316] Craig Donner, Tim Weyrich, Eugene d’Eon, Ravi Ramamoorthi, and Szymon Rusinkiewicz. 2008. A layered, heterogeneous reflectance model for acquiring and rendering human skin. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 27, 5, 140:1–140:12. ISSN: 0730-0301. DOI: [10/gfz5ts](#).
- [317] David L. Donoho. 1995. De-noising by soft-thresholding. *IEEE Transactions on Information Theory*, 41, 3, (May 1995), 613–627. ISSN: 0018-9448. DOI: [10/fmpzhh](#).
- [318] David L. Donoho. 1999. Wedgelets: Nearly minimax estimation of edges. *The Annals of Statistics*, 27, 3, 859–897. DOI: [10/cvzhgn](#).
- [319] David L. Donoho. 2006. Compressed sensing. *IEEE Transactions on Information Theory*, 52, 4. DOI: [10/chcp27](#).
- [320] David L. Donoho and Iain M. Johnstone. 1994. Ideal spatial adaptation by wavelet shrinkage. *Biometrika*, 81, 3, (September 1, 1994), 425–455. ISSN: 0006-3444. DOI: [10/c94k2z](#).
- [321] David L. Donoho and Iain M. Johnstone. 1995. Adapting to unknown smoothness via wavelet shrinkage. *Journal of the American Statistical Association*, 90, 432, (December 1, 1995), 1200–1224. ISSN: 0162-1459. DOI: [10/gfkpgp](#).
- [322] J. R. Dormand and P. J. Prince. 1980. A family of embedded Runge–Kutta formulae. *Journal of Computational and Applied Mathematics*, 6, 1, (March 1, 1980), 19–26. ISSN: 0377-0427. DOI: [10/cfw5fc](#).

- [323] Adrian A Dorrington, Michael J Cree, Andrew D Payne, Richard M Conroy, and Dale A Carnegie. 2007. Achieving sub-millimetre precision with a solid-state full-field heterodyning range imaging camera. *Measurement Science and Technology*, 18, 9. doi: [10/ctrvvg](#).
- [324] Julie O'B. Dorsey, James Arvo, and Donald P. Greenberg. 1995. Interactive design of complex time-dependent lighting. *IEEE Computer Graphics & Applications*, 15, 2, (March 1995), 26–36. doi: [10/bgr4z9](#).
- [325] Julie O'B. Dorsey, François X. Sillion, and Donald P. Greenberg. 1991. Design and simulation of opera lighting and projection effects. *Computer Graphics (Proceedings of SIGGRAPH)*, 25, 4, (August 1991), 41–50.
- [326] Robert A. Drebin, Loren Carpenter, and Pat Hanrahan. 1988. Volume rendering. *Computer Graphics (Proceedings of SIGGRAPH)*, 22, 4, (August 1988), 65–74.
- [327] Arnold Dresden. 1920. The fourteenth western meeting of the American Mathematical Society. *Bulletin of the American Mathematical Society*, 26, 9, 385–396. ISSN: 0002-9904, 1936-881X. doi: [10/fsmb5](#).
- [328] Petros Drineas, Ravi Kannan, and Michael W. Mahoney. 2006. Fast Monte Carlo algorithms for matrices I: approximating matrix multiplication. *SIAM Journal on Computing*, 36, 1, (January 1, 2006), 132–157. ISSN: 0097-5397. doi: [10/d86rd4](#).
- [329] A. Dubi, T. Elperin, and H. Rief. 1982. On confidence limits and statistical convergence of Monte Carlo point-flux estimators with unbounded variance. *Annals of Nuclear Energy*, 9, 675–682. ISSN: 0306-4549. doi: [10/fp998p](#).
- [330] Tom Duff. 1992. Interval arithmetic and recursive subdivision for implicit functions and constructive solid geometry. *Computer Graphics (Proceedings of SIGGRAPH)*, 26, 2, (July 1992), 131–138.
- [331] Tom Duff. 1992. Interval arithmetic recursive subdivision for implicit functions and constructive solid geometry. *Computer Graphics (Proceedings of SIGGRAPH)*, 26, 2, (July 1, 1992), 131–138. ISSN: 00978930. doi: [10/bcbj5x](#).
- [332] Daniel Dunbar and Greg Humphreys. 2006. A spatial data structure for fast Poisson-disk sample generation. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 25, 3, (July 2006), 503–508. ISSN: 0730-0301. doi: [10/dcwmm6](#).
- [333] Seibert Q. Duntley. 1942. The optical properties of diffusing materials. *Journal of the Optical Society of America*, 32, 2, 61–70. doi: [10/dks8t2](#).
- [334] Seibert Q. Duntley. 1943. The mathematics of turbid media. *Journal of the Optical Society of America*, 33, 5, 252–257. doi: [10/b3m39j](#).
- [335] Jonathan Dupuy, Eric Heitz, Jean-Claude Iehl, Pierre Poulin, Fabrice Neyret, and Victor Ostromoukhov. 2013. Linear efficient antialiased displacement and reflectance mapping. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 32, 6, Article 211, 211:1–211:11. ISSN: 0730-0301. doi: [10/gbd53f](#).
- [336] Frédo Durand and Julie Dorsey. 2002. Fast bilateral filtering for the display of high-dynamic-range images. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 21, 3, (July 1, 2002), 257–266. ISSN: 07300301. doi: [10/bs7dqg](#).
- [337] Frédo Durand, Nicolas Holzschuch, Cyril Soler, Eric Chan, and François X. Sillion. 2005. A frequency analysis of light transport. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 24, 3, (July 1, 2005), 1115–1126. ISSN: 0730-0301. doi: [10/cdqv3w](#).
- [338] Stéphane Durant, Olivier Calvo-Perez, Nicolas Vukadinovic, and Jean-Jacques Greffet. 2007. Light scattering by a random distribution of particles embedded in absorbing media: full-wave Monte Carlo solutions of the extinction coefficient. *Journal of the Optical Society of America A*, 24, 9, (September 1, 2007), 2953–2962. ISSN: 1520-8532. doi: [10/bqtsk6](#).
- [339] Philip Dutré. 2003. Global illumination compendium: the concise guide to global illumination algorithms, (September 29, 2003).
- [340] V. Duval, J. Aujol, and Y. Gousseau. 2011. A bias-variance approach for the nonlocal means. *SIAM Journal on Imaging Sciences*, 4, 2, (January 1, 2011), 760–788. doi: [10/fm94rf](#).
- [341] S. R. Dwivedi. 1982. A new importance biasing scheme for deep-penetration Monte Carlo. *Annals of Nuclear Energy*, 9, 7, (January 1, 1982), 359–368. ISSN: 0306-4549. doi: [10/czbz26](#).
- [342] S. R. Dwivedi. 1982. Zero variance biasing schemes for Monte Carlo calculations of neutron and radiation transport problems. *Nuclear Science and Engineering*, 80, 1, (January 1, 1982), 172–178. ISSN: 0029-5639. doi: [10/gfzq73](#).
- [343] Mohamed S. Ebeida, Andrew A. Davidson, Anjul Patney, Patrick M. Knupp, Scott A. Mitchell, and John D. Owens. 2011. Efficient maximal Poisson-disk sampling. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 30, 4, (July 2011), 49:1–49:12. ISSN: 0730-0301. doi: [10/dzpmks](#).
- [344] Mohamed S. Ebeida, Scott A. Mitchell, Anjul Patney, Andrew A. Davidson, and John D. Owens. 2012. A simple algorithm for maximal Poisson-disk sampling in high dimensions. *Computer Graphics Forum*, 31, 785–794, 2pt4. ISSN: 1467-8659. doi: [10/gfzncf](#).
- [345] Mohamed S. Ebeida, Anjul Patney, Scott A. Mitchell, Keith R. Dalbey, Andrew A. Davidson, and John D. Owens. 2014. K-d darts: sampling by k-dimensional flat searches. *ACM Transactions on Graphics*, 33, 1, (February 2014), 3:1–3:16. ISSN: 0730-0301. doi: [10/gfzsm3](#).
- [346] Roger Eckhardt. 1987. Stan Ulam, John von Neumann, and the Monte Carlo Method. *Los Alamos Science, Special Issue*, 131–137.
- [347] Dave Edwards, Solomon Boulos, Jared Johnson, Peter Shirley, Michael Ashikhmin, Michael Stark, and Chris Wyman. 2006. The halfway vector disk for BRDF modeling. *ACM Transactions on Graphics*, 25, 1, (January 2006), 1–18. ISSN: 0730-0301. doi: [10/df65qp](#).
- [348] Pieter Thijs Eendebak and Alan Roberto Vazquez. 2019. OApakage: A Python package for generation and analysis of orthogonal arrays, optimal designs and conference designs. *Journal of Open Source Software*, 34, 4, 1097. doi: [10/gfznbw](#).
- [349] Kevin Egan, Frédo Durand, and Ravi Ramamoorthi. 2011. Practical filtering for efficient ray-traced directional occlusion. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 30, 6, (December 2011), 1. ISSN: 07300301. doi: [10/cfrtdc](#).
- [350] Kevin Egan, Florian Hecht, Frédo Durand, and Ravi Ramamoorthi. 2011. Frequency analysis and sheared filtering for shadow light fields of complex occluders. *ACM Transactions on Graphics*, 30, 2, (April 2011), 9:1–9:13. ISSN: 0730-0301. doi: [10/bx26qb](#).
- [351] Kevin Egan, Yu-Ting Tseng, Nicolas Holzschuch, Frédo Durand, and Ravi Ramamoorthi. 2009. Frequency analysis and sheared reconstruction for rendering motion blur. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 28, 3, (July 27, 2009), 93:1–93:13. ISSN: 0730-0301. doi: [10/dn2gcq](#).
- [352] Elmar Eismann and Frédo Durand. 2004. Flash photography enhancement via intrinsic relighting. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 23, 3, (August 1, 2004), 673. ISSN: 07300301. doi: [10/frbxcz](#).
- [353] Christian Eisenacher, Gregory Nichols, Andrew Selle, and Brent Burley. 2013. Sorted deferred shading for production path tracing. *Computer Graphics Forum (Proceedings of the Eurographics Symposium on Rendering)*, 32, 4, 125–132. ISSN: 1467-8659. doi: [10/gfzv8r](#).
- [354] M. Elad. 2002. On the origin of the bilateral filter and ways to improve it. *IEEE Transactions on Image Processing*, 11, 10, (October 2002), 1141–1151. ISSN: 1057-7149. doi: [10/d58wtt](#).
- [355] M. Elad and M. Aharon. 2006. Image denoising via sparse and redundant representations over learned dictionaries. *IEEE Transactions on Image Processing*, 15, 12, (December 2006), 3736–3745. ISSN: 1057-7149. doi: [10/bfzb3f](#).
- [356] Oskar Elek, Tobias Ritschel, Carsten Dachsbacher, and Hans-Peter Seidel. 2014. Principal-ordinates propagation for real-time rendering of participating media. *Computers & Graphics*, 45, (December 1, 2014), 28–39. ISSN: 0097-8493. doi: [10/gfzq7q](#).
- [357] Oskar Elek, Tobias Ritschel, Alexander Wilkie, and Hans-Peter Seidel. 2012. Interactive cloud rendering using temporally coherent photon mapping. *Computers & Graphics*. Graphics Interaction 36, 8, (December 1, 2012), 1109–1118. ISSN: 0097-8493. doi: [10/gfzq7v](#).
- [358] Thomas Engelhardt, Jan Novák, Thorsten-W. Schmidt, and Carsten Dachsbacher. 2012. Approximate bias compensation for rendering scenes with heterogeneous participating media. *Computer Graphics Forum (Proceedings of Pacific Graphics)*, 31, 7, (September 2012), 2145–2154.
- [359] V. Eymet, D. Poitou, M. Galtier, M. El Hafi, G. Terrée, and R. Fournier. 2013. Null-collision meshless Monte-Carlo—Application to the validation of fast radiative transfer solvers embedded in combustion simulators. *Journal of Quantitative Spectroscopy and Radiative Transfer*, 129, (April 2013), 145–157. doi: [10/f5dxkb](#).
- [360] B. Fabianowski and J. Dingliana. 2009. Interactive global photon mapping. *Computer Graphics Forum (Proceedings of the Eurographics Symposium on Rendering)*, 28, 4, (June 2009), 1151–1159. ISSN: 01677055, 14678659. doi: [10/bx926k](#).
- [361] D. Falie. 2009. Improvements of the 3D images captured with time-of-flight cameras, (September 30, 2009). arXiv: [0909.5656 \[cs\]](#).
- [362] Shaohua Fan, Stephen Chenney, Bo Hu, Kam-Wah Tsui, and Yu-Chi Lai. 2006. Optimizing control variate estimators for rendering. *Computer Graphics Forum (Proceedings of Eurographics)*. doi: [10/fb9fmz](#).
- [363] Zeev Farbman, Gil Hoffer, Yaron Lipman, Daniel Cohen-Or, and Dani Lischinski. 2009. Coordinates for instant image cloning. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 28, 3, (July 27, 2009), 67:1–67:9. ISSN: 07300301. doi: [10/dd9z7g](#).
- [364] T. J. Farrell, Michael S. Patterson, and B. Wilson. 1992. A diffusion theory model of spatially resolved, steady-state diffuse reflectance for the noninvasive determination of tissue optical properties in vivo. *Medical Physics*, 19, 4, 879–888. doi: [10/b9rwpz](#).
- [365] Jean-Philippe Farrugia and Bernard Péroche. 2004. A progressive rendering algorithm using an adaptive perceptually based image metric. *Computer Graphics Forum (Proceedings of Eurographics)*, 23, 3, (September 2004), 605–614. ISSN: 1467-8659. doi: [10/bz89q6](#).
- [366] Luca Fascione, Johannes Hanika, Mark Leone, Marc Droske, Jorge Schwarzhaupt, Tomáš Davidovič, Andrea Weidlich, and Johannes Meng. 2018. Manuka: a batch-shading architecture for spectral path tracing in movie production. *ACM Transactions on Graphics*, 37, 3, (August 2018), 31:1–31:18. ISSN: 0730-0301. doi: [10/gfznbu](#).
- [367] Raanan Fattal. 2011. Blue-noise point sampling using kernel density model. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 30, 4, (July 2011), 48:1–48:12. ISSN: 0730-0301. doi: [10/dwz6nk](#).

- [368] Raanan Fattal, Dani Lischinski, and Michael Werman. 2002. Gradient domain high dynamic range compression. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 21, 3, (July 1, 2002), 249–256. ISSN: 07300301. doi: [10/csh532](#).
- [369] E. Fehlberg. 1970. Klassische runge-kutta-formeln vierter und niedrigerer ordnung mit schrittweiten-kontrolle und ihre anwendung auf wärmeleitungsprobleme. *Computing*, 6, 1, (March 1, 1970), 61–71. ISSN: 1436-5057. doi: [10/cc7qv5](#).
- [370] Micha Feigin, Ayush Bhandari, Shahram Izadi, Christoph Rhemann, Mirko Schmidt, and Ramesh Raskar. 2015. Resolving multipath interference in kinect: An inverse problem approach. *IEEE Sensors Journal*, 16, 10. doi: [10/f8npxn](#).
- [371] Joseph Felsenstein. 1975. A pain in the torus: some difficulties with models of isolation by distance. *The American Naturalist*, 109, 967, (May 1, 1975), 359–368. ISSN: 0003-0147. doi: [10/fvj2nd](#).
- [372] Louis Feng, Ingrid Hotz, Bernd Hamann, and Kenneth I Joy. 2008. Anisotropic noise samples. *IEEE Transactions on Visualization and Computer Graphics*, 14, 2, 342–354. doi: [10/dtpzvp](#).
- [373] Adolf Fick. 1855. Ueber Diffusion. *Annalen der Physik*, 170, 1, 59–86. ISSN: 1521-3889. doi: [10/bp5f7g](#).
- [374] David J Field. 1987. Relations between the statistics of natural images and the response properties of cortical cells. *Journal of the Optical Society of America A*, 4, 12, 2379–2394. doi: [10/fr7v9c](#).
- [375] Jiri Filip and Michal Haindl. 2009. Bidirectional texture function modeling: a state of the art survey. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 31, 11, 1921–1940. ISSN: 0162-8828. doi: [10/c2j69h](#).
- [376] Mark Finch, John Snyder, and Hugues Hoppe. 2011. Freeform vector graphics with controlled thin-plate splines. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 30, 6, (December 1, 2011), 166:1–166:10. ISSN: 07300301. doi: [10/fk44f8](#).
- [377] W. A. Fiveland. 1984. Discrete-ordinates solutions of the radiative transport equation for rectangular enclosures. *ASME Journal of Heat Transfer*, 106, 699–706. doi: [10/bsq6h](#).
- [378] Piotr J. Flatau and Graeme L. Stephens. 1988. On the fundamental solution of the radiative transfer equation. *Journal of Astrophysical Research*, 93, 11037–11050, ND9.
- [379] J. K. Fletcher. 1983. The solution of the multigroup neutron transport equation using spherical harmonics. *Nuclear Science and Engineering*, 84, 33–46.
- [380] Stephen T. Flock, Michael S. Patterson, Brian C. Wilson, and Douglas R. Wyman. 1989. Monte Carlo modeling of light propagation in highly scattering tissues—I: model predictions and comparison with diffusion theory. *IEEE Trans. Biom. Engr.*, 36, 12, 1162–1168. ISSN: 0018-9294. doi: [10/b36tbt](#).
- [381] V. A. Fok. 1924. The illumination from surfaces of arbitrary shape. *Transactions of the Optical Institute, Leningrad*, 28, 1–11. (Russian).
- [382] Leslie L. Foldy. 1945. The multiple scattering of waves. I. General theory of isotropic scattering by randomly distributed scatterers. *Physical Review*, 67, 3-4, (February 1, 1945), 107–119. doi: [10/bc4j6v](#).
- [383] James D. Foley and Victor L. Wallace. 1974. The art of natural graphic man-machine conversation. *Proceedings of the IEEE*, (April 1974).
- [384] A. R. Forrest. 1971. Interactive interpolation and approximation by Bézier polynomials. *The Computer Journal*, 15, 1, 71–79.
- [385] Roald Frederickx and Philip Dutré. 2017. A forward scattering dipole model from a functional integral approximation. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 36, 4, (July 2017), 109:1–109:13. ISSN: 0730-0301. doi: [10/gbxhzb](#).
- [386] Jeppe Revall Frisvad, Niels Jørgen Christensen, and Henrik Wann Jensen. 2007. Computing the scattering properties of participating media using Lorenz-Mie theory. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 26, 3, (July 29, 2007), 60. ISSN: 07300301. doi: [10/bf3p26](#).
- [387] Jeppe Revall Frisvad, Toshiya Hachisuka, and Thomas Kim Kjeldsen. 2014. Directional dipole model for subsurface scattering. *ACM Transactions on Graphics*, 34, 1, (December 2014), 5:1–5:12. ISSN: 0730-0301. doi: [10/f6t5zc](#).
- [388] Henry Fuchs, Z. M. Kedem, and B. F. Naylor. 1980. On visible surface generation by a priori tree structures. *Computer Graphics (Proceedings of SIGGRAPH)*, 14, 3, (July 1980), 124–133.
- [389] Henry Fuchs, Z. M. Kedem, and S. P. Useton. 1977. Optimal surface reconstruction from planar contours. *Communications of the ACM*, 20, 10, (October 1977), 693–702. doi: [10/d2vknw](#).
- [390] Martin Fuchs, Volker Blanz, Hendrik P.A. Lensch, and Hans-Peter Seidel. 2007. Adaptive sampling of reflectance fields. *ACM Transactions on Graphics*, 26, 2, Article 10. ISSN: 0730-0301. doi: [10/bkz87j](#).
- [391] Martin Fuchs, Volker Blanz, Hendrik Lensch, and Hans-Peter Seidel. 2005. Reflectance from images: a model-based approach for human faces. *IEEE Transactions on Visualization and Computer Graphics*, 11, 3, 296–305. ISSN: 1077-2626. doi: [10/b9hgb6](#).
- [392] Martin Fuchs, Ramesh Raskar, Hans-Peter Seidel, and Hendrik P. A. Lensch. 2008. Towards passive 6D reflectance field displays. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 27, 3, (August 1, 2008), 1. ISSN: 07300301. doi: [10/fgkp7g](#).
- [393] Akira Fujimoto and Takayuki Tanaka. 1986. ARTS: accelerated ray-tracing system. *IEEE Computer Graphics & Applications*, 6, 4, (April 1986), 16–26.
- [394] Takushi Fujita, Katsuhiko Hirota, and Kouichi Murakami. 1990. Representation of splashing water using metaball model. *Fujitsu*, 41, 2, 159–165. (in Japanese).
- [395] Thomas Funkhouser, Nicolas Tsingos, and Jean-Marc Jot. 2003. Survey of methods for modeling sound propagation in interactive virtual environment systems. *Presence and Teleoperation*.
- [396] Graham Fyffe, Tim Hawkins, Chris Watts, Wan-Chun Ma, and Paul Debevec. 2011. Comprehensive facial performance capture. *Computer Graphics Forum (Proceedings of Eurographics)*, 30, 2, 425–434. ISSN: 1467-8659. doi: [10/dmt2bn](#).
- [397] Andrea Gabrielli and Salvatore Torquato. 2004. Voronoi and void statistics for superhomogeneous point processes. *Physical Review E*, 70, 4, (October 27, 2004), 041105. doi: [10/b5gs5m](#).
- [398] James Gain and Dominique Bechmann. 2008. A survey of spatial deformation from a user-centered perspective. *ACM Transactions on Graphics*, 27, 4, (November 2008), 107:1–107:21. ISSN: 0730-0301. doi: [10/dkgzs4](#).
- [399] R. Galimberti and U. Montanari. 1969. An algorithm for hidden line elimination. *Communications of the ACM*, 12, 4, (April 1969), 206–211. doi: [10/fw4vwb](#).
- [400] M. Galtier, S. Blanco, C. Caliot, C. Coustet, J. Dauchet, M. El Hafi, V. Eymet, R. Fournier, J. Gautrais, A. Khuong, B. Piau, and G. Terrée. 2013. Integral formulation of null-collision Monte Carlo algorithms. *Journal of Quantitative Spectroscopy and Radiative Transfer*, 125, (August 1, 2013), 57–68. ISSN: 0022-4073. doi: [10/f446pg](#).
- [401] Mathieu Galtier, Stéphane Blanco, Jérémie Dauchet, Mouna El Hafi, Vincent Eymet, Richard Fournier, Maxime Roger, Christophe Spiesser, and Guillaume Terrée. 2016. Radiative transfer and spectroscopic databases: A line-sampling Monte Carlo approach. *Journal of Quantitative Spectroscopy and Radiative Transfer*, 172, (March 2016), 83–97. doi: [10/gfzq7j](#).
- [402] Tinsley A. Galyean and John F. Hughes. 1991. Sculpting: an interactive volumetric modeling technique. *Computer Graphics (Proceedings of SIGGRAPH)*, 25, 4, (July 2, 1991), 267–274. ISSN: 00978930. doi: [10/d2ptj5](#).
- [403] Armando Gama Goicochea. 2013. A model for the stability of a TiO₂ dispersion. *ISRN Materials Science*, 2013. doi: [10/gb67j6](#).
- [404] Manuel N. Gamito. 2016. Solid angle sampling of disk and cylinder lights. *Computer Graphics Forum (Proceedings of the Eurographics Symposium on Rendering)*, 35, 4, 25–36. ISSN: 1467-8659. doi: [10/f842jg](#).
- [405] Manuel N. Gamito and Steve C. Maddock. 2009. Accurate multidimensional Poisson-disk sampling. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 29, 1, (December 2009), 8:1–8:19. ISSN: 0730-0301. doi: [10/dr8646](#).
- [406] Liang Gao, Jinyang Liang, Chiye Li, and Lihong V Wang. 2014. Single-shot compressed ultrafast photography at one hundred billion frames per second. *Nature*, 516, 7529. doi: [10/f6tvws](#).
- [407] V. Garcia, F. Nielsen, and R. Nock. 2010. Hierarchical Gaussian mixture model. doi: [10/cs7chm](#).
- [408] Geoffrey Y. Gardner. 1985. Visual simulation of clouds. *Computer Graphics (Proceedings of SIGGRAPH)*, 19, 3, 297–304. doi: [10/fvfhv7](#).
- [409] Genevieve Garipey, Nikola Krstajić, Robert Henderson, Chunyong Li, Robert R Thomson, Gerald S Buller, Barmak Heshmat, Ramesh Raskar, Jonathan Leach, and Daniele Faccio. 2015. Single-photon sensitive light-in-flight imaging. *Nature Communications*, 6.
- [410] Pascal Gautron, Cyril Delalandre, Jean-Eudes Marvie, and Pascal Lecocq. 2013. Boundary-aware extinction mapping. *Computer Graphics Forum*, 32, 7, (October 1, 2013), 305–314. ISSN: 0167-7055. doi: [10/gfzq7t](#).
- [411] Stanley David Gedzelman. 2008. Simulating rainbows in their atmospheric environment. *Applied Optics*, 47, 34, (December 1, 2008), 176–181. ISSN: 2155-3165. doi: [10/fv8gnx](#).
- [412] Jon Geist. 1976. Trends in the development of radiometry. *Optical Engineering*, 15, 537–540.
- [413] E. Gelbard, L. Ondis II, and J. Spanier. 1966. A new class of Monte Carlo estimators. *SIAM Journal on Applied Mathematics*, 14, 4, (July 1, 1966), 697–701. ISSN: 0036-1399. doi: [10/dc3c3j](#).
- [414] Kyle Genova, Forrester Cole, Daniel Vlasic, Aaron Sarna, William T. Freeman, and Thomas Funkhouser. 2019. Learning shape templates with structured implicit functions. (April 12, 2019). arXiv: [1904.06447 \[cs\]](#).
- [415] Iliyan Georgiev, Thiago Ize, Mike Farnsworth, Ramón Montoya-Vozmediano, Alan King, Brecht Van Lommel, Angel Jimenez, Oscar Anson, Shinji Ogaki, Eric Johnston, Adrien Herubel, Declan Russell, Frédéric Servant, and Marcos Fajardo. 2018. Arnold: a brute-force production path tracer. *ACM Transactions on Graphics*, 37, 3, (August 2018), 32:1–32:12. ISSN: 0730-0301. doi: [10/gfznb2](#).
- [416] Iliyan Georgiev, Jaroslav Krivánek, Tomáš Davidovič, and Philipp Slusallek. 2012. Light transport simulation with vertex connection and merging. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 31, 6, (November 2012), 192:1–192:10. ISSN: 0730-0301. doi: [10/gbb6q7](#).
- [417] Iliyan Georgiev, Jaroslav Krivánek, Toshiya Hachisuka, Derek Nowrouzezahrai, and Wojciech Jarosz. 2013. Joint importance sampling of low-order volumetric

- scattering. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 32, 6, (November 2013), 1–14. ISSN: 0730-0301. doi: [10/gbd5qs](#).
- [418] Iliyan Georgiev, Jaroslav Krivánek, Stefan Popov, and Philipp Slusallek. 2012. Importance caching for complex illumination. *Computer Graphics Forum (Proceedings of Eurographics)*, 31, 2, (June 2012), 701–710. ISSN: 0167-0755. doi: [10/gbbdccc](#).
- [419] T. A. Germogenova. 1968. Convergence of some approximate methods of solving the transport equation. *Soviet Mathematics Doklady*, 9, 4, 855–858.
- [420] A. Gershun. 1928. Light field resulting from luminous surfaces of uniform and non-uniform brightness. *Transactions of the Optical Institute, Leningrad*, 4, 38, 10–19. (Russian).
- [421] A. Gershun. 1929. Uniformly-diffused light through two apertures. *Philosophical Magazine*, 7, 419.
- [422] A. Gershun. 1939. The light field. *Journal of Mathematics and Physics*, 18, 2, (May 1939), 51–151. Translated by P. Moon and G. Timoshenko.
- [423] Abhijeet Ghosh, Tongbo Chen, Pieter Peers, Cyrus A. Wilson, and Paul Debevec. 2009. Estimating specular roughness and anisotropy from second order spherical gradient illumination. *Computer Graphics Forum (Proceedings of the Eurographics Symposium on Rendering)*, 28, 4, 1161–1170. ISSN: 1467-8659. doi: [10/bhgm6s](#).
- [424] Abhijeet Ghosh, Tongbo Chen, Pieter Peers, Cyrus A. Wilson, and Paul Debevec. 2010. Circularly polarized spherical illumination reflectometry. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 29, 6, Article 162, 162:1–162:12. ISSN: 0730-0301. doi: [10/brsd72](#).
- [425] Abhijeet Ghosh, Graham Fyfe, Borom Tunwattanapong, Jay Busch, Xueming Yu, and Paul Debevec. 2011. Multiview face capture using polarized spherical gradient illumination. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 30, 6, Article 129, 129:1–129:10. ISSN: 0730-0301. doi: [10/bvz2hz](#).
- [426] Abhijeet Ghosh, Tim Hawkins, Pieter Peers, Sune Frederiksen, and Paul Debevec. 2008. Practical modeling and acquisition of layered facial reflectance. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 27, 5, Article 139, 139:1–139:10. ISSN: 0730-0301. doi: [10/drc2mb](#).
- [427] Abhijeet Ghosh, Wolfgang Heidrich, Shruthi Achutha, and Matthew O’Toole. 2010. A basis illumination approach to BRDF measurement. *International Journal of Computer Vision (IJCV)*, 90, 2, 183–197. ISSN: 0920-5691. doi: [10/ddss44](#).
- [428] Q. T. Le Gia and H. N. Mhaskar. 2009. Localized linear polynomial operators and quadrature formulas on the sphere. *SIAM Journal on Numerical Analysis*, 47, 1. doi: [10/btgpqj](#).
- [429] Mathew G. Gibbons. 1958. Radiation received by an uncollimated receiver from a 4π Source. *Journal of the Optical Society of America*, 48, 8, (August 1958), 550–555. doi: [10/csg6wn](#).
- [430] Ziv Gigus and Jitendra Malik. 1990. Computing the aspect graph for line drawings of polyhedral objects. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 12, 2, (February 1990), 113–122. doi: [10/bwnbqp](#).
- [431] J. Giorla and R. Sentis. 1987. A random walk method for solving radiative transfer equations. *Journal of Computational Physics*, 70, 145–156. doi: [10/c6smwx](#).
- [432] Ioannis Gkioulekas, Anat Levin, Frédo Durand, and Todd Zickler. 2015. Micron-scale light transport decomposition using interferometry. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 34, 4. doi: [10/f7mzkt](#).
- [433] Ioannis Gkioulekas, Bei Xiao, Shuang Zhao, Edward H. Adelson, Todd Zickler, and Kavita Bala. 2013. Understanding the role of phase function in translucent appearance. *ACM Transactions on Graphics*, 32, 5, (October 2013), 147:1–147:19. ISSN: 0730-0301. doi: [10/gfzp5h](#).
- [434] Andrew S. Glassner. 1984. Space subdivision for fast ray tracing. *IEEE Computer Graphics & Applications*, 4, 10, (October 1984), 15–22. ISSN: 0272-1716. doi: [10/gfzqjb](#).
- [435] Narendra S. Goel, Ivan Rozehnal, and Richard L. Thompson. 1991. A computer graphics based model for scattering from objects of arbitrary shapes in the optical region. *Remote Sensing of the Environment*, 36, 2, (July 1991), 73–104. doi: [10/bn7wnq](#).
- [436] Jacob Goldberger and Sam T. Roweis. 2005. Hierarchical clustering of a mixture model. *Advances in Neural Information Processing Systems (NIPS)*, 17, 505–512. L. K. Saul, Y. Weiss, and L. Bottou, editors.
- [437] Ronald N. Goldman. 1983. An urnful of blending functions. *IEEE Computer Graphics & Applications*, 3, 10, (October 1983), 49–54.
- [438] Jeffrey Goldsmith and John Salmon. 1987. Automatic creation of object hierarchies for ray tracing. *IEEE Computer Graphics & Applications*, 7, 5, (May 1987), 14–20.
- [439] T. Goorley, M. James, T. Booth, F. Brown, J. Bull, L. J. Cox, J. Durkee, J. Elson, M. Fensin, R. A. Forster, J. Hendricks, H. G. Hughes, R. Johns, B. Kiedrowski, R. Martz, S. Mashnik, G. McKinney, D. Pelowitz, R. Prael, J. Sweezy, L. Waters, T. Wilcox, and T. Zukaitis. 2012. Initial MCNP6 release overview. *Nuclear Technology*, 180, 3, (December 1, 2012), 298–315. ISSN: 0029-5450. doi: [10/f4gw2p](#).
- [440] Cindy M. Goral, Kenneth E. Torrance, Donald P. Greenberg, and Bennett Bat-tail. 1984. Modeling the interaction of light between diffuse surfaces. *Computer Graphics (Proceedings of SIGGRAPH)*, 18, 3, (July 1984), 213–222. doi: [10/fsjssr](#).
- [441] William J. Gordon and Richard F. Riesenfeld. 1974. Bernstein-Bézier methods for the computer-aided design of free-form curves and surfaces. *Journal of the Association for Computing Machinery*, 21, 2, (April 1974), 293–310. doi: [10/fn7psv](#).
- [442] Steven J. Gortler, Michael F. Cohen, and Philipp Slusallek. 1994. Radiosity and relaxation methods. *IEEE Computer Graphics & Applications*, 14, 6, (November 1994), 48–58. doi: [10/fjmckx](#).
- [443] Harold Grad. 1949. On the kinetic theory of rarefied gases. *Communications on Pure and Applied Mathematics*, 2, 331.
- [444] Paul Graham, Borom Tunwattanapong, Jay Busch, Xueming Yu, Andrew Jones, Paul Debevec, and Abhijeet Ghosh. 2013. Measurement-based synthesis of facial microgeometry. *Computer Graphics Forum (Proceedings of Eurographics)*, 32, 2, 335–344. ISSN: 1467-8659. doi: [10/gbc2fv](#).
- [445] I. P. Grant and G. E. Hunt. 1969. Discrete space theory of radiative transfer: I. fundamentals. *Proceedings of the Royal Society of London. Section A. Mathematical and Physical Sciences*, 313, 183–197.
- [446] I. P. Grant and G. E. Hunt. 1969. Discrete space theory of radiative transfer: II. nonnegativity and stability. *Proceedings of the Royal Society of London. Section A. Mathematical and Physical Sciences*, 313, 199–216.
- [447] Arne Graßmann and Franz Peters. 2004. Size measurement of very small spherical particles by mie scattering imaging (MSI). *Particle & Particle Systems Characterization*, 21, 5, 379–389. doi: [10/c56458](#).
- [448] Ben T. Gravelly. 1973. Relations of photometry. Part 1. *Applied Optics*, 12, 11, (November 1973), 2537–2539.
- [449] Peter J. Green. 1995. Reversible jump Markov chain Monte Carlo computation and Bayesian model determination. *Biometrika*, 82, 4, (December 1, 1995), 711–732. ISSN: 0006-3444. doi: [10/bt2s2t](#).
- [450] William Greenberg and P. F. Zweifel. 1976. Functional analytic treatment of the transport equation. *Transport Theory and Statistical Physics*, 5, 4, 219–253.
- [451] Ned Greene. 1986. Environment mapping and other applications of world projections. *IEEE Computer Graphics & Applications*, 6, 11, (November 1986), 21–29. ISSN: 0272-1716. doi: [10/b7m3gc](#).
- [452] Ned Greene. 1989. Voxel space automata: modeling with stochastic growth processes in voxel space. *Computer Graphics (Proceedings of SIGGRAPH)*, 23, 3, (July 1989), 175–184.
- [453] Carl Johan Gribel, Rasmus Barringer, and Tomas Akenine-Möller. 2011. High-quality spatio-temporal rendering using semi-analytical visibility. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 30, 4, (July 1, 2011), 54:1–54:11. ISSN: 07300301. doi: [10/fqg7b9](#).
- [454] Larry Gritz and James K. Hahn. 1996. BMRT: a global illumination implementation of the RenderMan standard. *Journal of Graphics Tools*, 1, 3, (February 1996), 29–48. ISSN: 1086-7651. doi: [10/gfzqh9](#).
- [455] Eduard Gröller. 1995. Nonlinear ray tracing: visualizing strange worlds. *The Visual Computer*, 11, 5, (May 1, 1995), 263–274. ISSN: 1432-2315. doi: [10/ffcq74](#).
- [456] C. C. Grosjean. 1956. A high accuracy approximation for solving multiple scattering problems in infinite homogeneous media. *Il Nuovo Cimento (1955-1965)*, 3, 6, 1262–1275. doi: [10/chszh4](#).
- [457] Leonhard Grünschoß. 2012. QMC sampling source code. <http://gruenschoß.org>.
- [458] Adrien Gruson, Binh-Son Hua, Nicolas Vibert, Derek Nowrouzezahrai, and Toshiya Hachisuka. 2018. Gradient-domain volumetric photon density estimation. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 37, 4, (July 2018), 82:1–82:13. ISSN: 0730-0301. doi: [10/gd52p6](#).
- [459] Adrien Gruson, Mickaël Ribardière, Martin Šik, Jiri Vorba, Rémi Cozot, Kadi Bouatouch, and Jaroslav Krivánek. 2016. A spatial target function for Metropolis photon tracing. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 36, 1, (November 2016), 4:1–4:13. ISSN: 0730-0301. doi: [10/gfz4kh](#).
- [460] Yongtao Guan. 2008. Variance estimation for statistics computed from inhomogeneous spatial point processes. *Journal of the Royal Statistical Society. Series B (Methodological)*, 70, 1, 175–190. ISSN: 13697412. doi: [10/f9vbm](#).
- [461] Leonidas Guibas and Jorge Stolfi. 1985. Primitives for the manipulation of general subdivisions and the computation of Voronoi diagrams. *ACM Transactions on Graphics*, 4, 2, (April 1985), 74–123. doi: [10/bc7vmm](#).
- [462] Ibón Guillén, Carlos Ureña, Alan King, Marcos Fajardo, Iliyan Georgiev, Jorge López-Moreno, and Adrian Jarabo. 2017. Area-preserving parameterizations for spherical ellipses. *Computer Graphics Forum (Proceedings of the Eurographics Symposium on Rendering)*, 36, 4, (July 1, 2017), 179–187. ISSN: 0167-0755. doi: [10/gbnteq](#).
- [463] Mohit Gupta, Achuta Kadambi, Ayush Bhandari, and Ramesh Raskar. 2015. Computational time of flight.
- [464] Mohit Gupta, Shree K Nayar, Matthias B Hullin, and Jaime Martin. 2015. Phasor imaging: A generalization of correlation-based time-of-flight imaging. *ACM Transactions on Graphics*, 34, 5. doi: [10/gfz5k7](#).

- [465] Otkrist Gupta, Thomas Willwacher, Andreas Velten, Ashok Veeraraghavan, and Ramesh Raskar. 2012. Reconstruction of hidden 3D shapes using diffuse reflections. *Optics Express*, 20, 17. doi: [10/gfz5k8](#).
- [466] A. V. Gusarov. 2008. Homogenization of radiation transfer in two-phase media with irregular phase boundaries. *Physical Review B*, 77, 14, (April 1, 2008), 144201. doi: [10/ffrwnw](#).
- [467] Diego Gutierrez, Francisco Seron, Adolfo Muñoz, and Oscar Anson. 2008. Visualizing underwater ocean optics. *Computer Graphics Forum (Proceedings of Eurographics)*, 27, 2, 547–556. ISSN: 1467-8659. doi: [10/bftg7r](#).
- [468] Stéphane Guy and Cyril Soler. 2004. Graphics gems revisited: fast and physically-based rendering of gemstones. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 23, 1, 231–238. doi: [10/cd9sv6](#).
- [469] Ben Haaland and Peter Z. G. Qian. 2010. An approach to constructing nested space-filling designs for multi-fidelity computer experiments. *Statistica Sinica*, 20, 3, 1063–1075. ISSN: 1017-0405. JSTOR: [24309480](#).
- [470] Chet S. Haase and Gary W. Meyer. 1992. Modeling pigmented materials for realistic image synthesis. *ACM Transactions on Graphics*, 11, 4, (October 1992), 305–335. doi: [10/bb2pjm](#).
- [471] Ralf Habel, Per H. Christensen, and Wojciech Jarosz. 2013. Photon beam diffusion: a hybrid Monte Carlo method for subsurface scattering. *Computer Graphics Forum (Proceedings of the Eurographics Symposium on Rendering)*, 32, 4, (June 2013), 27–37. ISSN: 14678659. doi: [10/f445m4](#).
- [472] Toshiya Hachisuka, Wojciech Jarosz, and Henrik Wann Jensen. 2010. A progressive error estimation framework for photon density estimation. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 29, 6, (December 2010), 144:1–144:12. doi: [10/dmttfg](#).
- [473] Toshiya Hachisuka, Wojciech Jarosz, Richard Peter Weistroffer, Kevin Dale, Greg Humphreys, Matthias Zwicker, and Henrik Wann Jensen. 2008. Multidimensional adaptive sampling and reconstruction for ray tracing. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 27, 3, (August 1, 2008), 33:1–33:10. ISSN: 0730-0301. doi: [10/fm6c2w](#).
- [474] Toshiya Hachisuka and Henrik Wann Jensen. 2009. Stochastic progressive photon mapping. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 28, 5, (December 2009), 130:1–130:8. ISSN: 07300301. doi: [10/d8xxn3](#).
- [475] Toshiya Hachisuka and Henrik Wann Jensen. 2011. Robust adaptive photon tracing using photon path visibility. *ACM Transactions on Graphics*, 30, 5, (October 2011), 114:1–114:11. ISSN: 0730-0301. doi: [10/fpwzq9](#).
- [476] Toshiya Hachisuka, Anton S. Kaplanyan, and Carsten Dachsbacher. 2014. Multiplexed Metropolis light transport. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 33, 4, (July 2014), 100:1–100:10. ISSN: 0730-0301. doi: [10/f6cswv](#).
- [477] Toshiya Hachisuka, Shinji Ogaki, and Henrik Wann Jensen. 2008. Progressive photon mapping. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 27, 5, (December 1, 2008), 130:1–130:8. ISSN: 07300301. doi: [10/cn8h39](#).
- [478] Toshiya Hachisuka, Jacopo Pantaleoni, and Henrik Wann Jensen. 2012. A path space extension for robust light transport simulation. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 31, 6, (January 11, 2012), 191:1–191:10. ISSN: 0730-0301. doi: [10/gbb6n3](#).
- [479] Paul Haeberli. 1990. Paint by numbers: abstract image representations. *Computer Graphics (Proceedings of SIGGRAPH)*, 24, 4, (September 1, 1990), 207–214. ISSN: 00978930. doi: [10/br564q](#).
- [480] Ute Hahn, Eva B. Vedel Jensen, Marie-Colette van Lieshout, and Linda Stougaard Nielsen. 2003. Inhomogeneous spatial point processes by location-dependent scaling. *Advances in Applied Probability*, 35, 2, 319–336. ISSN: 0001-8678, 1475-6064. doi: [10/bcd8jq](#).
- [481] Thomas C. Hales, John Harrison, Sean McLaughlin, Tobias Nipkow, Steven Obua, and Roland Zunkeller. 2010. A revision of the proof of the Kepler conjecture. *Discrete & Computational Geometry*, 44, 1, (July 1, 2010), 1–34. ISSN: 1432-0444. doi: [10/cxwplk](#).
- [482] Roy A. Hall and Donald P. Greenberg. 1983. A testbed for realistic image synthesis. *IEEE Computer Graphics & Applications*, 3, 8, (November 1983), 10–20. doi: [10/cwcp2m](#).
- [483] Akram Halli, Abderrahim Saaidi, Khalid Satori, and Hamid Tairi. 2008. Per-pixel displacement mapping using cone tracing. *International Review on Computers and Software (I. RE. CO. S.)*, 3, 5, 1828–6003.
- [484] John H. Halton. 1964. Algorithm 247: radical-inverse quasi-random point sequence. *Communications of the ACM*, 7, 12, (December 1964), 701–702. ISSN: 0001-0782. doi: [10/dd3674](#).
- [485] Hamamatsu. 2012. Guide to streak cameras. https://www.hamamatsu.com/resources/pdf/sys/SHS0006E_STREAK.pdf.
- [486] John Michael Hammersley and Keith William Morton. 1956. A new Monte Carlo technique: antithetic variates. *Mathematical Proceedings of the Cambridge Philosophical Society*, 52, 03, (July 1956), 449–475. ISSN: 1469-8064. doi: [10/dshxdn](#).
- [487] Charles Han, Bo Sun, Ravi Ramamoorthi, and Eitan Grinspun. 2007. Frequency domain normal map filtering. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 26, 3, 28:1–28:12.
- [488] P. Y. Han, G. C. Cho, and X.-C. Zhang. 2000. Time-domain transillumination of biological tissues with terahertz pulses. *Opt. Lett.*, 25, 4, (February 2000). doi: [10/b54t6b](#).
- [489] R. J. Hangelbroek. 1976. Linear analysis and solutions of neutron transport problems. *Transport Theory and Statistical Physics*, 5, 1, 1–85.
- [490] Johannes Hanika and Carsten Dachsbacher. 2014. Efficient Monte Carlo rendering with realistic lenses. *Computer Graphics Forum (Proceedings of Eurographics)*, 33, 2, 323–332. ISSN: 1467-8659. doi: [10/f57czp](#).
- [491] Johannes Hanika, Marc Droske, and Luca Fascione. 2015. Manifold next event estimation. *Computer Graphics Forum (Proceedings of the Eurographics Symposium on Rendering)*, 34, 4, 87–97. doi: [10/f7mbxk](#).
- [492] Johannes Hanika, Anton Kaplanyan, and Carsten Dachsbacher. 2015. Improved half vector space light transport. *Computer Graphics Forum*, 34, 4, (July 1, 2015), 65–74. ISSN: 0167-7055. doi: [10/gfzv83](#).
- [493] Pat Hanrahan, David Salzman, and Larry Aupperle. 1991. A rapid hierarchical radiosity algorithm. *Computer Graphics (Proceedings of SIGGRAPH)*, 25, 4, (July 1991), 197–206. ISSN: 0097-8930. doi: [10/bhm5zf](#).
- [494] Mark J. Harris and Anselmo Lastra. 2001. Real-time cloud rendering. *Computer Graphics Forum*, 20, 3, 76–85. ISSN: 1467-8659. doi: [10/bk8hbr](#).
- [495] John C. Hart. 1996. Sphere tracing: a geometric method for the antialiased ray tracing of implicit surfaces. *The Visual Computer*, 12, 10, (December 1, 1996), 527–545. ISSN: 1432-2315. doi: [10/b3q2p6](#).
- [496] John C. Hart, Daniel J. Sandin, and Louis H. Kauffman. 1989. Ray tracing deterministic 3-D fractals. *Computer Graphics (Proceedings of SIGGRAPH)*, 23, 3, (July 1, 1989), 289–296. ISSN: 00978930. doi: [10/bjdn7](#).
- [497] Herman Otto Hartley. 1958. Maximum likelihood estimation from incomplete data. *Biometrics*, 14, 2, 174–194. ISSN: 0006341X. doi: [10/cznbf6](#).
- [498] Miloš Hašan, Martin Fuchs, Wojciech Matusik, Hanspeter Pfister, and Szymon Rusinkiewicz. 2010. Physical reproduction of materials with specified subsurface scattering. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 29, 4, (July 26, 2010), 1. ISSN: 07300301. doi: [10/fswxgn](#).
- [499] Miloš Hašan, Jaroslav Krivánek, Bruce Walter, and Kavita Bala. 2009. Virtual spherical lights for many-light rendering of glossy scenes. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 28, 5, 143:1–143:6. ISSN: 0730-0301. doi: [10/bb9r45](#).
- [500] Miloš Hašan, Fabio Pellacini, and Kavita Bala. 2006. Direct-to-indirect transfer for cinematic relighting. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 25, 3, (July 1, 2006), 1089–1097. ISSN: 07300301. doi: [10/cqgn89](#).
- [501] Miloš Hašan, Fabio Pellacini, and Kavita Bala. 2007. Matrix row-column sampling for the many-light problem. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 26, 3, (July 29, 2007), 26:1–26:10. ISSN: 07300301. doi: [10/djv68s](#).
- [502] Miloš Hašan, Edgar Velázquez-Armendáriz, Fabio Pellacini, and Kavita Bala. 2008. Tensor clustering for rendering many-light animations. *Computer Graphics Forum (Proceedings of the Eurographics Symposium on Rendering)*, 27, 4, (June 2008), 1105–1114. ISSN: 01677055. doi: [10/cv32ws](#).
- [503] Miloš Hašan and Ravi Ramamoorthi. 2013. Interactive albedo editing in path-traced volumetric materials. *ACM Transactions on Graphics*, 32, 2, (April 2013), 11:1–11:11. ISSN: 0730-0301. doi: [10/gfz5nk](#).
- [504] Jon Hasselgren, Tomas Akenine-Möller, and Samuli Laine. 2005. A family of inexpensive sampling schemes. *Computer Graphics Forum*, 24, 4, 843–848. ISSN: 1467-8659. doi: [10/bx62xk](#).
- [505] Wilfred K. Hastings. 1970. Monte Carlo sampling methods using Markov chains and their applications. *Biometrika*, 57, 1, (April 1, 1970), 97–109. ISSN: 0006-3444. doi: [10/dkmbcf](#).
- [506] Vlastimil Havran, Robert Herzog, and Hans-Peter Seidel. 2005. Fast final gathering via reverse photon mapping. *Computer Graphics Forum*, 24, 3, (September 1, 2005), 323–332. ISSN: 0167-7055. doi: [10/czrgv9](#).
- [507] Tim Hawkins, Per Einarsson, and Paul Debevec. 2005. Acquisition of time-varying participating media. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 24, 3, (August 2005), 812–815. doi: [10/bm7c3c](#).
- [508] Carole K. Hayakawa, Jerome Spanier, and Vasanth Venugopalan. 2014. Comparative analysis of discrete and continuous absorption weighting estimators used in Monte Carlo simulations of radiative transport in turbid media. *Journal of the Optical Society of America A*, 31, 2, (February 2014), 301–311. doi: [10/gfzq7r](#).
- [509] Xiao D. He, Kenneth E. Torrance, François X. Sillion, and Donald P. Greenberg. 1991. A comprehensive physical model for light reflection. *Computer Graphics (Proceedings of SIGGRAPH)*, 25, 4, (July 1991), 175–186. doi: [10/dsvjjq](#).
- [510] Xu He and Peter Z. G. Qian. 2011. Nested orthogonal array-based Latin hypercube designs. *Biometrika*, 98, 3, (September 1, 2011), 721–731. ISSN: 0006-3444. doi: [10/cz9pj6](#).
- [511] Yuanzhen He, Ching-Shui Cheng, and Boxin Tang. 2018. Strong orthogonal arrays of strength two plus. *The Annals of Statistics*, 46, 2, (April 2018), 457–468. ISSN: 0090-5364. doi: [10/gfznb6](#).
- [512] Yuanzhen He and Boxin Tang. 2012. Strong orthogonal arrays and associated Latin hypercubes for computer experiments. *Biometrika*, 100, 1, (December 2012), 254–260. ISSN: 1464-3510. doi: [10/gfznb5](#).

- [513] Yuanzhen He and Boxin Tang. 2014. A characterization of strong orthogonal arrays of strength three. *The Annals of Statistics*, 42, 4, 1347–1360. ISSN: 00905364. doi: [10/gfznb4](#).
- [514] Marti Hearst. 1998. Trends and controversies: sketching intelligent systems. *IEEE Intelligent Systems*, 13, 3, (May 1998), 10–19. doi: [10/bdh837](#).
- [515] J.C. Hebden. 1993. Line scan acquisition for time-resolved imaging through scattering media. *Optical Engineering*, 32, 3, 626–633. doi: [10/bw667b](#).
- [516] Martial Hebert and Eric Krotkov. 1992. 3D measurements from imaging laser radars: how good are they? *Image Vision Comput.*, 10, 3. doi: [10/dspsb7](#).
- [517] Daniel Heck, Thomas Schlömer, and Oliver Deussen. 2013. Blue noise sampling with controlled aliasing. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 32, 3, (July 2013), 25:1–25:12. ISSN: 0730-0301. doi: [10/gbdcxt](#).
- [518] Paul S. Heckbert. 1987. Ray tracing JELL-O® brand gelatin. *Computer Graphics (Proceedings of SIGGRAPH)*, 21, 4, (August 1, 1987), 73–74. ISSN: 00978930. doi: [10/cb5kt3](#).
- [519] Paul S. Heckbert. 1990. Adaptive radiosity textures for bidirectional ray tracing. *Computer Graphics (Proceedings of SIGGRAPH)*, 24, 4, (August 1990), 145–154. Forest Baskett, editor. ISSN: 00978930. doi: [10/bsxgpa](#).
- [520] Paul S. Heckbert and Pat Hanrahan. 1984. Beam tracing polygonal objects. *Computer Graphics (Proceedings of SIGGRAPH)*, 18, 3, (July 1, 1984), 119–127. ISSN: 00978930. doi: [10/dqs439](#).
- [521] B. Heeren, M. Rumpf, P. Schröder, M. Wardetzky, and B. Wirth. 2014. Exploring the geometry of the space of shells. *Computer Graphics Forum (Proceedings of the Symposium on Geometry Processing)*, 33, 5, (August 1, 2014), 247–256. ISSN: 0167-7055. doi: [10/f3s4dn](#).
- [522] Felix Heide, Wolfgang Heidrich, Matthias Hullin, and Gordon Wetzstein. 2015. Doppler time-of-flight imaging. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 34, 4. doi: [10/gfz5k9](#).
- [523] Felix Heide, Matthias B. Hullin, James Gregson, and Wolfgang Heidrich. 2013. Low-budget transient imaging using photonic mixer devices. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 32, 4, (July 2013), 45:1–45:10. ISSN: 0730-0301. doi: [10/gbdg7s](#).
- [524] Felix Heide, Gordon Wetzstein, Ramesh Raskar, and Wolfgang Heidrich. 2013. Adaptive image synthesis for compressive displays. *ACM Transactions on Graphics*, 32, 4, (July 2013), 132:1–132:12. ISSN: 0730-0301. doi: [10/gbdg29](#).
- [525] Felix Heide, Lei Xiao, Andreas Kolb, Matthias B. Hullin, and Wolfgang Heidrich. 2014. Imaging in scattering media using correlation image sensors and sparse convolutional coding. *Optics Express*, 22, 21. doi: [10/gfz5mc](#).
- [526] Alan Heirich and James Arvo. 1997. Scalable Monte Carlo image synthesis. *Parallel Computing*, 23, 7, (July 1997), 845–859. doi: [10/d44ggt](#).
- [527] Alan Heirich and James Arvo. 1998. A competitive analysis of load balancing strategies for parallel ray tracing. *Journal of Supercomputing*, 12, 1/2, 57–68. doi: [10/cvn37j](#).
- [528] Alan Heirich and James Arvo. 1998. Parallel radiometric image synthesis. *Advances in Engineering Software*, 29, 3–6, (April 1998), 283–287. doi: [10/c64zzb](#).
- [529] Eric Heitz and Eugene d'Eon. 2014. Importance sampling microfacet-based BSDFs using the distribution of visible normals. *Computer Graphics Forum (Proceedings of the Eurographics Symposium on Rendering)*, 33, 4, 103–112. doi: [10/f6fgph](#).
- [530] Eric Heitz, Jonathan Dupuy, Cyril Crassin, and Carsten Dachsbacher. 2015. The SGGX microflake distribution. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 34, 4, (July 2015), 48:1–48:11. ISSN: 0730-0301. doi: [10/f7m2n2](#).
- [531] Eric Heitz, Jonathan Dupuy, Stephen Hill, and David Neubelt. 2016. Real-time polygonal-light shading with linearly transformed cosines. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 35, 4, (July 2016), 41:1–41:8. ISSN: 0730-0301. doi: [10/f89ksz](#).
- [532] Louis George Henyey and Jesse Leonard Greenstein. 1941. Diffuse radiation in the galaxy. *Astrophysical Journal*, 93, 70–83. ISSN: 0004-637X. doi: [10/bb4ffv](#).
- [533] Sebastian Herholz, Oskar Elek, Jiří Vorba, Hendrik Lensch, and Jaroslav Krivánek. 2016. Product importance sampling for light transport path guiding. *Computer Graphics Forum (Proceedings of the Eurographics Symposium on Rendering)*. ISSN: 1467-8659. doi: [10/f842dt](#).
- [534] B. M. Herman and S. R. Browning. 1965. A numerical solution to the equation of radiative transfer. *Journal of the Atmospheric Sciences*, 22, 559–566.
- [535] Roger D. Hersch and Claude Betrisey. 1991. Model-based matching and hinting of fonts. *Computer Graphics (Proceedings of SIGGRAPH)*, 25, 4, (July 1991), 71–80.
- [536] Roger D. Hersch, Fabien Collaud, and Patrick Emmel. 2003. Reproducing color images with embedded metallic patterns. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 22, 3, (July 1, 2003), 427–434. ISSN: 07300301. doi: [10/c6h66c](#).
- [537] Roger D. Hersch, Philipp Donzé, and Sylvain Chosson. 2007. Color images visible under UV light. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 26, 3, (July 29, 2007), 75. ISSN: 07300301. doi: [10/djgtx5](#).
- [538] Roger David Hersch and Sylvain Chosson. 2004. Band moiré images. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 23, 3, (August 1, 2004), 239–247. ISSN: 07300301. doi: [10/fxbrrg](#).
- [539] A. Hertzmann. 2003. A survey of stroke-based rendering. *IEEE Computer Graphics & Applications*, 23, 4, (July 2003), 70–81. ISSN: 0272-1716. doi: [10/c4zhc4](#).
- [540] Robert Herzog, Vlastimil Havran, Shinichi Kinuwaki, Karol Myszkowski, and Hans-Peter Seidel. 2007. Global illumination using photon ray splatting. *Computer Graphics Forum (Proceedings of Eurographics)*, 26, 3, 503–513. ISSN: 0167-7055, 1467-8659. doi: [10/b9k4hd](#).
- [541] Robert Herzog, Karol Myszkowski, and Hans-Peter Seidel. 2009. Anisotropic radiance-cache splatting for efficiently computing high-quality global illumination with lightcuts. *Computer Graphics Forum (Proceedings of Eurographics)*, 28, 2, 259–268. doi: [10/cw8gr4](#).
- [542] David Hilbert. 1912. Begründung der kinetischen gastheorie. *Mathematisch Annalen*, 72, 562–577.
- [543] Jared Hoberock and John C. Hart. 2010. Arbitrary importance functions for Metropolis light transport. *Computer Graphics Forum*, 29, 6, (September 14, 2010), 1993–2003. ISSN: 1467-8659. doi: [10/dttgfv](#).
- [544] Matthias Holländer, Tobias Ritschel, Elmar Eisemann, and Tamy Boubekeur. 2011. ManyLoDs: parallel many-view level-of-detail selection for real-time global illumination. *Computer Graphics Forum (Proceedings of the Eurographics Symposium on Rendering)*, 30, 4, 1233–1240. doi: [10/dh788k](#).
- [545] J. G. Holmes. 1946. A method of plotting isolux curves. *Light and Lighting*, 39, 158–160.
- [546] Nicolas Holzschuch and François X. Sillion. 1998. An exhaustive error-bounding algorithm for hierarchical radiosity. *Computer Graphics Forum*, 17, 4, (December 1998), 197–218. ISSN: 1467-8659. doi: [10/fj58vb](#).
- [547] J. E. Hoogenboom. 2008. Zero-variance Monte Carlo schemes revisited. *Nuclear Science and Engineering*, 160, 1, 1–22.
- [548] Matthias Hopf, Michael Luttenberger, and Thomas Ertl. 2004. Hierarchical splatting of scattered 4D data. *IEEE Computer Graphics & Applications*, 24, 4, (July 2004), 64–72. ISSN: 0272-1716. doi: [10/cpfpgc](#).
- [549] Berthold K.P. Horn and Brian G. Schunck. 1981. Determining optical flow. *Artificial Intelligence*, 17, 185–203. doi: [10/c4gws2](#).
- [550] Reynald Hoskinson, Boris Stoeber, Wolfgang Heidrich, and Sidney Fels. 2010. Light reallocation for high contrast projection using an analog micromirror array. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 29, 6, (December 1, 2010), 165:1–165:10. ISSN: 07300301. doi: [10/fcpkwb](#).
- [551] Rafael Hostettler, Ralf Habel, Markus Gross, and Wojciech Jarosz. 2015. Dispersion-based color projection using masked prisms. *Computer Graphics Forum (Proceedings of Pacific Graphics)*, 34, 7, (October 1, 2015), 329–338. ISSN: 0167-7055. doi: [10/f7v22b](#).
- [552] Hoyt C. Hottel. 1962. Radiation as a diffusion process. *International Journal of Heat and Mass Transfer*, 5, 82–83. doi: [10/dh6grp](#).
- [553] Siu-Chi Hsu and Tien-Tsin Wong. 1995. Simulating dust accumulation. *IEEE Computer Graphics & Applications*, 15, 1, (January 1995), 18–25.
- [554] Xuemei Hu, Yue Deng, Xing Lin, Jinli Suo, Qionghai Dai, Christopher Barsi, and Ramesh Raskar. 2014. Robust and accurate transient light transport decomposition via convolutional sparse coding. *Opt. Lett.*, 39, 11. doi: [10/gfz5mf](#).
- [555] David Huang, Eric A Swanson, Charles P Lin, Joel S Schuman, William G Stinson, Warren Chang, Michael R Hee, Thomas Flotte, Kenton Gregory, Carmen A Puliafito, and James G. Fujimoto. 1991. Optical coherence tomography. *Science*, 254, 5035. doi: [10/bw83jd](#).
- [556] Haoda Huang, Jinxiang Chai, Xin Tong, and Hsiang-Tao Wu. 2011. Leveraging motion capture and 3D scanning for high-fidelity facial performance acquisition. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 30, 4, Article 74, 74:1–74:10. ISSN: 0730-0301. doi: [10/cj4xnt](#).
- [557] Jonathan Huang, Max Kinateder, Matt J. Dunn, Wojciech Jarosz, Xing-Dong Yang, and Emily A. Cooper. 2019. An augmented reality sign-reading assistant for users with reduced vision. *PLOS ONE*, 14, 1, (January 16, 2019), e0210630. ISSN: 1932-6203. doi: [10/gfznd2](#).
- [558] Vincent Hubert-Tremblay, Louis Archambault, Dragan Tubic, René Roy, and Luc Beaulieu. 2006. Octree indexing of DICOM images for voxel number reduction and improvement of Monte Carlo simulation computing efficiency. *Medical Physics*, 33, 8, 2819–2831. ISSN: 2473-4209. doi: [10/ddmtmv](#).
- [559] John F. Hughes. 1992. Scheduled Fourier volume morphing. *Computer Graphics (Proceedings of SIGGRAPH)*, 26, 2, (July 1992), 43–46.
- [560] Matthias B. Hullin, Hendrik P. A. Lensch, Ramesh Raskar, Hans-Peter Seidel, and Ivo Ihrke. 2011. Dynamic display of BRDFs. *Computer Graphics Forum*, 30, 2, (April 1, 2011), 475–483. ISSN: 0167-7055. doi: [10/dcxspz](#).
- [561] Yuchi Huo, Rui Wang, Tianlei Hu, Wei Hua, and Hujun Bao. 2016. Adaptive matrix column sampling and completion for rendering participating media. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 35, 6, (November 2016), 167:1–167:11. ISSN: 0730-0301. doi: [10/f9cm6s](#).

- [562] Youngdeok Hwang, Xu He, and Peter Z.G. Qian. 2016. Sliced orthogonal array-based Latin hypercube designs. *Technometrics*, 58, 1, (January 2016), 50–61. ISSN: 1537-2723. DOI: [10/f8cjrkl](#).
- [563] Edward P. Hyde. 1907. Geometrical theory of radiating surfaces with discussion of light tubes. *Bulletin of the Bureau of Standards*, 3, 1, 81–104.
- [564] Joshua M. Hykes and Jeffery D. Densmore. 2009. Non-analog Monte Carlo estimators for radiation momentum deposition. *Journal of Quantitative Spectroscopy and Radiative Transfer*, 110, 13, 1097–1110. DOI: [10/ddsk26](#).
- [565] Takanori Igarashi, Ko Nishino, and Shree K. Nayar. 2007. The appearance of human skin: a survey. *Foundations and Trends® in Computer Graphics and Vision*, 3, 1, (November 5, 2007), 1–95. ISSN: 1572-2740, 1572-2759. DOI: [10/dsb6gm](#).
- [566] Jose A. Iglesias-Guitian, Carlos Aliaga, Adrian Jarabo, and Diego Gutierrez. 2015. A biophysically-based model of the optical properties of skin aging. *Computer Graphics Forum (Proceedings of Eurographics)*.
- [567] Ivo Ihrke, Gernot Ziegler, Art Tevs, Christian Theobalt, Marcus Magnor, and Hans-Peter Seidel. 2007. Eikonal rendering: efficient light transport in refractive objects. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 26, 3. DOI: [10/d2bp9n](#).
- [568] S. Ilic and P. Fua. 2006. Implicit meshes for surface reconstruction. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 28, 2, (February 2006), 328–333. ISSN: 0162-8828. DOI: [10/ctgm5g](#).
- [569] David S. Immel, Michael F. Cohen, and Donald P. Greenberg. 1986. A radiosity method for non-diffuse environments. *Computer Graphics (Proceedings of SIGGRAPH)*, 20, 4, (August 1986), 133–142. David C. Evans and Russell J. Athay, editors. ISSN: 0097-8930. DOI: [10/dmjnm9t](#).
- [570] Erdal İnönü. 1973. A theorem on anisotropic scattering. *Transport Theory and Statistical Physics*, 3, 2, 137–146.
- [571] Joseph Ivanic and Klaus Ruedenberg. 1996. Rotation matrices for real spherical harmonics. Direct determination by recursion. *Journal of Physical Chemistry*, 100, 15, (January 1, 1996), 6342–6347. ISSN: 0022-3654. DOI: [10/bvnm59d](#).
- [572] Joseph Ivanic and Klaus Ruedenberg. 1998. Additions and corrections: rotation matrices for real spherical harmonics. *J. Phys. Chem. A*, 102, 45, 9099–9100. DOI: [10/dcgw39](#).
- [573] Kei Iwasaki, Yoshinori Dobashi, and Tomoyuki Nishita. 2012. Interactive bi-scale editing of highly glossy materials. *ACM Transactions on Graphics*, 31, 6, (November 2012), 144:1–144:7. ISSN: 0730-0301. DOI: [10/f96zff](#).
- [574] Szymon Jabłoński and Tomasz Martyn. 2017. Unlimited object instancing in real-time. *Journal of the World Society for Computer Graphics (WSCG)*.
- [575] D. Jackel and B. Walter. 1997. Modeling and rendering of the atmosphere using Mie-scattering. *Computer Graphics Forum*, 16, 4, 201–210. ISSN: 1467-8659. DOI: [10/c9545s](#).
- [576] W. H. Jackson. 1910. The solution of an integral equation occurring in the theory of radiation. *Bulletin of the American Mathematical Society*, 16, (June 1910), 473–475. DOI: [10/dv6mg7](#).
- [577] Alec Jacobson, Ilya Baran, Jovan Popović, and Olga Sorkine. 2011. Bounded biharmonic weights for real-time deformation. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 30, 4, (July 1, 2011), 78:1–78:8. ISSN: 07300301. DOI: [10/ckcmsj](#).
- [578] Alec Jacobson, Ladislav Kavan, and Olga Sorkine-Hornung. 2013. Robust inside-outside segmentation using generalized winding numbers. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 32, 4, (July 2013), 33:1–33:12. ISSN: 0730-0301. DOI: [10/gbdg28](#).
- [579] Wenzel Jakob, Adam Arbree, Jonathan T. Moon, Kavita Bala, and Steve Marschner. 2010. A radiative transfer framework for rendering materials with anisotropic structure. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 29, 4, (July 2010), 53:1–53:13. ISSN: 07300301. DOI: [10/ft7st](#).
- [580] Wenzel Jakob, Eugene d'Eon, Otto Jakob, and Steve Marschner. 2014. A comprehensive framework for rendering layered materials. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 33, 4, (July 2014), 118:1–118:14. ISSN: 0730-0301. DOI: [10/f6cpsq](#).
- [581] Wenzel Jakob and Steve Marschner. 2012. Manifold exploration: a Markov chain Monte Carlo technique for rendering scenes with difficult specular transport. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 31, 4, (July 2012), 58:1–58:13. ISSN: 0730-0301. DOI: [10/gfzq4p](#).
- [582] Wenzel Jakob, Christian Regg, and Wojciech Jarosz. 2011. Progressive Expectation-Maximization for hierarchical volumetric photon mapping. *Computer Graphics Forum (Proceedings of the Eurographics Symposium on Rendering)*, 30, 4, (June 2011), 1287–1297. ISSN: 01677055. DOI: [10/dtwcjj](#).
- [583] Oliver James, Eugénie von Tunzelmann, Paul Franklin, and Kip S. Thorne. 2015. Gravitational lensing by spinning black holes in astrophysics, and in the movie *Interstellar*. *Classical and Quantum Gravity*, 32, 6, (February 2015), 065001. ISSN: 0264-9381. DOI: [10/gdvj4r](#).
- [584] R. W. James. 1969. Transformation of spherical harmonics under change of reference frame. *Geophysical J. of the Royal Astronomical Society*. DOI: [10/fjtikdm](#).
- [585] Sonam Jamtsho and Derek D Lichti. 2010. Modelling scattering distortion in 3D range camera. *International Archives of Photogrammetry, Remote Sensing and Spatial Information Sciences*, 38, 5.
- [586] Adrian Jarabo, Carlos Aliaga, and Diego Gutierrez. 2018. A radiative transfer framework for spatially-correlated materials. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 37, 4, (July 2018), 83:1–83:13. ISSN: 0730-0301. DOI: [10/gd52qq](#).
- [587] Adrian Jarabo and Victor Arellano. 2018. Bidirectional rendering of vector light transport. *Computer Graphics Forum*, 37, 6, (September 1, 2018), 96–105. ISSN: 0167-7055. DOI: [10/gdvk6m](#).
- [588] Adrian Jarabo, Julio Marco, Adolfo Munoz, Raul Buisan, Wojciech Jarosz, and Diego Gutierrez. 2014. A framework for transient rendering. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 33, 6, (November 2014), 177:1–177:10. ISSN: 15577368. DOI: [10/gfznb8](#).
- [589] Adrian Jarabo, Belen Masia, Adrien Bousseau, Fabio Pellacini, and Diego Gutierrez. 2014. How do people edit light fields? *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 33, 4, (July 2014), 146:1–146:10. ISSN: 0730-0301. DOI: [10/gfz5vh](#).
- [590] Adrian Jarabo, Belen Masia, Julio Marco, and Diego Gutierrez. 2017. Recent advances in transient imaging: a computer graphics and vision perspective. *Visual Informatics*, 1, 1, 65–79. DOI: [10/gfz5mh](#).
- [591] Adrian Jarabo, Belen Masia, Andreas Veltin, Christopher Barsi, Ramesh Raskar, and Diego Gutierrez. 2015. Relativistic effects for time-resolved light transport. *Computer Graphics Forum*, 34, 8, 1–12. DOI: [10/f767kz](#).
- [592] Wojciech Jarosz, Nathan A. Carr, and Henrik Wann Jensen. 2009. Importance sampling spherical harmonics. *Computer Graphics Forum (Proceedings of Eurographics)*, 28, 2, (April 1, 2009), 577–586. ISSN: 0167-7055. DOI: [10/b523xg](#).
- [593] Wojciech Jarosz, Craig Donner, Matthias Zwicker, and Henrik Wann Jensen. 2008. Radiance caching for participating media. *ACM Transactions on Graphics*, 27, 1, (March 1, 2008), 7:1–7:11. ISSN: 07300301. DOI: [10/cwnw78](#).
- [594] Wojciech Jarosz, Derek Nowrouzezahrai, Iman Sadeghi, and Henrik Wann Jensen. 2011. A comprehensive theory of volumetric radiance estimation using photon points and beams. *ACM Transactions on Graphics*, 30, 1, (January 1, 2011), 5:1–5:19. ISSN: 0730-0301. DOI: [10/fcdh2f](#).
- [595] Wojciech Jarosz, Derek Nowrouzezahrai, Robert Thomas, Peter-Pike Sloan, and Matthias Zwicker. 2011. Progressive photon beams. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 30, 6, (December 2011), 181:1–181:12. ISSN: 07300301. DOI: [10/fn5xjz](#).
- [596] Wojciech Jarosz, Volker Schönefeld, Leif Kobbelt, and Henrik Wann Jensen. 2012. Theory, analysis and applications of 2D global illumination. *ACM Transactions on Graphics*, 31, 5, (August 2012), 125:1–125:21. ISSN: 07300301. DOI: [10/gbbrkb](#).
- [597] Wojciech Jarosz, Matthias Zwicker, and Henrik Wann Jensen. 2008. Irradiance gradients in the presence of participating media and occlusions. *Computer Graphics Forum (Proceedings of the Eurographics Symposium on Rendering)*, 27, 4, (June 2008), 1087–1096. ISSN: 01677055. DOI: [10/bg8nww](#).
- [598] Wojciech Jarosz, Matthias Zwicker, and Henrik Wann Jensen. 2008. The beam radiance estimate for volumetric photon mapping. *Computer Graphics Forum (Proceedings of Eurographics)*, 27, 2, (April 2008), 557–566. ISSN: 14678659. DOI: [10/bjsfsx](#).
- [599] J. M. Jeans. 1917. The equation of radiative transfer of energy. *Monthly notices of the Royal Astronomical Society*, 78, 1, (November 1917), 28–36. DOI: [10/gfzqh5](#).
- [600] James Hopwood Jeans. 1917. The equations of radiative transfer of energy. *Monthly Notices of the Royal Astronomical Society*, 78, 1, 28–36. ISSN: 0035-8711. DOI: [10/gfzqh5](#).
- [601] Johannes Jendersie. 2018. Path throughput importance weights, (June 4, 2018). arXiv: [1806.01005 \[cs\]](#).
- [602] Henrik Wann Jensen. 1997. Rendering caustics on non-lambertian surfaces. *Computer Graphics Forum*, 16, 1, (March 1997), 57–64. ISSN: 1467-8659. DOI: [10/dj4sxt](#).
- [603] Henrik Wann Jensen and Juan Buhler. 2002. A rapid hierarchical rendering technique for translucent materials. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 21, 3, (July 2002), 576–581. ISSN: 0730-0301. DOI: [10/fdhw4b](#).
- [604] Henrik Wann Jensen and Niels Jørgen Christensen. 1995. Optimizing path tracing using noise reduction filters. *Journal of the World Society for Computer Graphics (WSCG)*, 3, 1–2, (February 1995). V. Skala, editor.
- [605] Henrik Wann Jensen and Niels Jørgen Christensen. 1995. Photon maps in bidirectional Monte Carlo ray tracing of complex objects. *Computers & Graphics*, 19, 2, (March 1, 1995), 215–224. ISSN: 0097-8493. DOI: [10/d9xr6q](#).
- [606] J. L. W. V. Jensen. 1906. Sur les fonctions convexes et les inégalités entre les valeurs moyennes. *Acta Mathematica*, 30, 175–193. ISSN: 0001-5962, 1871-2509. DOI: [10/cm24qd](#).
- [607] Stefan Jeschke, David Cline, and Peter Wonka. 2009. A GPU Laplacian solver for diffusion curves and Poisson image editing. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 28, 5, (December 1, 2009), 116:1–116:8. ISSN: 07300301. DOI: [10/fchgrf](#).

- [608] Stefan Jeschke, David Cline, and Peter Wonka. 2011. Estimating color and texture parameters for vector graphics. *Computer Graphics Forum (Proceedings of Eurographics)*, 30, 2, (April 2011), 523–532. ISSN: 1467-8659. doi: [10/cg5vgv](#).
- [609] Wei Ji and William R. Martin. 2007. Determination of chord length distributions in stochastic media composed of dispersed microspheres. *Transactions of the American Nuclear Society*, 96, 467.
- [610] Min Jiang, Yahan Zhou, Rui Wang, Richard Southern, and Jian Jun Zhang. 2015. Blue noise sampling using an SPH-based method. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 34, 6, (October 2015), 211:1–211:11. ISSN: 0730-0301. doi: [10/f7wq6d](#).
- [611] David Jiménez, Daniel Pizarro, Manuel Mazo, and Sira Palazuelos. 2014. Modeling and correction of multipath interference in time of flight cameras. *Image Vision Comput.*, 32, 1, (January 2014), 13 pages. ISSN: 0262-8856. doi: [10/f5smxm](#).
- [612] Jorge Jimenez, Timothy Scully, Nuno Barbosa, Craig Donner, Xenxo Alvarez, Teresa Vieira, Paul Matts, Verónica Orvalho, Diego Gutierrez, and Tim Weyrich. 2010. A practical appearance model for dynamic facial color. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 29, 6, Article 141, 141:1–141:10. ISSN: 0730-0301. doi: [10/c8b948](#).
- [613] Jorge Jimenez, Veronica Sundstedt, and Diego Gutierrez. 2009. Screen-space perceptual rendering of human skin. *ACM Transactions on Applied Perception*, 6, 4, 23:1–23:15. doi: [10/crbwd6](#).
- [614] Stephen Joe and Frances Y Kuo. 2008. Constructing Sobol sequences with better two-dimensional projections. *SIAM Journal on Scientific Computing*, 30, 5, 2635–2654. ISSN: 1064-8275. doi: [10/c8tff9](#).
- [615] Bassett Jones Jr. 1909. The mathematical theory of finite surface light sources. *Transactions of the Illuminating Engineering Society*, 4, 216–239.
- [616] M. C. Jones. 1990. Variable kernel density estimates and variable kernel density estimates. *Australian Journal of Statistics*, 32, 3, 361–371. ISSN: 1467-842X. doi: [10/dnxj8h](#).
- [617] M. W. Jones, J. A. Baerentzen, and M. Sramek. 2006. 3D distance fields: a survey of techniques and applications. *IEEE Transactions on Visualization and Computer Graphics*, 12, 4, (July 2006), 581–599. ISSN: 1077-2626. doi: [10/bwnmjs](#).
- [618] R. Clark Jones. 1941. A new calculus for the treatment of optical systems. description and discussion of the calculus. *Journal of the Optical Society of America*, 31, 7, (July 1, 1941), 488–493. doi: [10/bwqspj](#).
- [619] Thouis R Jones. 2006. Efficient generation of Poisson-disk sampling patterns. *Journal of Graphics, GPU, and Game Tools*, 11, 2, 27–36.
- [620] J. H. Joseph, W. J. Wiscombe, and J. A. Weinman. 1976. The delta-Eddington approximation for radiative flux transfer. *Journal of the Atmospheric Sciences*, 33, 12, (December 1, 1976), 2452–2459. ISSN: 0022-4928. doi: [10/drrs6q](#).
- [621] Pushkar Joshi, Mark Meyer, Tony DeRose, Brian Green, and Tom Sanocki. 2007. Harmonic coordinates for character articulation. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 26, 3, (July 2007). ISSN: 0730-0301. doi: [10/bqj5jk](#).
- [622] Eunjung Ju, Myung Geol Choi, Minji Park, Jehee Lee, Kang Hoon Lee, and Shigeo Takahashi. 2010. Morphable crowds. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 29, 6, (December 2010), 140:1–140:10. ISSN: 0730-0301. doi: [10/bcm3db](#).
- [623] Tao Ju, Frank Losasso, Scott Schaefer, and Joe Warren. 2002. Dual contouring of Hermite data. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 21, 3, (July 1, 2002), 339–346. ISSN: 07300301. doi: [10/bdg3sp](#).
- [624] A. Kadambi, R. Whyte, A. Bhandari, L. Streeter, C. Barsi, A. Dorrington, and R. Raskar. 2013. Coded time of flight cameras: sparse deconvolution to address multipath interference and recover time profiles. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 32, 6, doi: [10/gfz5mk](#).
- [625] Achuta Kadambi, Vage Taamazyan, Suren Jayasuriya, and Ramesh Raskar. 2015. Frequency domain ToF: encoding object depth in modulation frequency. (March 5, 2015). arXiv: [1503.01804 \[cs\]](#).
- [626] Achuta Kadambi, Hang Zhao, Boxin Shi, and Ramesh Raskar. 2016. Occluded imaging with time-of-flight sensors. *ACM Transactions on Graphics*, 35, 2, Article 15, (March 2016), 12 pages. ISSN: 0730-0301. doi: [10/f8q5jg](#).
- [627] B. B. Kadomtsev. 1957. On the Green's function in the theory of radiant energy transfer. *Proceedings of the Academy of Science, U.S.S.R.*, 2, 139–142.
- [628] Harriet H. Kagiwada and Robert E. Kalaba. 1967. Initial value methods for the basic boundary-value problem and integral equation of radiative transfer. *Journal of Computational Physics*, 1, 322–329. doi: [10/dfk95r](#).
- [629] Bhavya Kailkhura, Jayaraman J. Thiagarajan, Peer-Timo Bremer, and Pramod K. Varshney. 2016. Stair blue noise sampling. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 35, 6, (November 2016), 248:1–248:10. ISSN: 0730-0301. doi: [10/f9cprg](#).
- [630] J. T. Kajiya and T. L. Kay. 1989. Rendering fur with three dimensional textures. *Computer Graphics (Proceedings of SIGGRAPH)*, 23, 3, (July 1, 1989), 271–280. ISSN: 00978930. doi: [10/c92hfh](#).
- [631] James T. Kajiya. 1982. Ray tracing parametric patches. *Computer Graphics (Proceedings of SIGGRAPH)*, 16, 3, (July 1982), 245–254.
- [632] James T. Kajiya. 1983. New techniques for ray tracing procedurally defined objects. *ACM Transactions on Graphics*, 2, 3, (July 1983), 161–181. doi: [10/f1prpp](#).
- [633] James T. Kajiya. 1985. Anisotropic reflection models. *Computer Graphics (Proceedings of SIGGRAPH)*, 19, 3, (July 1985), 15–21.
- [634] James T. Kajiya. 1986. The rendering equation. *Computer Graphics (Proceedings of SIGGRAPH)*, 20, 4, (August 1986), 143–150. ISSN: 0097-8930. doi: [10/cvf53j](#).
- [635] James T. Kajiya and Brian P Von Herzen. 1984. Ray tracing volume densities. *Computer Graphics (Proceedings of SIGGRAPH)*, 18, 3, (July 1, 1984), 165–174. ISSN: 00978930. doi: [10/cmjk9m](#).
- [636] Nima Khademi Kalantari, Steve Bako, and Pradeep Sen. 2015. A machine learning approach for filtering Monte Carlo noise. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 34, 4, (July 2015), 122:1–122:12. ISSN: 0730-0301. doi: [10/f7mtzn](#).
- [637] Nima Khademi Kalantari and Pradeep Sen. 2013. Removing the noise in Monte Carlo rendering with general image denoising algorithms. *Computer Graphics Forum (Proceedings of Eurographics)*, 32, (May 1, 2013), 93–102, 2pt1, (May 1, 2013). ISSN: 0167-7055. doi: [10/gfz5n2](#).
- [638] Simon Kallweit, Thomas Müller, Brian McWilliams, Markus Gross, and Jan Novák. 2017. Deep scattering: rendering atmospheric clouds with radiance-predicting neural networks. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 36, 6, Article 231, (November 2017), 231:1–231:11. ISSN: 0730-0301. doi: [10/gfzq7g](#).
- [639] Javor Kalojanov, Markus Billeter, and Philipp Slusallek. 2011. Two-level grids for ray tracing on GPUs. *Computer Graphics Forum (Proceedings of Eurographics)*, 30, 2, 307–314. doi: [10/fjs5sg](#).
- [640] Malvin H Kalos. 1963. On the estimation of flux at a point by Monte Carlo. *Nuclear Science and Engineering*, 16, 111–117. doi: [10/gfznd3](#).
- [641] Kouichi Kamiuto. 1990. Correlated radiative transfer in packed-sphere systems. *Journal of Quantitative Spectroscopy and Radiative Transfer*, 43, 1, (January 1, 1990), 39–43. ISSN: 0022-4073. doi: [10/c6b8pg](#).
- [642] Hans G. Kaper and R. Bruce Kellogg. 1977. Continuity and differentiability properties of the solution of the linear transport equation. *SIAM Journal on Applied Mathematics*, 32, 1, (January 1977), 201–214.
- [643] Hans G. Kaper, Gary K. Leaf, and Arthur J. Lindeman. 1975. Formulation of a Ritz-Galerkin type procedure for the approximate solution of the neutron transport equation. *Journal of Mathematical Analysis and Applications*, 50, 42–65.
- [644] Anton S. Kaplanyan and Carsten Dachsbacher. 2013. Adaptive progressive photon mapping. *ACM Transactions on Graphics*, 32, 2, (April 2013), 16:1–16:13. ISSN: 0730-0301. doi: [10/gbc2fq](#).
- [645] Anton S. Kaplanyan and Carsten Dachsbacher. 2013. Path space regularization for holistic and robust light transport. *Computer Graphics Forum (Proceedings of Eurographics)*, 32, 2, 63–72. doi: [10/gbc3p8](#).
- [646] Anton S. Kaplanyan, Johannes Hanika, and Carsten Dachsbacher. 2014. The natural-constraint representation of the path space for efficient light transport simulation. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 33, 4, (July 2014), 102:1–102:13. ISSN: 0730-0301. doi: [10/f6cz85](#).
- [647] Ondřej Karlík, Martin Růžicka, Václav Gassenbauer, Fabio Pellacini, and Jaroslav Krivánek. 2014. Toward evaluating the usefulness of global illumination for novices in lighting design tasks. *IEEE Transactions on Visualization and Computer Graphics*, 21, 6, (June 2014), 944–954. ISSN: 1077-2626. doi: [10/f58wwq](#).
- [648] Vladimir Katkovnik. 1999. A new method for varying adaptive bandwidth selection. *IEEE Transactions on Signal Processing*, 47, 9, (September 1999), 2567–2571. ISSN: 1053-587X. doi: [10/f1rrmp](#).
- [649] George W. Kattawar, Gilbert N. Plass, and Frances E. Catchings. 1973. Matrix operator theory: II. scattering from maritime haze. *Applied Optics*, 12, 1071–1084.
- [650] Jan Kautz, Solomon Boulos, and Frédo Durand. 2007. Interactive editing and modeling of bidirectional texture functions. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 26, 3, (July 29, 2007), 53. ISSN: 07300301. doi: [10/csb3wx](#).
- [651] Timothy L. Kay and James T. Kajiya. 1986. Ray tracing complex scenes. *Computer Graphics (Proceedings of SIGGRAPH)*, 20, 4, (August 1986), 269–278. doi: [10/fd877p](#).
- [652] Michael Kazhdan. 2007. An approximate and efficient method for optimal rotation alignment of 3D models. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 29, 7, (July 2007), 1221–1229. doi: [10/fd62wg](#).
- [653] Michael Kazhdan, Gurprit Singh, Adrien Pilleboue, David Coeurjolly, and Victor Ostromoukhov. 2015. Variance analysis for Monte Carlo integration: a representation-theoretic perspective. (May 29, 2015). arXiv: [1506.00021 \[cs\]](#).
- [654] Benjamin Keinert, Henry Schäfer, Johann Korndörfer, Urs Ganse, and Marc Stamminger. 2013. Improved ray casting of procedural distance bounds. *Journal of Graphics Tools*, 17, 4, (October 2, 2013), 127–138. ISSN: 2165-347X. doi: [10/gfz54s](#).
- [655] Csaba Kelemen, László Szirmay-Kalos, György Antal, and Ferenc Csonka. 2002. A simple and robust mutation strategy for the Metropolis light transport algorithm. *Computer Graphics Forum*, 21, 3, (September 1, 2002), 531–540. ISSN: 0167-7055. doi: [10/bfrsqn](#).

- [656] Joseph B. Keller. 1948. On the solution of the boltzmann equation for rarefied gases. *Communications on Pure and Applied Mathematics*, 1, 3, (September 1948), 275–285.
- [657] Maik Keller and Andreas Kolb. 2009. Real-time simulation of time-of-flight sensors. *Simulation Modelling Practice and Theory*, 17, 5. doi: [10/b2vrqt](#).
- [658] James R. Kent, Wayne E. Carlson, and Richard E. Parent. 1992. Shape transformation for polyhedral objects. *Computer Graphics (Proceedings of SIGGRAPH)*, 26, 2, (July 1992), 47–54.
- [659] William B. Kerr and Fabio Pellacini. 2009. Toward evaluating lighting design interface paradigms for novice users. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 28, 3, (July 27, 2009), 26:1–26:9. ISSN: 07300301. doi: [10/c3znnz](#).
- [660] William B. Kerr and Fabio Pellacini. 2010. Toward evaluating material design interface paradigms for novice users. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 29, 4, (July 26, 2010), 1. ISSN: 07300301. doi: [10/btw8nc](#).
- [661] William B. Kerr, Fabio Pellacini, and Jonathan D. Denning. 2010. BendyLights: Artistic control of direct illumination by curving light rays. *Computer Graphics Forum (Proceedings of the Eurographics Symposium on Rendering)*, 29, 4, (June 1, 2010), 1451–1459. ISSN: 0167-7055. doi: [10/cnf5zk](#).
- [662] Markus Kettunen, Marco Manzi, Miika Aittala, Jaakko Lehtinen, Frédo Durand, and Matthias Zwicker. 2015. Gradient-domain path tracing. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 34, 4, (July 27, 2015), 123. ISSN: 0730-0301. doi: [10/gfzrhn](#).
- [663] Erum Arif Khan, Erik Reinhard, Roland W. Fleming, and Heinrich H. Bühlhoff. 2006. Image-based material editing. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 25, 3, (July 1, 2006), 654. ISSN: 07300301. doi: [10/bgt6hr](#).
- [664] Alwin Kienle and Michael S. Patterson. 1997. Improved solutions of the steady-state and the time-resolved diffusion equations for reflectance from a semi-infinite turbid medium. *Journal of the Optical Society of America A*, 14, 1, 246–254. doi: [10/b7prd2](#).
- [665] Dongyeon Kim, Minjung Son, Yunjin Lee, Henry Kang, and Seungyong Lee. 2008. Feature-guided image stippling. *Computer Graphics Forum*, 27, 4, (June 1, 2008), 1209–1216. ISSN: 0167-7055. doi: [10/bpkz5c](#).
- [666] Junhwan Kim and Fabio Pellacini. 2002. Jigsaw image mosaics. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 21, 3, (July 1, 2002), 657–664. ISSN: 07300301. doi: [10/bbn7d9](#).
- [667] D. S. Kimes and J. A. Kirchner. 1982. Radiative transfer model for heterogeneous 3-D scenes. *Applied Optics*, 21, 22, (November 1982), 4119–4129.
- [668] Bradley W. Kimmel and Vladimir V. G. Baranoski. 2007. A novel approach for simulating light interaction with particulate materials: application to the modeling of sand spectral properties. *Optics Express*, 15, 15, (July 23, 2007), 9755–9777. ISSN: 1094-4087. doi: [10/fdt8vp](#).
- [669] Max Kinateder, Justin Gualtieri, Matt Dunn, Wojciech Jarosz, Xing-Dong Yang, and Emily Cooper. 2018. Using an augmented reality device as a distance-based vision aid—promise and limitations. *Optometry and Vision Science*, 95, 9, (September 1, 2018), 727–737. ISSN: 1040-5488. doi: [10/gd7x2n](#). pmid: [29877901](#).
- [670] Jean I. F. King. 1955. A potential-theory formulation of radiant-heat transfer. *Royal Meteorological Society Quarterly Journal*, 81, 414–417. doi: [10/fv4t8s](#).
- [671] Jean I. F. King. 1955. Radiative equilibrium in a line-absorbing atmosphere. I. *Astrophysical Journal*, 121, 3, (May 1955), 711–719.
- [672] Louis V. King. 1912. Absorption problems in radioactivity. *Philosophical Magazine*, ???, 134, (February 1912), 242–250.
- [673] Louis V. King. 1912. Note on the cosine law of radiation. *Philosophical Magazine*, ???, 134, (February 1912), 237–242.
- [674] Louis V. King. 1913. On the scattering and absorption of light in gaseous media, with applications to the intensity of sky radiation. *Philosophical Transactions of the Royal Society of London. Series A. Mathematical and Physical Sciences*, 212, 375–433. First expression of radiative transfer equation in general integral form. doi: [10/c6w498](#).
- [675] Diederik P. Kingma and Jimmy Ba. 2014. Adam: A method for stochastic optimization, (December 22, 2014). arXiv: [1412.6980 \[cs\]](#).
- [676] W. E. Kinney. 1964. The nucleon transport code, NTC, (August 1964), ORNL-3610, (August 1964).
- [677] David Kirk and James Arvo. 1991. Unbiased sampling techniques for image synthesis. *Computer Graphics (Proceedings of SIGGRAPH)*, 25, 4, (July 1991), 153–156. ISSN: 0097-8930. doi: [10/d5kchq](#).
- [678] Ahmed Kirmani, Tyler Hutchison, James Davis, and Ramesh Raskar. 2011. Looking around the corner using ultrafast transient imaging. *International Journal of Computer Vision (IJCV)*, 95, 1. doi: [10/dsk2dt](#).
- [679] Ahmed Kirmani, Dheera Venkatraman, Dongeek Shin, Andrea Colaço, Franco NC Wong, Jeffrey H Shapiro, and Vivek K Goyal. 2014. First-photon imaging. *Science*, 343, 6166. doi: [10/f5mfqk](#).
- [680] Shinya Kitaoka, Yoshifumi Kitamura, and Fumio Kishino. 2009. Replica exchange light transport. *Computer Graphics Forum*, 28, 8, (December 2009), 2330–2342. ISSN: 1467-8659. doi: [10/brnwj2](#).
- [681] Oliver Klehm, Fabrice Rousselle, Marios Papas, Derek Bradley, Christophe Hery, Bernd Bickel, Wojciech Jarosz, and Thabo Beeler. 2015. Recent advances in facial appearance capture. *Computer Graphics Forum*, 34, 2, (May 1, 2015), 709–733. ISSN: 0167-7055. doi: [10/f7mb4b](#).
- [682] Jonathan Klein, Christoph Peters, Jaime Martin, Martin Laurenzis, and Matthias B. Hullin. 2016. Tracking objects outside the line of sight using 2D intensity images. *Scientific Reports*, 6. doi: [10/f82649](#).
- [683] Krzysztof S. Klimansezewski and Thomas W. Sederberg. 1997. Faster ray tracing using adaptive grids. *IEEE Computer Graphics & Applications*, 17, 1, (January 2, 1997), 42–51. ISSN 0272-1716. doi: [10/bfgzkn](#).
- [684] Claude Knaus and Matthias Zwicker. 2011. Progressive photon mapping: A probabilistic approach. *ACM Transactions on Graphics*, 30, 3, (May 1, 2011), 25:1–25:13. ISSN: 07300301. doi: [10/bcw2ph](#).
- [685] A. Knoll, Y. Hijazi, A. Kensler, M. Schott, C. Hansen, and H. Hagen. 2009. Fast ray tracing of arbitrary implicit surfaces with interval and affine arithmetic. *Computer Graphics Forum*, 28, 1, 26–40. ISSN: 1467-8659. doi: [10/d5s7kh](#).
- [686] Hiroaki Kobayashi, Tadao Nakamura, and Yoshiharu Shigei. 1987. Parallel processing of an object space for image synthesis using ray tracing. *The Visual Computer*, 3, 13–22.
- [687] Jan Koenderink and Sylvia Pont. 2003. The secret of velvety skin. *Machine Vision and Applications*, 14, 4, (September 1, 2003), 260–268. ISSN: 1432-1769. doi: [10/fq3z2c](#).
- [688] D. Koerner, J. Portsmouth, F. Sadlo, T. Ertl, and B. Eberhardt. 2014. Flux-limited diffusion for multiple scattering in participating media. *Computer Graphics Forum*, 33, 6, (September 1, 2014), 178–189. ISSN: 0167-7055. doi: [10/f6kmzs](#).
- [689] Andreas Kolb, Erhardt Barth, Reinhard Koch, and Rasmus Larsen. 2010. Time-of-flight sensors in computer graphics. *Computer Graphics Forum*, 29, 1. doi: [10/cnkp2r](#).
- [690] Thomas Kollig and Alexander Keller. 2002. Efficient multidimensional sampling. *Computer Graphics Forum (Proceedings of Eurographics)*, 21, 3, (September 1, 2002), 557–563. ISSN: 0167-7055. doi: [10/d2stpx](#).
- [691] A. N. Kolmogorov. 1931. Über die analytischen methoden in der wahrscheinlichkeitstheorie. *Mathematische Annalen*, 104, 3, 415–458.
- [692] Janne Kontkanen, Eric Tabellion, and Ryan S. Overbeck. 2011. Coherent out-of-core point-based global illumination. *Computer Graphics Forum*, 30, 4, 1353–1360. doi: [10/d9jqp6](#).
- [693] Johannes Kopf, Daniel Cohen-Or, Oliver Deussen, and Dani Lischinski. 2006. Recursive Wang tiles for real-time blue noise. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 25, 3, 509–518. ISSN: 0730-0301. doi: [10/fp8p4r](#).
- [694] A. B. Kostinski and A. R. Jameson. 2000. On the spatial distribution of cloud particles. *Journal of the Atmospheric Sciences*, 57, 7, (April 1, 2000), 901–915. ISSN: 0022-4928. doi: [10/fhs4w5](#).
- [695] Alexander B. Kostinski. 2001. On the extinction of radiation by a homogeneous but spatially correlated random medium. *Journal of the Optical Society of America A*, 18, 8, (August 2001), 1929–1933. doi: [10/cgkpv8](#).
- [696] Aravind Krishnaswamy and Vladimir V.G. Baranoski. 2004. A biophysically-based spectral model of light interaction with human skin. *Computer Graphics Forum (Proceedings of Eurographics)*, 23, 3, 331–340. ISSN: 1467-8659. doi: [10/fcjcs5](#).
- [697] Anders Wang Kristensen, Tomas Akenine-Möller, and Henrik Wann Jensen. 2005. Precomputed local radiance transfer for real-time lighting design. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 24, 3, (July 1, 2005), 1208. ISSN: 07300301. doi: [10/d4hm3d](#).
- [698] Jaroslav Křivánek, James A Ferwerda, and Kavita Bala. 2010. Effects of global illumination approximations on material appearance. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 29, 4, (July 2010), 112:1–112:10. ISSN: 07300301. doi: [10/dvgd7t](#).
- [699] Jaroslav Křivánek, Pascal Gautron, Sumanta Pattanaik, and Kadi Bouatouch. 2005. Radiance caching for efficient global illumination computation. *IEEE Transactions on Visualization and Computer Graphics*, 11, 5, 550–561. ISSN: 1077-2626. doi: [10/csf2sw](#).
- [700] Jaroslav Křivánek, Iliyan Georgiev, Toshiya Hachisuka, Petr Vévoda, Martin Šik, Derek Nowrouzezahrai, and Wojciech Jarosz. 2014. Unifying points, beams, and paths in volumetric light transport simulation. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 33, 4, (July 2014), 103:1–103:13. ISSN: 0730-0301. doi: [10/f6cz72](#).
- [701] U. Krockstadt. 1968. Calculating the acoustical room response by the use of a ray tracing technique. *J. Sound and Vibrations*, 8.
- [702] Max Krook. 1955. On the solution of equations of transfer. I. *Astrophysical Journal*, 122, 3, (November 1955), 488–497.
- [703] Wolfgang Krueger. 1990. Volume rendering and data feature enhancement. *Computer Graphics (Proceedings of SIGGRAPH)*, 24, 5, (November 1990), 21–26.
- [704] Wolfgang Krueger and B. Froehlich. 1994. The responsive workbook: virtual work environment. *IEEE Computer Graphics & Applications*, 14, 3, (May 1994), 12–15.
- [705] Christopher Kulla, Alejandro Conty, Clifford Stein, and Larry Gritz. 2018. Sony Pictures Imageworks Arnold. *ACM Transactions on Graphics*, 37, 3, (August 2018), 29:1–29:18. ISSN: 0730-0301. doi: [10/gfjkn7](#).

- [706] Christopher Kulla and Marcos Fajardo. 2012. Importance sampling techniques for path tracing in participating media. *Computer Graphics Forum (Proceedings of the Eurographics Symposium on Rendering)*, 31, 4, (June 2012), 1519–1528. doi: [10/f35f4k](#).
- [707] Sathesh Kuppura and Jeffrey J. Derby. 1993. Finite-element formulations for accurate calculation of radiant heat transfer in diffuse-gray enclosures. *Numerical Heat Transfer, Part B*, 24, 431–454.
- [708] I. Kuščer. 1973. A survey of neutron transport theory. *Acta Physica Austriaca Supplementum X*, 491–528. Proceedings of the International Symposium “100 Years Boltzmann Equation”.
- [709] I. Kuščer and G. C. Summerfield. 1970. Symmetries in scattering of slow neutrons. *Physical Review*, 188, 3, (December 1970), 1445–1449.
- [710] Peter Kutz, Ralf Habel, Yining Karl Li, and Jan Novák. 2017. Spectral and decomposition tracking for rendering heterogeneous volumes. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 36, 4, (July 2017), 111:1–111:16. ISSN: 0730-0301. doi: [10/gbxjxg](#).
- [711] Jan Eric Kyprianidis, John Collomosse, Tinghui Wang, and Tobias Isenber. 2013. State of the “art”: a taxonomy of artistic stylization techniques for images and video. *IEEE Transactions on Visualization and Computer Graphics*, 19, 5, 866–885. doi: [10/f4s58s](#).
- [712] Eric P. Laforge and Yves D. Willems. 1994. A theoretical framework for physically based rendering. *Computer Graphics Forum*, 13, 2, (June 1994), 97–107. doi: [10/fq9wq7](#).
- [713] Ares Lagae and Philip Dutré. 2006. An alternative for Wang tiles: colored edges versus colored corners. *ACM Transactions on Graphics*, 25, 4, (October 2006), 1442–1459. ISSN: 0730-0301. doi: [10/fpwbf](#).
- [714] Ares Lagae and Philip Dutré. 2006. Generating well-distributed point sets with a self-similar hierarchical tile. *Report CW*, 462.
- [715] Ares Lagae and Philip Dutré. 2008. A comparison of methods for generating Poisson disk distributions. *Computer Graphics Forum*, 27, 1, (March 1, 2008), 114–129. ISSN: 0167-7055. doi: [10/cvqh4r](#).
- [716] Yu-Kun Lai, Shi-Min Hu, and Ralph R. Martin. 2009. Automatic and topology-preserving gradient mesh generation for image vectorization. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 28, 3, (July 27, 2009), 85:1–85:8. ISSN: 07300301. doi: [10/b98bxb](#).
- [717] Martin Lambers, Stefan Hoberg, and Andreas Kolb. 2015. Simulation of time-of-flight sensors for evaluation of chip layout variants. *IEEE Sensors Journal*, 15, 7. doi: [10/gfz5mn](#).
- [718] D. G. Lampard. 1954. Generalization of the Wiener-Khinchine theorem to nonstationary processes. *Journal of Applied Physics*, 25, 6, (June 1, 1954), 802–803. ISSN: 0021-8979. doi: [10/czp863](#).
- [719] H. Landis. 2002. Global illumination in production. *RenderMan in production*. ACM SIGGRAPH Course Notes, (July 2002). Larry Gritz, editor.
- [720] Robert Lange and Peter Seitz. 2001. Solid-state time-of-flight range camera. *IEEE Journal of quantum electronics*, 37, 3. doi: [10/bd236w](#).
- [721] Eric Languénou, Kadi Bouatouch, and Pierre Tellier. 1992. An adaptive discretization method for radiosity. *Computer Graphics Forum (Proceedings of Eurographics)*, 11, 205–216.
- [722] Douglas Lanman, Gordon Wetzstein, Matthew Hirsch, Wolfgang Heidrich, and Ramesh Raskar. 2011. Polarization fields: dynamic light field display using multi-layer LCDs. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 30, 6, (December 1, 2011), 186:1–186:10. ISSN: 07300301. doi: [10/d775v5](#).
- [723] Gerhard Larcher and Friedrich Pillichshammer. 2001. Walsh series analysis of the L_2 -discrepancy of symmetrized point sets. *Monatshefte für Mathematik*, 132, 1, (April 2001), 1–18. ISSN: 1436-5081. doi: [10/bqkb9p](#).
- [724] E. W. Larsen. 1973. A functional-analytic derivation of Case’s full and half-range formulas. *Communications on Pure and Applied Mathematics*, 26, 525–537.
- [725] Edward W. Larsen and Richard Vasques. 2011. A generalized linear Boltzmann equation for non-classical particle transport. *Journal of Quantitative Spectroscopy and Radiative Transfer*, 112, 4, 619–631. doi: [10/dfbvmn](#).
- [726] K. D. Lathrop. 1965. Anisotropic scattering approximations in the monoenergetic Boltzmann equation. *Nuclear Science and Engineering*, 21, 4, (April 1965), 498–508.
- [727] K. D. Lathrop. 1966. Use of discrete-ordinate methods for solution of photon transport problems. *Nuclear Science and Engineering*, 24, 4, (April 1966), 381–388.
- [728] K. D. Lathrop. 1968. Ray effects in discrete ordinates equations. *Nuclear Science and Engineering*, 32, 3, (June 1968), 357–369. doi: [10/gfzqhb](#).
- [729] K. D. Lathrop. 1969. Spatial differencing of the transport equation: positivity vs. accuracy. *Journal of Computational Physics*, 4, 4, (December 1969), 475–481. doi: [10/d4dr4f](#).
- [730] K. Lathrop and B. Carlson. 1967. Numerical solution of the boltzmann transport equation. *Journal of Computational Physics*, 2, 173–197.
- [731] Pedro Latorre, Francisco Seron, and Diego Gutierrez. 2012. Birefringency: calculation of refracted ray paths in biaxial crystals. *The Visual Computer*, 28, 4. doi: [10/fjmtmx](#).
- [732] Andy KS Lau, Anson HL Tang, Jingjiang Xu, Xiaoming Wei, Kenneth KY Wong, and Kevin KM Tsia. 2016. Optical time stretch for high-speed and high-throughput imaging—from single-cell to tissue-wide scales. *IEEE Journal of Selected Topics in Quantum Electronics*, 22, 4. doi: [10/gfz5mp](#).
- [733] David Laur and Pat Hanrahan. 1991. Hierarchical splatting: a progressive refinement algorithm for volume rendering. *Computer Graphics (Proceedings of SIGGRAPH)*, 25, 4, (July 1991), 285–288.
- [734] Martin Laurenzis and Emmanuel Bacher. 2011. Image coding for three-dimensional range-gated imaging. *Applied Optics*, 50, 21. doi: [10/bbp24g](#).
- [735] Martin Laurenzis, Frank Christnacher, and David Monnin. 2007. Long-range three-dimensional active imaging with superresolution depth mapping. *Opt. Lett.*, 32, 21. doi: [10/c4ksr6](#).
- [736] Martin Laurenzis, Jonathan Klein, and Emmanuel Bacher. 2016. Relativistic effects in imaging of light in flight with arbitrary paths. *Opt. Lett.*, 41, 9. doi: [10/gfz5mq](#).
- [737] Martin Laurenzis and Andreas Velten. 2014. Nonline-of-sight laser gated viewing of scattered photons. *Optical Engineering*, 53, 2. doi: [10/gfz5mr](#).
- [738] Martin Laurenzis and Arnaud Woiselle. 2014. Laser gated-viewing advanced range imaging methods using compressed sensing and coding of range-gates. *Optical Engineering*, 53, 5. doi: [10/gfz5ms](#).
- [739] J. Laurijsen, R. Wang, Ph. Dutré, and B.J. Brown. 2010. Fast estimation and rendering of indirect highlights. *Computer Graphics Forum*, 29, 4, (June 1, 2010), 1305–1313. ISSN: 1467-8659. doi: [10/ctkmnv](#).
- [740] Christian Lauterbach, Anish Chandak, and Dinesh Manocha. 2007. Interactive sound rendering in complex and dynamic scenes using frustum tracing. *IEEE Transactions on Visualization and Computer Graphics*, 13, 6, (November 2007), 1672–1679. ISSN: 1077-2626. doi: [10/bjm3dc](#).
- [741] Christian Lauterbach, Michael Garland, Shubhabrata Sengupta, David Luebke, and Dinesh Manocha. 2009. Fast BVH construction on GPUs. *Computer Graphics Forum (Proceedings of Eurographics)*, 28, 2, 375–384. doi: [10/b3vk7j](#).
- [742] Philip Laven. 2003. Simulation of rainbows, coronas, and glories by use of Mie theory. *Applied Optics*, 42, 3, (January 20, 2003), 436–444. ISSN: 2155-3165. doi: [10/chr9th](#).
- [743] Jason Lawrence, Szymon Rusinkiewicz, and Ravi Ramamoorthi. 2004. Efficient BRDF importance sampling using a factored representation. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 23, 3, (August 1, 2004), 496–505. ISSN: 07300301. doi: [10/c623sx](#).
- [744] K. Mark Lawrence. 1996. A combinatorial characterization of (t,m,s)-nets in base b. *Journal of Combinatorial Designs*, 4, 4, 275–293. ISSN: 1520-6610. doi: [10/c9hlmz](#).
- [745] A.N. Lebedev, M. Gartz, U. Kreibitz, and O. Stenzel. 1999. Optical extinction by spherical particles in an absorbing medium: Application to composite absorbing films. *The European Physical Journal D - Atomic, Molecular, Optical and Plasma Physics*, 6, 3, (June 1, 1999), 365–373. ISSN: 1434-6079. doi: [10/c63hct](#).
- [746] Yann LeCun, Yoshua Bengio, and Geoffrey Hinton. 2015. Deep learning. *Nature*, 521, 7553, (May 2015), 436–444. ISSN: 1476-4687. doi: [10/bmqp](#).
- [747] M. E. Lee and R. A. Redner. 1990. A note on the use of nonlinear filtering in computer graphics. *IEEE Computer Graphics & Applications*, 10, 3, (May 1990), 23–29. ISSN: 0272-1716. doi: [10/dkqv4k](#).
- [748] Mark E. Lee, Richard A. Redner, and Samuel P. Uselton. 1985. Statistically optimized sampling for distributed ray tracing. *Computer Graphics (Proceedings of SIGGRAPH)*, 19, 3, (July 1985), 61–68. doi: [10/b7nj5h](#).
- [749] Raymond L. Lee. 1998. Mie theory, Airy theory, and the natural rainbow. *Applied Optics*, 37, 9, (March 20, 1998), 1506–1519. ISSN: 2155-3165. doi: [10/d3fxsc](#).
- [750] Seungkyu Lee and Hyunjung Shim. 2015. Skewed stereo time-of-flight camera for translucent object imaging. *Image Vision Comput.*, 43. doi: [10/f73xvg](#).
- [751] Jaakko Lehtinen. 2007. A framework for precomputed and captured light transport. *ACM Transactions on Graphics*, 26, 4, (October 2007). ISSN: 0730-0301. doi: [10/cmmfvq](#).
- [752] Jaakko Lehtinen, Timo Aila, Jiawen Chen, Samuli Laine, and Frédo Durand. 2011. Temporal light field reconstruction for rendering distribution effects. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 30, 4, (July 1, 2011), 1. ISSN: 07300301. doi: [10/bpthww](#).
- [753] Jaakko Lehtinen, Timo Aila, Samuli Laine, and Frédo Durand. 2012. Reconstructing the indirect light field for global illumination. *ACM Transactions on Graphics*, 31, 4, Article 51, (July 2012), 51:1–51:10. ISSN: 0730-0301. doi: [10/gfzv9n](#).
- [754] Jaakko Lehtinen, Tero Karras, Samuli Laine, Miika Aittala, Frédo Durand, and Timo Aila. 2013. Gradient-domain Metropolis light transport. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 32, 4, (July 2013), 95:1–95:12. ISSN: 0730-0301. doi: [10/gbdghd](#).
- [755] Jaakko Lehtinen, Matthias Zwicker, Emmanuel Turquin, Janne Kontkanen, Frédo Durand, François X. Sillion, and Timo Aila. 2008. A meshless hierarchical representation for light transport. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 27, 3, (August 1, 2008), 37:1–37:9. ISSN: 07300301. doi: [10/cbpkvx](#).

- [756] Su-Ian Eugene Lei, Ying-Chieh Chen, Hsiang-Ting Chen, and Chun-Fa Chang. 2013. Interactive physics-based ink splattering art creation. *Computer Graphics Forum*, 32, 7, 147–156. ISSN: 1467-8659. doi: [10/f5n76d](#).
- [757] Oscar AZ Leneman. 1966. Random sampling of random processes: Impulse processes. *Information and Control*, 9, 4, 347–363. doi: [10/bqgvkr](#).
- [758] Hendrik P. A. Lensch, Jan Kautz, Michael Goesele, Wolfgang Heidrich, and Hans-Peter Seidel. 2003. Image-based reconstruction of spatial appearance and geometric detail. *ACM Transactions on Graphics*, 22, 2, 234–257. ISSN: 0730-0301. doi: [10/fwcs3g](#).
- [759] Jaakko Leppänen. 2010. Performance of Woodcock delta-tracking in lattice physics applications using the Serpent Monte Carlo reactor physics burnup calculation code. *Annals of Nuclear Energy*, 37, 5, (May 1, 2010), 715–722. ISSN: 0306-4549. doi: [10/d3fg8p](#).
- [760] Christian Lessig, Tyler de Witt, and Eugene Fiume. 2012. Efficient and accurate rotation of finite spherical harmonics expansions. *Journal of Computational Physics*, 231, 2, 243–250. ISSN: 0021-9991. doi: [10/fbdv88](#).
- [761] Anat Levin, Samuel W. Hasinoff, Paul Green, Frédo Durand, and William T. Freeman. 2009. 4D frequency analysis of computational cameras for depth of field extension. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 28, 3, Article 97, (July 2009), 97:1–97:14. ISSN: 0730-0301. doi: [10/bqtnvj](#).
- [762] David Levinthal. 2009. Performance analysis guide for Intel core i7 processor and Intel Xeon 5500 processors.
- [763] Marc Levoy. 1988. Display of surfaces from volume data. *IEEE Computer Graphics & Applications*, 8, 3, (May 1988), 29–37.
- [764] Marc Levoy. 1990. Volume rendering by adaptive refinement. *The Visual Computer*, 6, 1, (February 1990), 2–7.
- [765] Marc Levoy. 1990. Efficient ray tracing of volume data. *ACM Transactions on Graphics*, 9, 3, (July 1990), 245–261. ISSN: 0730-0301. doi: [10/cp7p9b](#).
- [766] Bruno Lévy and Yang Liu. 2010. L_p centroidal Voronoi tessellation and its applications. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 29, 4, (July 2010), 119:1–119:11. ISSN: 0730-0301. doi: [10/cq4fmr](#).
- [767] J. Lewins. 1960. Surface perturbation theory. *Nuclear Science and Engineering*, 7, 481–486.
- [768] E. E. Lewis. 1977. Progress in multidimensional neutron transport computation. *Nuclear Science and Engineering*, 64, 279–293.
- [769] Robert R. Lewis. 1994. Making shaders more physically plausible. *Computer Graphics Forum*, 13, 2, 109–120. ISSN: 1467-8659. doi: [10/bc2r6n](#).
- [770] Hao Li, Jihun Yu, Yuting Ye, and Chris Bregler. 2013. Realtime facial animation with on-the-fly correctives. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 32, 4, Article 42, 42:1–42:10. ISSN: 0730-0301. doi: [10/gfz9d8](#).
- [771] Hongwei Li, Li-Yi Wei, Pedro V. Sander, and Chi-Wing Fu. 2010. Anisotropic blue noise sampling. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 29, 6, (December 2010), 167:1–167:12. ISSN: 0730-0301. doi: [10/c8npd7](#).
- [772] Li Li, Lei Wu, Xingbin Wang, and Ersheng Dang. 2012. Gated viewing laser imaging with compressive sensing. *Applied Optics*, 51, 14. doi: [10/gfz5mt](#).
- [773] Tzu-Mao Li, Jaakko Lehtinen, Ravi Ramamoorthi, Wenzel Jakob, and Frédo Durand. 2015. Anisotropic Gaussian mutations for Metropolis light transport through Hessian-Hamiltonian dynamics. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 34, 6, (October 2015), 209:1–209:13. ISSN: 0730-0301. doi: [10/f7wrcs](#).
- [774] Tzu-Mao Li, Yu-Ting Wu, and Yung-Yu Chuang. 2012. SURE-based optimization for adaptive sampling and reconstruction. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 31, 6, (November 2012), 194:1–194:9. ISSN: 0730-0301. doi: [10/f96zxx](#).
- [775] Richard L. Liboff. 1956. Funk-Hecke theorem in relation to the transport equation. *Journal of Applied Physics*, 27, 662–663.
- [776] Sheue-ling Lien and James T. Kajiya. 1984. A symbolic method for calculating the integral properties of arbitrary nonconvex polyhedra. *IEEE Computer Graphics & Applications*, 4, 10, (October 1984), 35–41.
- [777] Ivan T Lima, Anshul Kalra, and Sherif S Sherif. 2011. Improved importance sampling for Monte Carlo simulation of time-domain optical coherence tomography. *Biomedical optics express*, 2, 5. doi: [10/bv83k6](#).
- [778] Jingyu Lin, Yebin Liu, Jinli Suo, and Qionghai Dai. 2016. Frequency-domain transient imaging. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, PP, 99. ISSN: 0162-8828. doi: [10/f95dvd](#).
- [779] S. H. Lin and E. M. Sparrow. 1965. Radiant interchange among curved specularly reflecting surfaces – application to cylindrical and conical cavities. *ASME Journal of Heat Transfer*, 87, 2, (May 1965), 299–307.
- [780] S. L. Lin and J. N. Bardsley. 1978. The null-event method in computer simulation. *Computer Physics Communications*, 15, 3, (October 1, 1978), 161–163. ISSN: 0010-4655. doi: [10/bxv5zt](#).
- [781] Thomas Lindemeier, Sören Pirk, and Oliver Deussen. 2013. Image stylization with a painting machine using semantic hints. *Computers & Graphics*, 37, 5, (August 1, 2013), 293–301. ISSN: 0097-8493. doi: [10/f44qvj](#).
- [782] Marvin Lindner, Ingo Schiller, Andreas Kolb, and Reinhard Koch. 2010. Time-of-flight sensor calibration for accurate range sensing. *Comput. Vis. Image Underst.*, 114, 12. doi: [10/ftrdcj](#).
- [783] R. T. Liner Jr. 1969. Moment and discrete ordinate methods in radiative transfer problems. *Journal of Quantitative Spectroscopy and Radiative Transfer*, 9, 721–732. doi: [10/bftwzn](#).
- [784] Jonas Ferdinand Gabriel Lippmann. 1908. Epreuves reversibles donnant la sensation du relief. *Journal of Physics*.
- [785] Daniel Lischinski, Filippo Tampieri, and Donald P. Greenberg. 1992. Discontinuity meshing for accurate radiosity. *IEEE Computer Graphics & Applications*, 12, 6, (November 1992), 25–39. ISSN: 0272-1716. doi: [10/c7wr23](#).
- [786] B. Liu, G. J. Clapworthy, and F. Dong. 2009. Fast isosurface rendering on a GPU by cell rasterization. *Computer Graphics Forum*, 28, 8, (December 2009), 2151–2164. ISSN: 1467-8659. doi: [10/fw6b7c](#).
- [787] Fuchang Liu, Tobias Martin, Sai-Kit Yeung, and Markus Gross. 2015. Efficient direct rendering of deforming surfaces via shared subdivision trees. *Computer Aided Design. Solid and Physical Modeling* 2014 58, (January 1, 2015), 132–140. ISSN: 0010-4485. doi: [10/gfz54x](#).
- [788] Haiyan Liu and Min-Qian Liu. 2015. Column-orthogonal strong orthogonal arrays and sliced strong orthogonal arrays. *Statistica Sinica*. ISSN: 1017-0405. doi: [10/f7z56h](#).
- [789] Jun S. Liu, Faming Liang, and Wing Hung Wong. 2000. The multiple-try method and local optimization in Metropolis sampling. *Journal of the American Statistical Association*, 95, 449, (March 1, 2000), 121–134. ISSN: 0162-1459. doi: [10/gfkgjq](#).
- [790] Shichen Liu, Tianye Li, Weikai Chen, and Hao Li. 2019. Soft rasterizer: a differentiable renderer for image-based 3d reasoning. (April 3, 2019). arXiv: [1904.01786 \[cs\]](#).
- [791] Yan-Li Liu, Jin Wang, Xi Chen, Yan-Wen Guo, and Qun-Sheng Peng. 2008. A robust and fast non-local means algorithm for image denoising. *Journal of Computer Science and Technology*, 23, 2, (March 1, 2008), 270–279. ISSN: 1860-4749. doi: [10/fwcm4m](#).
- [792] Stuart Lloyd. 1982. Least squares quantization in PCM. *IEEE Transactions on Information Theory*, 28, 2, (March 1982), 129–137. ISSN: 0018-9448. doi: [10/cfzm28](#).
- [793] D. O. Loftsgaarden and C. P. Quesenberry. 1965. A nonparametric estimate of a multivariate density function. *The Annals of Mathematical Statistics*, 36, 3, (June 1965), 1049–1051. ISSN: 0003-4851, 2168-8990. doi: [10/cp569f](#).
- [794] E. Lommel. 1889. Die photometrie der diffusen zuruckwerfung. *Annalen der Physik*, 36, 473–502. First derivation of radiosity equation. doi: [10/bq5bmq](#).
- [795] Bradford J. Loos, Lakulish Antani, Kenny Mitchell, Derek Nowrouzezahrai, Wojciech Jarosz, and Peter-Pike Sloan. 2011. Modular radiance transfer. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 30, 6, (December 2011), 178:1–178:10. ISSN: 07300301. doi: [10/gfzndt](#).
- [796] William E. Lorensen and Harvey E. Cline. 1987. Marching cubes: A high resolution 3D surface construction algorithm. *Computer Graphics (Proceedings of SIGGRAPH)*, 21, 4, (August 1, 1987), 163–169. ISSN: 00978930. doi: [10/f9gsh](#).
- [797] Ludwig Lorenz. 1890. Lysbevægelsen i og uden for en af plane lysbølger belyst kugle. *Det Kongelige Danske Videnskabernes Selskabs Skrifter (trykt utg.)*: *Naturvidenskabelig og Mathematisk Afdeling*, 6, 2–62.
- [798] Guillaume Loubet and Fabrice Neyret. 2018. A new microflake model with microscopic self-shadowing for accurate volume downsampling. *Computer Graphics Forum (Proceedings of Eurographics)*, 37, 2, (May 1, 2018), 111–121. ISSN: 1467-8659. doi: [10/gd2h6w](#).
- [799] T. J. Love and R. J. Grosh. 1965. Radiative heat transfer in absorbing, emitting, and scattering media. *ASME Journal of Heat Transfer*, 87, 2, (May 1965), 161–166.
- [800] Shaun Lovejoy, Anthony Davis, Philip Gabriel, Daniel Schertzer, and Geoffrey L. Austin. 1990. Discrete angle radiative-transfer 1: scaling and similarity, universality and diffusion. *Journal of Geophysical Research*, 95, D8, (July 1990), 11699–11715. doi: [10/d8dczd](#).
- [801] Jingwan Lu, Connelly Barnes, Stephen DiVerdi, and Adam Finkelstein. 2013. RealBrush: painting with examples of physical media. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 32, 4, (July 2013), 117:1–117:12. ISSN: 0730-0301. doi: [10/gfz9fz](#).
- [802] Thomas Luft and Oliver Deussen. 2006. Real-time watercolor for animation. *Journal of Computer Science and Technology*, 21, 2, (March 1, 2006), 159–165. ISSN: 1860-4749. doi: [10/brs5vg](#).
- [803] Jianxin Luo, Guyu Hu, and Guigang Ni. 2014. Dual-space ray casting for height field rendering. *Computer Animation and Virtual Worlds*, 25, 1, 45–56. ISSN: 1546-427X. doi: [10/f5r5q3](#).
- [804] Iván Lux. 1978. Unified definition of a class of Monte Carlo estimators. *Nuclear Science and Engineering*, 67, 1, (July 1, 1978), 107–119. ISSN: 0029-5639. doi: [10/gf2dp4](#).
- [805] K. A. Lyons, H. Meijer, and D. Rappaport. 1998. Algorithms for cluster busting in anchored graph drawing. *Journal of Graph Algorithms and Applications*, 2, 1, 1–24. doi: [10/gfz2k3](#).

- [806] Chongyang Ma, Li-Yi Wei, Sylvain Lefebvre, and Xin Tong. 2013. Dynamic element textures. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 32, 4, (July 2013), 90:1–90:10. ISSN: 0730-0301. DOI: [10/gfvd6w](#).
- [807] Chongyang Ma, Li-Yi Wei, and Xin Tong. 2011. Discrete element textures. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 30, 4, (July 1, 2011), 62:1–62:10. ISSN: 07300301. DOI: [10/dng43z](#).
- [808] Wan-Chun Ma, Andrew Jones, Jen-Yuan Chiang, Tim Hawkins, Sune Frederiksen, Pieter Peers, Marko Vukovic, Ming Ouhyoung, and Paul Debevec. 2008. Facial performance synthesis using deformation-driven polynomial displacement maps. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 27, 5, Article 121, 121:1–121:10. ISSN: 0730-0301. DOI: [10/bg2v7s](#).
- [809] David J. MacDonald and Kellogg S. Booth. 1990. Heuristics for ray tracing using space subdivision. *The Visual Computer*, 6, 3, 153–166. ISSN: 0178-2789. DOI: [10/bbw6pb](#).
- [810] Dhruv Mahajan, Ira Kemelmacher Shlizerman, Ravi Ramamoorthi, and Peter Belhumeur. 2007. A theory of locally low dimensional light transport. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 26, 3, (August 2007). ISSN: 0730-0301. DOI: [10/bv7vzq](#).
- [811] F. Malvagi and G. C. Pomraning. 1991. Initial and boundary-conditions for diffusive linear transport problems. *Journal of Mathematical Physics*, 32, 3, 805–820.
- [812] Benoit B. Mandelbrot and John W. Van Ness. 1968. Fractional Brownian motions, fractional noises and applications. *SIAM Review*, 10, 4, (October 1, 1968), 422–437. ISSN: 0036-1445. DOI: [10/dq7bjv](#).
- [813] Marco Manzi, Fabrice Rousselle, Markus Kettunen, Jaakko Lehtinen, and Matthias Zwicker. 2014. Improved sampling for gradient-domain Metropolis light transport. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 33, 6. DOI: [10/f6r2hp](#).
- [814] Marco Manzi, Delio Vicini, and Matthias Zwicker. 2016. Regularizing image reconstruction for gradient-domain rendering with feature patches. *Computer Graphics Forum (Proceedings of Eurographics)*, 35, 2, 263–273. ISSN: 1467-8659. DOI: [10/f8q6rb](#).
- [815] Julio Marco, Ibón Guillén, Wojciech Jarosz, Diego Gutierrez, and Adrian Jarabo. 2019. Progressive transient photon beams. *Computer Graphics Forum*, 38, 1, (March 2019). ISSN: 14678659. DOI: [10/gfvr9w](#).
- [816] Julio Marco, Quercus Hernandez, Adolfo Muñoz, Yue Dong, Adrian Jarabo, Min Kim, Xin Tong, and Diego Gutierrez. 2017. DeepToF: off-the-shelf real-time correction of multipath interference in time-of-flight imaging. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 36, 6.
- [817] Julio Marco, Adrian Jarabo, Wojciech Jarosz, and Diego Gutierrez. 2018. Second-order occlusion-aware volumetric radiance caching. *ACM Transactions on Graphics*, 37, 2, (July 2, 2018), 1–14. ISSN: 07300301. DOI: [10/gdv86k](#).
- [818] E. Marinari and G. Parisi. 1992. Simulated tempering: a new Monte Carlo scheme. *Europe Physics Letters (EPL)*, 19, 6, (July 1992), 451–458. ISSN: 0295-5075. DOI: [10/bvn22s](#).
- [819] Stephen R. Marschner, Henrik Wann Jensen, Mike Cammarano, Steve Worley, and Pat Hanrahan. 2003. Light scattering from human hair fibers. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 22, 3, (July 1, 2003), 780. ISSN: 0730-0301. DOI: [10/b4cprd](#).
- [820] Tobias Martin, Nobuyuki Umetani, and Bernd Bickel. 2015. OmniAD: data-driven omni-directional aerodynamics. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 34, 4, (July 2015), 113:1–113:12. ISSN: 0730-0301. DOI: [10/gfz9bb](#).
- [821] William R. Martin and James J. Duderstadt. 1977. Finite element solutions of the neutron transport equation with applications to strong heterogeneities. *Nuclear Science and Engineering*, 62, 371–390.
- [822] A. Mas, I. Martin, and G. Patow. 2009. Fast inverse reflector design (FIRD). *Computer Graphics Forum*, 28, 8, (December 2009), 2046–2056. ISSN: 1467-8659. DOI: [10/fhmshp](#).
- [823] Vincent Masselus, Pieter Peers, Philip Dutré, and Yves D. Willems. 2003. Relighting with 4D incident light fields. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 22, 3, (July 1, 2003), 613–620. ISSN: 07300301. DOI: [10/fhpnji](#).
- [824] Makoto Matsumoto and Takuji Nishimura. 1998. Mersenne twister: a 623-dimensionally equidistributed uniform pseudo-random number generator. *ACM Transactions on Modeling and Computer Simulation*, 8, 1, 3–30. DOI: [10/b68zmp](#).
- [825] Oliver Mattausch, Takeo Igarashi, and Michael Wimmer. 2013. Freeform shadow boundary editing. *Computer Graphics Forum (Proceedings of Eurographics)*, 32, 2, 175–184. ISSN: 0167-7055. DOI: [10/gbczxc](#).
- [826] Wojciech Matusik, Boris Ajdin, Jinwei Gu, Jason Lawrence, Hendrik P. A. Lensch, Fabio Pellacini, and Szymon Rusinkiewicz. 2009. Printing spatially-varying reflectance. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 28, 5, (December 2009), 128:1–128:9. DOI: [10/b7367c](#).
- [827] Wojciech Matusik, Hanspeter Pfister, Matt Brand, and Leonard McMillan. 2003. A data-driven reflectance model. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 22, 3, (July 2003), 759–769. ISSN: 0730-0301. DOI: [10/fjjgv8](#).
- [828] Wojciech Matusik, Hanspeter Pfister, Addy Ngan, Paul Beardsley, Remo Ziegler, and Leonard McMillan. 2002. Image-based 3d photography using opacity hulls. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 21, 3, 427–437. ISSN: 0730-0301. DOI: [10/bh5hq8](#).
- [829] Nelson L. Max. 1986. Atmospheric illumination and shadows. *Computer Graphics (Proceedings of SIGGRAPH)*, 20, 4, (August 31, 1986), 117–124. ISSN: 00978930. DOI: [10/djr6wm](#).
- [830] Nelson L. Max. 1990. Antialiasing scan-line data. *IEEE Computer Graphics & Applications*, 10, 1, (January 1990), 18–30. ISSN: 0272-1716. DOI: [10/dswxdv](#).
- [831] Nelson Max, Pat Hanrahan, and Roger Crawfis. 1990. Area and volume coherence for efficient visualization of 3D scalar functions. *Computer Graphics (Proceedings of SIGGRAPH)*, 24, 5, (November 1990), 27–33.
- [832] Nelson Max, Greg Schussman, Ryo Miyazaki, Kei Iwasaki, and Tomoyuki Nishita. 2004. Diffusion and multiple anisotropic scattering for global illumination in clouds. *Journal of the World Society for Computer Graphics (WSCG)*, 1–3, (February 6, 2004), 277–284.
- [833] Gregory M. Maxwell, Michael J. Bailey, and Victor W. Goldschmidt. 1986. Calculation of the radiation configuration factor using ray casting. *Computer Aided Design*, 18, 7, (September 1986), 371–379.
- [834] A. S. McAllister. 1911. The law of conservation as applied to illumination calculations. *Transactions of the Illuminating Engineering Society*, 6, 703–721.
- [835] James McCann and Nancy S. Pollard. 2008. Real-time gradient-domain painting. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 27, 3, (August 1, 2008), 93:1–93:7. ISSN: 07300301. DOI: [10/b3zpf2](#).
- [836] Michael D. McCool. 1999. Anisotropic diffusion for Monte Carlo noise reduction. *ACM Transactions on Graphics*, 18, 2, (April 1999), 171–194. ISSN: 0730-0301. DOI: [10/b8rr7g](#).
- [837] Rachel McDonnell, Martin Breidt, and Heinrich H. Bühlhoff. 2012. Render me real?: investigating the effect of render style on the perception of animated virtual humans. *ACM Transactions on Graphics*, 31, 4, Article 91, 91:1–91:11. ISSN: 0730-0301. DOI: [10/gfz9fd](#).
- [838] Michael D. McKay, Richard J. Beckman, and William Jay Conover. 1979. A comparison of three methods for selecting values of input variables in the analysis of output from a computer code. *Technometrics*, 21, 2, (May 1979), 239–245. DOI: [10/gfzncd](#).
- [839] H. J. McNicholas. 1928. Absolute methods of reflectometry. *Journal of Research of the National Bureau of Standards*, 1, 29–73.
- [840] Vittorio Megaro, Bernhard Thomaszewski, Maurizio Nitti, Otmar Hilliges, Markus Gross, and Stelian Coros. 2015. Interactive design of 3D-printable robotic creatures. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 34, 6, (October 2015), 216:1–216:9. ISSN: 0730-0301. DOI: [10/f7wkkt](#).
- [841] Ravish Mehra, Nikunj Raghuvanshi, Lakulish Antani, Anish Chandak, Sean Curtis, and Dinesh Manocha. 2013. Wave-based sound propagation in large open scenes using an equivalent source formulation. *ACM Transactions on Graphics*, 32, 2, Article 19, (April 2013), 19:1–19:13. ISSN: 0730-0301. DOI: [10/gbc2kh](#).
- [842] Soham Uday Mehta, Brandon Wang, and Ravi Ramamoorthi. 2012. Axis-aligned filtering for interactive sampled soft shadows. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 31, 6, (November 2012), 163:1–163:10. ISSN: 0730-0301. DOI: [10/f96zck](#).
- [843] Soham Uday Mehta, Brandon Wang, Ravi Ramamoorthi, and Frédo Durand. 2013. Axis-aligned filtering for interactive physically-based diffuse indirect lighting. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 32, 4, (July 2013), 96:1–96:12. ISSN: 0730-0301. DOI: [10/gbdg8g](#).
- [844] Soham Uday Mehta, JiaXian Yao, Ravi Ramamoorthi, and Frédo Durand. 2014. Factored axis-aligned filtering for rendering multiple distribution effects. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 33, 4, Article 57, (July 2014), 57:1–57:12. ISSN: 0730-0301. DOI: [10/f6cz7q](#).
- [845] Soham Mehta, Ravi Ramamoorthi, Mark Meyer, and Christophe Hery. 2012. Analytic tangent irradiance environment maps for anisotropic surfaces. *Computer Graphics Forum (Proceedings of the Eurographics Symposium on Rendering)*.
- [846] Johannes Meng, Johannes Hanika, and Carsten Dachsbacher. 2016. Improving the Dwivedi sampling scheme. *Computer Graphics Forum (Proceedings of the Eurographics Symposium on Rendering)*, 35, 4, (July 1, 2016), 37–44. ISSN: 0167-7055. DOI: [10/f84272](#).
- [847] Johannes Meng, Marios Pappas, Ralf Habel, Carsten Dachsbacher, Steve Marschner, Markus Gross, and Wojciech Jarosz. 2015. Multi-scale modeling and rendering of granular materials. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 34, 4, (July 2015), 49:1–49:13. ISSN: 0730-0301. DOI: [10/gfzndr](#).
- [848] Nicholas Metropolis. 1987. The beginning of the Monte Carlo method. *Los Alamos Science*, 15, 125–130.
- [849] Nicholas Metropolis, Arianna W. Rosenbluth, Marshall N. Rosenbluth, Augusta H. Teller, and Edward Teller. 1953. Equation of state calculations by fast computing machines. *Journal of Chemical Physics*, 21, 6, (June 1, 1953), 1087–1092. ISSN: 0021-9606. DOI: [10/ds736f](#).

- [850] Nicholas Metropolis and Stanislaw M. Ulam. 1949. The Monte Carlo method. *Journal of the American Statistical Association*, 44, 247, (September 1, 1949), 335–341. ISSN: 01621459. DOI: [10/dvn2n8](#).
- [851] Nick Metropolis, Arianna Rosenbluth, Marshall Rosenbluth, Augusta Teller, and Edward Teller. 1953. Equations of state calculations by fast computing machines. *Journal of Chemical Physics*, 21, 1087–1091. DOI: [10/ds736f](#).
- [852] Jurgen R. Meyer-Arendt. 1968. Radiometry and photometry: units and conversion factors. *Applied Optics*, 7, 10, (October 1968), 2081–2084.
- [853] Mark Meyer and John Anderson. 2006. Statistical acceleration for animated global illumination. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 25, 3, 1075–1080. DOI: [10/d9twns](#).
- [854] Gustav Mie. 1908. Beiträge zur optik trüber medien, speziell kolloidaler metallösungen. *Annalen der Physik*, 330, 3, (January 1, 1908), 377–445. ISSN: 0003-3804. DOI: [10/frvnpg](#).
- [855] M. Minnaert. 1941. The reciprocity principle in lunar photometry. *Astrophysical Journal*, 93, 403–410.
- [856] Subhash C. Mishra and Manohar Prasad. 1998. Radiative heat transfer in participating media — A review. *Sadhana*, 23, 2, (April 1, 1998), 213. ISSN: 0973-7677. DOI: [10/c7rc7q](#).
- [857] Richard G. Mistrick and David L. DiLaura. 1987. A new finite orthogonal transform applied to radiative transfer calculations. *Journal of the Illuminating Engineering Society*, 16, 2, 120–126. DOI: [10/gfzv92](#).
- [858] Kazuo Misue, Peter Eades, Wei Lai, and Kozo Sugiyama. 1995. Layout adjustment and the mental map. *Journal of Visual Languages and Computing*, 6, (June 1995), 183–210. DOI: [10/fp8b8w](#).
- [859] Don P. Mitchell. 1987. Generating antialiased images at low sampling densities. *Computer Graphics (Proceedings of SIGGRAPH)*, 21, 4, (August 1, 1987), 65–72. ISSN: 00978930. DOI: [10/c6fdp8](#).
- [860] Don P. Mitchell. 1991. Spectrally optimal sampling for distribution ray tracing. *Computer Graphics (Proceedings of SIGGRAPH)*, 25, 4, (July 2, 1991), 157–164. ISSN: 00978930. DOI: [10/btwnm3](#).
- [861] Don P. Mitchell and Arun N. Netravali. 1988. Reconstruction filters in computer-graphics. *SIGGRAPH Comput. Graph.*, 22, 4, (June 1988), 221–228. ISSN: 0097-8930. DOI: [10/fggxbg](#).
- [862] Don Mitchell and Pat Hanrahan. 1992. Illumination from curved reflectors. *Computer Graphics (Proceedings of SIGGRAPH)*, 26, 2, (July 1, 1992), 283–291. ISSN: 00978930. DOI: [10/fsh6zf](#).
- [863] K. Mitchell. 1940. Tables of a function with an account of some properties of this and related functions. *Philosophical Magazine*, 40, 302, (March 1940), 351–368.
- [864] K. Mitra and S. Kumar. 1999. Development and comparison of models for light-pulse transport through scattering-absorbing media. *Applied Optics*, 38, 1, 188–196. DOI: [10/fpc98c](#).
- [865] Niloy J. Mitra, Hung-Kuo Chu, Tong-Yee Lee, Lior Wolf, Hezy Yeshurun, and Daniel Cohen-Or. 2009. Emerging images. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 28, 5, (December 1, 2009), 163:1–163:8. ISSN: 07300301. DOI: [10/cz3xrv](#).
- [866] Niloy J. Mitra and Mark Pauly. 2009. Shadow art. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 28, 5, (December 1, 2009), 156:1–156:7. ISSN: 07300301. DOI: [10/fjk5xr](#).
- [867] A. Mohan, J. Tumblin, and P. Choudhury. 2007. Editing soft shadows in a digital photograph. *IEEE Computer Graphics & Applications*, 27, 2, (March 2007), 23–31. ISSN: 0272-1716. DOI: [10/b43fig](#).
- [868] B. Montagnini. 1979. The eigenvalue spectrum of the linear Boltzmann operator in $L^1(R^6)$ and $L^2(R^6)$. *Meccanica*, 14, 134–144. DOI: [10/fn24fd](#).
- [869] Bochang Moon, Nathan Carr, and Sung-Eui Yoon. 2014. Adaptive rendering based on weighted local regression. *ACM Transactions on Graphics*, 33, 5, (September 2014), 170:1–170:14. ISSN: 0730-0301. DOI: [10/f6km7m](#).
- [870] Bochang Moon, Jose A. Iglesias-Guitian, Sung-Eui Yoon, and Kenny Mitchell. 2015. Adaptive rendering with linear predictions. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 34, 4, (July 2015), 121:1–121:11. ISSN: 0730-0301. DOI: [10/f7m2hp](#).
- [871] Bochang Moon, Jong Yun Jun, JongHyeob Lee, Kunho Kim, Toshiya Hachisuka, and Sung-Eui Yoon. 2013. Robust image denoising using a virtual flash image for Monte Carlo ray tracing. *Computer Graphics Forum*, 32, 1, 139–151. ISSN: 1467-8659. DOI: [10/f4pzxk](#).
- [872] Bochang Moon, Steven McDonagh, Kenny Mitchell, and Markus Gross. 2016. Adaptive polynomial rendering. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 35, 4, (July 2016), 40:1–40:10. ISSN: 0730-0301. DOI: [10/f89mx6](#).
- [873] Jonathan T. Moon and Stephen R. Marschner. 2006. Simulating multiple scattering in hair using a photon mapping approach. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 25, 3, (July 2006), 1067–1074. ISSN: 07300301. DOI: [10/cd4qf5](#).
- [874] Jonathan T. Moon, Bruce Walter, and Steve Marschner. 2008. Efficient multiple scattering in hair using spherical harmonics. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 27, 3, (August 2008), 31:1–31:7. ISSN: 0730-0301. DOI: [10/d6r3zt](#).
- [875] Parry Moon. 1939. Basic principles in illumination calculations. *Journal of the Optical Society of America*, 29, 3, 108–116. DOI: [10/fb6x2](#).
- [876] Parry Moon. 1940. On interreflections. *Journal of the Optical Society of America*, 30, 5, (May 1940), 195–205. DOI: [10/d8n8px](#).
- [877] Parry Moon. 1941. Interreflections in rooms. *Journal of the Optical Society of America*, 31, 5, 374–382. DOI: [10/dg78pn](#).
- [878] Parry Moon. 1942. A system of photometric concepts. *Journal of the Optical Society of America*, 32, 6, 348–362. DOI: [10/bm2hph](#).
- [879] Parry Moon. 1942. Reflection factors of floor materials. *Journal of the Optical Society of America*, 32, 4, 238–242.
- [880] Parry Moon. 1943. New methods of calculating illumination. *Journal of the Optical Society of America*, 33, 2, 115–122. DOI: [10/brkrk3](#).
- [881] Parry Moon and Domina E. Spencer. 1944. Brightness and helios. *Illuminating Engineering*, 39, 8, (September 1944), 507–520.
- [882] Parry Moon and Domina E. Spencer. 1945. Polynomial representation of reflectance curves. *Journal of the Optical Society of America*, 35, 9, (September 1945), 597–600. DOI: [10/dnwq33](#).
- [883] Parry Moon and Domina E. Spencer. 1946. Analytic expressions in photometry and colorimetry. *Journal of Mathematics and Physics*, 25, 111–190.
- [884] A. D. Moore. 1929. Inter-reflection by the incremental method as applied to a light court. *Transactions of the Illuminating Engineering Society*, 24, 629–670.
- [885] Eliakim Hastings Moore. 1920. On the reciprocal of the general algebraic matrix. *Bulletin of the American Mathematical Society*, 26, 9, (June 1920), 385–396. DOI: [10/fsmnb5](#).
- [886] Hans P. Moravec. 1981. 3D graphics and the wave theory. *Computer Graphics (Proceedings of SIGGRAPH)*, 15, 3, 289–296. DOI: [10/bgtm3p](#).
- [887] L. W. G. Morgan and D. Kotlyar. 2015. Weighted-delta-tracking for Monte Carlo particle transport. *Annals of Nuclear Energy*, 85, (November 1, 2015), 1184–1188. ISSN: 0306-4549. DOI: [10/gfzq7k](#).
- [888] Stephen Morgan and M. Ridgway. 2000. Polarization properties of light backscattered from a two layer scattering medium. *Optics Express*, 7, 12, 395–402. DOI: [10/dfxm3](#).
- [889] M. Mousa, R. Chaine, and S. Akkouche. 2006. Direct spherical harmonic transform of a triangulated mesh. *Journal of Graphics Tools*, 11, 2, (January 1, 2006), 17–26. ISSN: 1086-7651. DOI: [10/crvwb4n](#).
- [890] Gary L. Mullen and Wolfgang Ch. Schmid. 1996. An equivalence between (t,m,s)-nets and strongly orthogonal hypercubes. *Journal of Combinatorial Theory, Series A*, 76, 1, (October 1, 1996), 164–174. ISSN: 0097-3165. DOI: [10/cxtr9](#).
- [891] Thomas Müller, Markus Gross, and Jan Novák. 2017. Practical path guiding for efficient light-transport simulation. *Computer Graphics Forum (Proceedings of the Eurographics Symposium on Rendering)*, 36, 4, (June 2017), 91–100. DOI: [10/gbnvrs](#).
- [892] Thomas Müller, Brian McWilliams, Fabrice Rousselle, Markus Gross, and Jan Novák. 2018. Neural importance sampling. (August 11, 2018). arXiv: [1808.03856 \[cs, stat\]](#).
- [893] Thomas Müller, Marios Papas, Markus Gross, Wojciech Jarosz, and Jan Novák. 2016. Efficient rendering of heterogeneous polydisperse granular media. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 35, 6, (November 2016), 168:1–168:14. ISSN: 0730-0301. DOI: [10/f9cm65](#).
- [894] Thomas Müller, Marios Papas, Markus Gross, Wojciech Jarosz, and Jan Novák. 2016. Efficient Rendering of Heterogeneous Polydisperse Granular Media. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 35, 6, 168:1–168:14. DOI: [10/f9cm65](#).
- [895] T. W. Mullikin. 1961. Principles of invariance in transport theory. *Journal of Mathematical Analysis and Applications*, 3, 3, (December 1961), 441–454.
- [896] Jacob Munkberg, Karthik Vaidyanathan, Jon Hasselgren, Petrik Clarberg, and Tomas Akenine-Möller. 2014. Layered reconstruction for defocus and motion blur. *Computer Graphics Forum*, 33, 4, (July 1, 2014), 81–92. ISSN: 0167-7055. DOI: [10/f23s4s](#).
- [897] Adolfo Muñoz. 2014. Higher order ray marching. *Computer Graphics Forum*, 33, 8, 167–176. ISSN: 1467-8659. DOI: [10/f6q4sf](#).
- [898] Adolfo Muñoz, Jose I. Echevarria, Francisco J. Seron, Jorge Lopez-Moreno, Mashhuda Glencross, and Diego Gutierrez. 2011. BSSRDF estimation from single images. *Computer Graphics Forum (Proceedings of Eurographics)*, 30, 2, (April 1, 2011), 455–464. ISSN: 0167-7055. DOI: [10/dbrk57](#).
- [899] J. F. Murray-Coleman and A. M. Smith. 1990. The automated measurement of BRDFs and their application to luminaire modeling. *Journal of the Illuminating Engineering Society*, 19, 1, 87–99.
- [900] S. S. R. Murty. 1965. Approximations on angular distribution of intensity of thermal radiation. *International Journal of Heat and Mass Transfer*, 8, 1203–1208. DOI: [10/b3mcpc](#).
- [901] A. Musbach, G. W. Meyer, F. Reitich, and S. H. Oh. 2013. Full wave modelling of light propagation and reflection. *Computer Graphics Forum*, 32, 6. DOI: [10/f5znmr](#).

- [902] Ken Museth. 2013. VDB: high-resolution sparse volumes with dynamic topology. *ACM Transactions on Graphics*, 32, 3, (July 2013), 27:1–27:22. ISSN: 0730-0301. DOI: [10/gfzq7s](#).
- [903] Ken Museth, David E. Breen, Ross T. Whitaker, and Alan H. Barr. 2002. Level set surface editing operators. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 21, 3, (July 1, 2002), 330–338. ISSN: 07300301. DOI: [10/ctpd66](#).
- [904] Przemyslaw Musialski, Thomas Auzinger, Michael Birsak, Michael Wimmer, and Leif Kobbelt. 2015. Reduced-order shape optimization using offset surfaces. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 34, 4, (July 2015), 102:1–102:9. ISSN: 0730-0301. DOI: [10/f7m243](#).
- [905] Przemyslaw Musialski, Christian Hafner, Florian Rist, Michael Birsak, Michael Wimmer, and Leif Kobbelt. 2016. Non-linear shape optimization using local subspace projections. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 35, 4, (July 2016), 87:1–87:13. ISSN: 0730-0301. DOI: [10/gfz9bh](#).
- [906] Ranga B. Myneni, G. Asrar, and E. T. Kanemasu. 1987. Light scattering in plant canopies: the method of successive orders of scattering approximations (SOSA). *Agricultural and Forest Meteorology*, 39, 1–12.
- [907] Ranga B. Myneni, Juhan Ross, and Ghassem Asrar. 1989. A review on the theory of photon transport in leaf canopies. *Agricultural and Forest Meteorology*, 45, 1–2, (February 1989), 1–153.
- [908] Nikhil Naik, Christopher Barsi, Andreas Velten, and Ramesh Raskar. 2014. Estimating wide-angle, spatially varying reflectance using time-resolved inversion of backscattered light. *Journal of the Optical Society of America A*, 31, 5. DOI: [10/gfz5mw](#).
- [909] Nikhil Naik, Shuang Zhao, Andreas Velten, Ramesh Raskar, and Kavita Bala. 2011. Single view reflectance capture using multiplexed scattering and time-of-flight imaging. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 30, 6, (December 1, 2011), 171:1–171:10. ISSN: 0730-0301. DOI: [10/dj58zp](#).
- [910] Keiichi Nakagawa, Atsushi Iwasaki, Yu Oishi, Ryoichi Horisaki, Akira Tsukamoto, Aoi Nakamura, Kenichi Hirose, Hongen Liao, Takashi Ushida, Keisuke Goda, et al. 2014. Sequentially timed all-optical mapping photography (STAMP). *Nature Photonics*, 8, 9. DOI: [10/gfz5mz](#).
- [911] M. H. N. Naraghi and B. T. F. Chung. 1984. A stochastic approach for radiative exchange in enclosures with nonparticipating medium. *Transactions of the American Society of Mechanical Engineers*, 106, (November 1984), 690–698. DOI: [10/cxpvjs](#).
- [912] Srinivasa G. Narasimhan, Mohit Gupta, Craig Donner, Ravi Ramamoorthi, Shree K. Nayar, and Henrik Wann Jensen. 2006. Acquiring scattering properties of participating media by dilution. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 25, 3, (July 2006), 1003–1012. ISSN: 07300301. DOI: [10/b6nt9p](#).
- [913] Fernando Navarro, Francisco J. Seron, and Diego Gutierrez. 2011. Motion blur rendering: state of the art. *Computer Graphics Forum*, 30, 1. DOI: [10/b574px](#).
- [914] Shree K. Nayar. 1991. Surface reflection: physical and geometrical perspectives. *PAM*, 13, 7, (July 1991), 611–634. DOI: [10/b3hrqz](#).
- [915] Shree K. Nayar, Gurunandan Krishnan, Michael D. Grossberg, and Ramesh Raskar. 2006. Fast separation of direct and global components of a scene using high frequency illumination. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 25, 3, 935–944. ISSN: 0730-0301. DOI: [10/fw3cpp](#).
- [916] Laszlo Neumann and Attila Neumann. 1989. Photosimulation: interreflection with arbitrary reflectance models and illumination. *Computer Graphics Forum*, 8, 21–34. DOI: [10/dpps98](#).
- [917] Jerzy Neyman. 1934. On the two different aspects of the representative method: the method of stratified sampling and the method of purposive selection. *Journal of the Royal Statistical Society*, 97, 4, 558–625. ISSN: 09528385. DOI: [10/bxjn9g](#).
- [918] Fabrice Neyret. 1998. Modeling, animating, and rendering complex scenes using volumetric textures. *IEEE Transactions on Visualization and Computer Graphics*, 4, 1, (January 1998), 55–70. ISSN: 1077-2626. DOI: [10/bc72j4](#).
- [919] Ren Ng, Ravi Ramamoorthi, and Pat Hanrahan. 2003. All-frequency shadows using non-linear wavelet lighting approximation. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 22, 3, (July 1, 2003), 376–381. ISSN: 0730-0301. DOI: [10/fmz579](#).
- [920] Ren Ng, Ravi Ramamoorthi, and Pat Hanrahan. 2004. Triple product wavelet integrals for all-frequency relighting. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 23, 3, (August 2004), 477–487. ISSN: 0730-0301. DOI: [10/bgq9sw](#).
- [921] Greg Nichols, Jeremy Shopf, and Chris Wyman. 2009. Hierarchical image-space radiosity for interactive global illumination. *Computer Graphics Forum (Proceedings of the Eurographics Symposium on Rendering)*, 28, 4, 1141–1149. DOI: [10/df9897](#).
- [922] Greg Nichols and Chris Wyman. 2010. Interactive indirect illumination using adaptive multiresolution splatting. *IEEE Transactions on Visualization and Computer Graphics*, 16, 5, (September 2010), 729–741.
- [923] Fred E. Nicodemus. 1963. Radiance. *American Journal of Physics*, 31, 368–377.
- [924] Fred E. Nicodemus. 1973. Normalization in radiometry. *Applied Optics*, 12, 12, (December 1973), 2960–2973.
- [925] Harald Niederreiter. 1987. Point sets and sequences with small discrepancy. *Monatshefte für Mathematik*, 104, 4, (December 1987), 273–337. ISSN: 1436-5081. DOI: [10/b3hqkg](#).
- [926] Tomoyuki Nishita, Yasuhiro Miyawaki, and Eihachiro Nakamae. 1987. A shading model for atmospheric scattering considering luminous intensity distribution of light sources. *Computer Graphics (Proceedings of SIGGRAPH)*, 21, 4, 303–310. ISSN: 0097-8930. DOI: [10/d2ppwm](#).
- [927] Tomoyuki Nishita and Eihachiro Nakamae. 1985. Continuous tone representation of 3-D objects taking account of shadows and interreflection. *Computer Graphics (Proceedings of SIGGRAPH)*, 19, 3, (July 1985), 23–30.
- [928] Tomoyuki Nishita and Eihachiro Nakamae. 1985. Continuous tone representation of three-dimensional objects taking account of shadows and interreflection. *Computer Graphics (Proceedings of SIGGRAPH)*, 19, 3, (July 1985), 23–30. ISSN: 0097-8930. DOI: [10/ch35j9](#).
- [929] Tomoyuki Nishita and Eihachiro Nakamae. 1986. Continuous tone representation of three-dimensional objects illuminated by sky light. *Computer Graphics (Proceedings of SIGGRAPH)*, 20, 4, (August 1986), 125–132.
- [930] Tomoyuki Nishita and Eihachiro Nakamae. 1993. A new radiosity approach using area sampling for parametric patches. *Computer Graphics Forum (Proceedings of Eurographics)*, 12, 3, (September 1993), 385–398.
- [931] Tomoyuki Nishita, Isao Okamura, and Eihachiro Nakamae. 1985. Shading models for point and linear sources. *ACM Transactions on Graphics*, 4, 2, (April 1985), 124–146. ISSN: 0730-0301. DOI: [10/cvtns9](#).
- [932] A. Michael Noll. 1967. A computer technique for displaying n-dimensional hyperobjects. *Communications of the ACM*, 10, 8, (August 1967), 469–473. DOI: [10/dp3wpp](#).
- [933] Jan Novák and Carsten Dachsbacher. 2012. Rasterized bounding volume hierarchies. *Computer Graphics Forum (Proceedings of Eurographics)*, 31, 3, (May 2012), 403–412. ISSN: 0167-7055. DOI: [10/gbbcm3](#).
- [934] Jan Novák, Iliyan Georgiev, Johannes Hanika, and Wojciech Jarosz. 2018. Monte Carlo methods for volumetric light transport simulation. *Computer Graphics Forum (Proceedings of Eurographics State of the Art Reports)*, 37, 2, (May 1, 2018), 551–576. ISSN: 0167-7055. DOI: [10/gd2jqj](#).
- [935] Jan Novák, Derek Nowrouzezahrai, Carsten Dachsbacher, and Wojciech Jarosz. 2012. Progressive virtual beam lights. *Computer Graphics Forum (Proceedings of the Eurographics Symposium on Rendering)*, 31, 4, (June 2012), 1407–1413. ISSN: 01677055. DOI: [10/gfzndw](#).
- [936] Jan Novák, Derek Nowrouzezahrai, Carsten Dachsbacher, and Wojciech Jarosz. 2012. Virtual ray lights for rendering scenes with participating media. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 31, 4, (July 2012), 60:1–60:11. ISSN: 0730-0301. DOI: [10/gbbwk2](#).
- [937] Jan Novák, Andrew Selle, and Wojciech Jarosz. 2014. Residual ratio tracking for estimating attenuation in participating media. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 33, 6, (November 2014), 179:1–179:11. ISSN: 0730-0301. DOI: [10/f6r2nq](#).
- [938] Kevin L. Novins, François X. Sillion, and Donald P. Greenberg. 1990. An efficient method for volume rendering using perspective projection. *Computer Graphics (Proceedings of SIGGRAPH)*, 24, 5, (November 1990), 95–102.
- [939] Derek Nowrouzezahrai, Ilya Baran, Kenny Mitchell, and Wojciech Jarosz. 2014. Visibility silhouettes for semi-analytic spherical integration. *Computer Graphics Forum*, 33, 1, (February 2014), 105–117. ISSN: 14678659. DOI: [10/f5t6tf](#).
- [940] Derek Nowrouzezahrai, Jared Johnson, Andrew Selle, Dylan Lacewell, Michael Kaschak, and Wojciech Jarosz. 2011. A programmable system for artistic volumetric lighting. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 30, 4, (July 1, 2011), 29:1–29:8. ISSN: 0730-0301. DOI: [10/fpvjt2](#).
- [941] Derek Nowrouzezahrai, Patricio Simari, and Eugene Fiume. 2012. Sparse zonal harmonic factorization for efficient SH rotation. *ACM Transactions on Graphics*, 31, 3, (June 2012), 23:1–23:9. ISSN: 0730-0301. DOI: [10/f9959q](#).
- [942] P. G. Nutting. 1908. The luminous equivalent of radiation. *Bulletin of the Bureau of Standards*, 5, 2, 261–308.
- [943] Philip F. O'Brien. 1955. Interreflections in rooms by a network method. *Journal of the Optical Society of America*, 45, 6, (June 1955), 419–424. DOI: [10/bmt5vv](#).
- [944] Matthew O'Toole, Felix Heide, Lei Xiao, Matthias B. Hullin, Wolfgang Heidrich, and Kiriakos N. Kutulakos. 2014. Temporal frequency probing for 5D transient analysis of global light transport. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 33, 4, 87:1–87:11. DOI: [10/gfz5m2](#).
- [945] Matthew O'Toole, David B. Lindell, and Gordon Wetzstein. 2018. Confocal non-line-of-sight imaging based on the light-cone transform. *Nature*, 555, 7696, (March 2018), 338–341. ISSN: 1476-4687. DOI: [10/gc3gs5](#).
- [946] Matthew O'Toole, Ramesh Raskar, and Kiriakos N. Kutulakos. 2012. Primal-dual coding to probe light transport. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 31, 4, 39:1–39:11. ISSN: 0730-0301. DOI: [10/gbbwnx](#).
- [947] Juraj Obert, Jaroslav Krivánek, Fabio Pellacini, Daniel Šykora, and Sumanta Pattanaik. 2008. iCheat, a representation for artistic control of indirect cinematic lighting. *Computer Graphics Forum (Proceedings of the Eurographics Symposium on Rendering)*, 27, 4, 1217–1223. ISSN: 1467-8659. DOI: [10/fghzrf](#).

- [948] Juraj Obert, Fabio Pellacini, and Sumanta Pattanaik. 2010. Visual editing for all frequency shadow design. *Computer Graphics Forum (Proceedings of the Eurographics Symposium on Rendering)*, 29, 4, 1441–1449. ISSN: 1467-8659. DOI: [10/fc8x7w](#).
- [949] Ola Olsson and Ulf Assarsson. 2011. Tiled shading. *Journal of Graphics, GPU, and Game Tools*, 15, 4, 235–251. DOI: [10/bbfdms](#).
- [950] A. K. Oppenheim and J. T. Bevans. 1960. Geometric factors for radiative heat transfer through an absorbing medium in Cartesian co-ordinates. *ASME Journal of Heat Transfer*, 82, 4, (November 1960), 360–368.
- [951] Alexandrina Orzan, Adrien Bousseau, Holger Winnemöller, Pascal Barla, Joëlle Thollot, and David Salesin. 2008. Diffusion curves: a vector representation for smooth-shaded images. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 27, 3, (August 1, 2008), 1. ISSN: 07300301. DOI: [10/fj92zf](#).
- [952] Stanley Osher and James A. Sethian. 1988. Fronts propagating with curvature-dependent speed: Algorithms based on Hamilton-Jacobi formulations. *Journal of Computational Physics*, 79, 1, (November 1, 1988), 12–49. ISSN: 0021-9991. DOI: [10/cq9w6r](#).
- [953] Victor Ostromoukhov. 2007. Sampling with polyominoes. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 26, 3, (July 2007). ISSN: 0730-0301. DOI: [10/c4pkjf](#).
- [954] Victor Ostromoukhov, Charles Donohue, and Pierre-Marc Jodoin. 2004. Fast hierarchical importance sampling with blue noise properties. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 23, 3, (August 2004), 488–495. ISSN: 0730-0301. DOI: [10/cshcnp](#).
- [955] Hisanari Otsu, Johannes Hanika, Toshiya Hachisuka, and Carsten Dachsbacher. 2018. Geometry-aware Metropolis light transport. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 37, 6, 278:1–278:11. ISSN: 0730-0301. DOI: [10/gf2r3t](#).
- [956] Hisanari Otsu, Anton S. Kaplanyan, Johannes Hanika, Carsten Dachsbacher, and Toshiya Hachisuka. 2017. Fusing state spaces for Markov chain Monte Carlo rendering. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 36, 4, (July 2017), 74:1–74:10. ISSN: 0730-0301. DOI: [10/gbxjs9](#).
- [957] Jiawei Ou, Ondřej Karlik, Jaroslav Krivánek, and Fabio Pellacini. 2012. Toward evaluating progressive rendering methods in appearance design tasks. *IEEE Computer Graphics & Applications*, 33, 99, 1–1. ISSN: 0272-1716. DOI: [10/gfz5vg](#).
- [958] Jiawei Ou and Fabio Pellacini. 2011. LightSlice: matrix slice sampling for the many-lights problem. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 30, 6, (December 2011), 179:1–179:8. DOI: [10/gfzm95](#).
- [959] Ryan S. Overbeck, Craig Donner, and Ravi Ramamoorthi. 2009. Adaptive wavelet rendering. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 28, 5, (December 2009), 140:1–140:12. ISSN: 0730-0301. DOI: [10/bk4qgk](#).
- [960] Art Owen. 1994. Lattice sampling revisited: Monte Carlo variance of means over randomized orthogonal arrays. *The Annals of Statistics*, 22, 2, (June 1994), 930–945. DOI: [10/d5pc5x](#).
- [961] Art B. Owen. 1992. Orthogonal arrays for computer experiments, integration and visualization. *Statistica Sinica*, 2, 2, 439–452. ISSN: 10170405, 19968507.
- [962] Art B. Owen. 1994. Controlling correlations in Latin hypercube samples. *Journal of the American Statistical Association*, 89, 428, (December 1994), 1517–1522. ISSN: 1537-274X. DOI: [10/gfzncf](#).
- [963] Art B. Owen. 1997. Monte Carlo variance of scrambled net quadrature. *SIAM Journal on Numerical Analysis*, 34, 5, (October 1, 1997), 1884–1910. ISSN: 0036-1429. DOI: [10/bs8mtq](#).
- [964] Art B. Owen. 2008. Local antithetic sampling with scrambled nets. *The Annals of Statistics*, 36, 5, (October 2008), 2319–2343. ISSN: 0090-5364, 2168-8966. DOI: [10/cmns93](#).
- [965] A. Cengiz Öztireli. 2016. Integration with stochastic point processes. *ACM Transactions on Graphics*, 35, 5, (August 2016), 160:1–160:16. ISSN: 0730-0301. DOI: [10/f85k3g](#).
- [966] A. Cengiz Öztireli, Marc Alexa, and Markus Gross. 2010. Spectral sampling of manifolds. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 29, 6, (December 2010), 168:1–168:8. ISSN: 0730-0301. DOI: [10/c7p252](#).
- [967] A. Cengiz Öztireli and Markus Gross. 2012. Analysis and synthesis of point distributions based on pair correlation. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 31, 6, (November 2012), 170:1–170:10. ISSN: 0730-0301. DOI: [10/gbb6qr](#).
- [968] James Painter and Kenneth R. Sloan. 1989. Antialiased ray tracing by adaptive progressive refinement. *Computer Graphics (Proceedings of SIGGRAPH)*, 23, 3, (July 1989), 281–288. ISSN: 0097-8930. DOI: [10/bgj7hd](#).
- [969] Anthony Pajot, Loïc Barthe, Mathias Paulin, and Pierre Poulin. 2011. Representativity for robust and adaptive multiple importance sampling. *IEEE Transactions on Visualization and Computer Graphics*, 17, 8, 1108–1121. ISSN: 1077-2626. DOI: [10/dpg3dn](#).
- [970] Fang Pang, Min-Qian Liu, and Dennis K. J. Lin. 2009. A construction method for orthogonal Latin hypercube designs with prime power levels. *Statistica Sinica*, 19, 4, 1721–1728. ISSN: 10170405, 19968507.
- [971] Wai-Man Pang, Jing Qin, Michael Cohen, Pheng-Ann Heng, and Kup-Sze Choi. 2012. Fast rendering of diffusion curves with triangles. *IEEE Computer Graphics & Applications*, 32, 4, (July 2012), 68–78. ISSN: 0272-1716. DOI: [10/ddpzm2](#).
- [972] Jacopo Pantaleoni. 2017. Charted metropolis light transport. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 36, 4, (July 2017), 75:1–75:14. ISSN: 0730-0301. DOI: [10/gfzq78](#).
- [973] Jacopo Pantaleoni, Luca Fascione, Martin Hill, and Timo Aila. 2010. PantaRay: fast ray-traced occlusion caching of massive scenes. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 29, 4, (July 26, 2010), 37:1–37:10. ISSN: 07300301. DOI: [10/cfgnc8](#).
- [974] Marios Papas, Thomas Houit, Derek Nowrouzezahrai, Markus Gross, and Wojciech Jarosz. 2012. The magic lens: refractive steganography. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 31, 6, (November 2012), 1. ISSN: 07300301. DOI: [10/kdc](#).
- [975] Marios Papas, Wojciech Jarosz, Wenzel Jakob, Szymon Rusinkiewicz, Wojciech Matusik, and Tim Weyrich. 2011. Goal-based caustics. *Computer Graphics Forum (Proceedings of Eurographics)*, 30, 2, (April 2011), 503–511. ISSN: 01677055. DOI: [10/cqjnhv](#).
- [976] Marios Papas, Christian Regg, Wojciech Jarosz, Bernd Bickel, Philip Jackson, Wojciech Matusik, Steve Marschner, and Markus Gross. 2013. Fabricating translucent materials using continuous pigment mixtures. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 32, 4, (July 2013), 1. ISSN: 07300301. DOI: [10/gbdg3p](#).
- [977] Sylvain Paris, Will Chang, Oleg I Kozhushnyan, Wojciech Jarosz, Wojciech Matusik, Matthias Zwicker, and Frédo Durand. 2008. Hair photobooth: geometric and photometric acquisition of real hairstyles. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 27, 3, (August 2008), 30:1–30:9. ISSN: 07300301. DOI: [10/df2r3s](#).
- [978] Sylvain Paris, Pierre Kornprobst, Jack Tumblin, and Frédo Durand. 2009. Bilateral filtering: theory and applications. *Foundations and Trends® in Computer Graphics and Vision*, 4, 1, (August 18, 2009), 1–73. ISSN: 1572-2740, 1572-2759. DOI: [10/fbq7d4](#).
- [979] Jeong Joon Park, Peter Florence, Julian Straub, Richard Newcombe, and Steven Lovegrove. 2019. DeepSDF: learning continuous signed distance functions for shape representation, (January 15, 2019). arXiv: [1901.05103 \[cs\]](#).
- [980] S. W. Park, L. Linsen, O. Kreylos, J. D. Owens, and B. Hamann. 2006. Discrete Sibson interpolation. *IEEE Transactions on Visualization and Computer Graphics*, 12, 2, (March 2006), 243–253. ISSN: 1077-2626. DOI: [10/bcr3zv](#).
- [981] Steven G Parker, James Bigler, Andreas Dietrich, Heiko Friedrich, Jared Hoberock, David Luebke, David McAllister, Morgan McGuire, Keith Morley, Austin Robison, and Martin Stich. 2010. OptiX: a general purpose ray tracing engine. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 29, 4, (July 2010), 66:1–66:13. ISSN: 0730-0301. DOI: [10/frf4mq](#).
- [982] A. Pasko, V. Adzhiev, A. Sourin, and V. Savchenko. 1995. Function representation in geometric modeling: concepts, implementation and applications. *The Visual Computer*, 11, 8, (August 1, 1995), 429–446. ISSN: 1432-2315. DOI: [10/fsqzrw](#).
- [983] Gustavo Patow and Xavier Pueyo. 2005. A Survey of Inverse Surface Design From Light Transport Behavior Specification. *Computer Graphics Forum*, 24, 4, (December 2005), 773–789. ISSN: 1467-8659. DOI: [10/d48wtp](#).
- [984] Gustavo Patow, Xavier Pueyo, and Alvar Vinacua. 2007. User-guided inverse reflector design. *Computers & Graphics*, 31, 3, (June 1, 2007), 501–515. ISSN: 0097-8493. DOI: [10/czczkh](#).
- [985] Sumanta N. Pattanaik and S. P. Mudur. 1993. The potential equation and importance in illumination computations. *Computer Graphics Forum*, 12, 2, (June 1993), 131–136. DOI: [10/bjc5j2](#).
- [986] Sumanta N. Pattanaik and S. P. Mudur. 1993. Efficient potential equation solutions for global illumination computation. *Computers & Graphics*, 17, 4, 387–396. DOI: [10/b9vqs4](#).
- [987] Sumanta N. Pattanaik and S. P. Mudur. 1995. Adjoint equations and random walks for illumination computation. *ACM Transactions on Graphics*, 14, 1, (January 1995), 77–102. DOI: [10/fk88j3](#).
- [988] Sumanta N. Pattanaik and Sudhir P. Mudur. 1993. Computation of global illumination in a participating medium by monte carlo simulation. *The Journal of Visualization and Computer Animation*, 4, 3, (July 1993), 133–152. ISSN: 1049-8907. DOI: [10/b64265](#).
- [989] H. D. Patterson. 1954. The errors of lattice sampling. *Journal of the Royal Statistical Society. Series B (Methodological)*, 16, 1, 140–149. ISSN: 00359246. DOI: [10/gfzncv](#).
- [990] M. K. Paul. 1978. Recurrence relations for integrals of associated Legendre functions. *Bulletin Géodésique*, 52, 3, (September 1, 1978), 177–190. ISSN: 1432-1394. DOI: [10/fxbj87](#).
- [991] Pieter Peers, Dhruv K. Mahajan, Bruce Lamond, Abhijeet Ghosh, Wojciech Matusik, Ravi Ramamoorthi, and Paul Debevec. 2009. Compressive light transport sensing. *ACM Transactions on Graphics*, 28, 1, Article 3, 3:1–3:18. ISSN: 0730-0301. DOI: [10/b6jfmr](#).

- [992] Pieter Peers, Naoki Tamura, Wojciech Matusik, and Paul Debevec. 2007. Post-production facial performance relighting using reflectance transfer. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 26, 3, Article 52. ISSN: 0730-0301. doi: [10/cmc6dn](#).
- [993] Pieter Peers, Karl vom Berge, Wojciech Matusik, Ravi Ramamoorthi, Jason Lawrence, Szymon Rusinkiewicz, and Philip Dutré. 2006. A compact factored representation of heterogeneous subsurface scattering. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 25, 3, (July 1, 2006), 746. ISSN: 07300301. doi: [10/fbm39f](#).
- [994] Vincent Pegoraro and Steven G. Parker. 2009. An analytical solution to single scattering in homogeneous participating media. *Computer Graphics Forum (Proceedings of Eurographics)*, 28, 2, 329–335. doi: [10/c9zhxn](#).
- [995] Vincent Pegoraro, Mathias Schott, and Steven G. Parker. 2010. A closed-form solution to single scattering for general phase functions and light distributions. *Computer Graphics Forum (Proceedings of the Eurographics Symposium on Rendering)*, 29, 4, 1365–1374. doi: [10/cdm26d](#).
- [996] Fabio Pellacini. 2010. envyLight: an interface for editing natural illumination. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 29, 4, (July 26, 2010), 1. ISSN: 07300301. doi: [10/bqd8fq](#).
- [997] Fabio Pellacini, Frank Battaglia, R. Keith Morley, and Adam Finkelstein. 2007. Lighting with paint. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 26, 2, (June 2007), 9:1–9:14. ISSN: 0730-0301. doi: [10/dvr97n](#).
- [998] Fabio Pellacini and Jason Lawrence. 2007. AppWand: editing measured materials using appearance-driven optimization. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 26, 3, (July 29, 2007), 54. ISSN: 07300301. doi: [10/b6j9vr](#).
- [999] Fabio Pellacini, Parag Tole, and Donald P. Greenberg. 2002. A user interface for interactive cinematic shadow design. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 21, 3, (July 1, 2002), 563–566. ISSN: 07300301. doi: [10/cqzvtx](#).
- [1000] Fabio Pellacini, Kiril Vidimčec, Aaron Lefohn, Alex Mohr, Mark Leone, and John Warren. 2005. Lpica: a hybrid hardware-accelerated relighting engine for computer cinematography. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 24, 3, (July 2005), 464–470. ISSN: 0730-0301. doi: [10/bws9t5](#).
- [1001] Jesús Pérez, Bernhard Thomaszewski, Stelian Coros, Bernd Bickel, José A. Canabal, Robert Sumner, and Miguel A. Otaduy. 2015. Design and fabrication of flexible rod meshes. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 34, 4, (July 2015), 138:1–138:12. ISSN: 0730-0301. doi: [10/f7m2ws](#).
- [1002] Patrick Pérez, Michel Gangnet, and Andrew Blake. 2003. Poisson image editing. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 22, 3, (July 1, 2003), 313–318. ISSN: 07300301. doi: [10/bdk2h9](#).
- [1003] Vijitha Periyasamy and Manojit Pramanik. 2016. Importance sampling-based Monte Carlo simulation of time-domain optical coherence tomography with embedded objects. *Applied Optics*, 55, 11. doi: [10/gfz5m3](#).
- [1004] Ken Perlin. 1985. An image synthesizer. *Computer Graphics (Proceedings of SIGGRAPH)*, 19, 3, (July 1985), 287–296. B. A. Barsky, editor. doi: [10/bbsdxj](#).
- [1005] Ken H. Perlin and Eric M. Hoffert. 1989. Hypertexture. *Computer Graphics (Proceedings of SIGGRAPH)*, 23, 3, (July 1989), 253–262. ISSN: 00978930. doi: [10/fdmxxd](#).
- [1006] Pietro Perona and Jitendra Malik. 1990. Scale-space and edge detection using anisotropic diffusion. *Pattern Analysis and Machine Intelligence, IEEE Transactions on*, 12, 7, 629–639. doi: [10/fhp395](#).
- [1007] Hélène Perrier, David Coeurjolly, Feng Xie, Matt Pharr, Pat Hanrahan, and Victor Ostromoukhov. 2018. Sequences with low-discrepancy blue-noise 2-D projections. *Computer Graphics Forum (Proceedings of Eurographics)*, 37, 2, 339–353. doi: [10/gd2j2d](#).
- [1008] Per-Olof Persson and Gilbert Strang. 2004. A simple mesh generator in matlab. *SIAM Review*, 46, 2, 329–345.
- [1009] Christoph Peters, Jonathan Klein, Matthias B. Hullin, and Reinhard Klein. 2015. Solving trigonometric moment problems for fast transient imaging. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 34, 6. doi: [10/f7wqfq](#).
- [1010] Georg Petschnigg, Richard Szeliski, Maneesh Agrawala, Michael Cohen, Hugues Hoppe, and Kentaro Toyama. 2004. Digital photography with flash and no-flash image pairs. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 23, 3, (August 1, 2004), 664–672. ISSN: 07300301. doi: [10/fincb7](#).
- [1011] Adrien Peytavie, Eric Galin, Jerome Grosjean, and Stephane Merillou. 2009. Procedural generation of rock piles using aperiodic tiling. *Computer Graphics Forum (Proceedings of Pacific Graphics)*, 28, 7, 1801–1810. ISSN: 1467-8659. doi: [10/cdz44k](#).
- [1012] Bui Tuong Phong. 1975. Illumination for computer generated pictures. *Communications of the ACM*, 18, 6, (January 6, 1975), 311–317. ISSN: 0001-0782. doi: [10/bkfrn9](#).
- [1013] Kevin P. Picott. 1992. Extensions of the linear and area lighting models. *IEEE Computer Graphics & Applications*, 12, 2, (March 1992), 31–38. doi: [10/drm4j5](#).
- [1014] Adrien Pilleboue, Gurprit Singh, David Coeurjolly, Michael Kazhdan, and Victor Ostromoukhov. 2015. Variance analysis for Monte Carlo integration. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 34, 4, (July 2015), 124:1–124:14. ISSN: 0730-0301. doi: [10/f7m28c](#).
- [1015] Didier Pinchon and Philip E. Hoggan. 2007. Rotation matrices for real spherical harmonics: General rotations of atomic orbitals in space-fixed axes. *Journal of Physics A: Mathematical and Theoretical*, 40, 7, (January 30, 2007), 1597–1610. ISSN: 1751-8121. doi: [10/bk87k3](#).
- [1016] Sören Pirk, Till Niese, Oliver Deussen, and Boris Neubert. 2012. Capturing and animating the morphogenesis of polygonal tree models. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 31, 6, (November 2012), 169:1–169:10. doi: [10/f96zjx](#).
- [1017] Sören Pirk, Ondrej Stava, Julian Kratt, Michel Abdul Massih Said, Boris Neubert, Radomir Měch, Bedrich Benes, and Oliver Deussen. 2012. Plastic trees: interactive self-adapting botanical tree models. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 31, 4, (July 2012), 50:1–50:10. doi: [10/gfz726](#).
- [1018] Harry Plantinga and Charles R. Dyer. 1990. Visibility, occlusion, and the aspect graph. *IJCV*, 5, 2, 137–160. doi: [10/c67jtf](#).
- [1019] John C. Platt and Alan H. Barr. 1988. Constraint methods for flexible models. *Computer Graphics (Proceedings of SIGGRAPH)*, 22, 4, (August 1988), 279–288.
- [1020] G. C. Pomraning. 1964. An improved free-surface boundary condition for the P-3 approximation. *Nuclear Science and Engineering*, 18, 528–530.
- [1021] G. C. Pomraning. 1967. Complementary variational principles and their application to neutron transport problems. *Journal of Mathematical Physics*, 8, 10, 2096–2108.
- [1022] G. C. Pomraning. 1971. Grey radiative transfer. *Journal of Quantitative Spectroscopy and Radiative Transfer*, 11, 597–615. doi: [10/bh2k8v](#).
- [1023] G. C. Pomraning and M. Clark Jr. 1963. The variational method applied to the monoenergetic Boltzmann equation. Part I. *Nuclear Science and Engineering*, 16, 147–154.
- [1024] G. C. Pomraning and B. D. Ganapol. 1995. Asymptotically consistent reflection boundary conditions for diffusion theory. *Annals of Nuclear Energy*, 22, 12, 787–817. doi: [10/d8wqff](#).
- [1025] Robin M. Pope and Edward S. Fry. 1997. Absorption spectrum (380–700 nm) of pure water. II. Integrating cavity measurements. *Applied Optics*, 36, 33, (November 20, 1997), 8710–8723. ISSN: 2155-3165. doi: [10/d8rwdc](#).
- [1026] Thomas Porter and Tom Duff. 1984. Compositing digital images. *Computer Graphics (Proceedings of SIGGRAPH)*, 18, 3, (July 1, 1984), 253–259. ISSN: 00978930. doi: [10/dzsnj2](#).
- [1027] Javier Portilla, Vasily Strela, Martin J. Wainwright, and Eero P. Simoncelli. 2003. Image denoising using scale mixtures of Gaussians in the wavelet domain. *IEEE Transactions on Image Processing*, 12, 11, (November 2003), 1338–1351. ISSN: 1057-7149. doi: [10/c65st5](#).
- [1028] Serban D. Porumbescu, Brian Budge, Louis Feng, and Kenneth I. Joy. 2005. Shell maps. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 24, 3, (July 1, 2005), 626. ISSN: 07300301. doi: [10/d4bh4g](#).
- [1029] Pierre Poulin and John Amanatides. 1991. Shading and shadowing with linear light sources. *Computers & Graphics*, 15, 2, 259–265. doi: [10/fvfgxm](#).
- [1030] Pierre Poulin and Alain Fournier. 1990. A model for anisotropic reflection. *Computer Graphics (Proceedings of SIGGRAPH)*, 24, 4, (September 1, 1990), 273–282. ISSN: 00978930. doi: [10/b72v3z](#).
- [1031] E. O. Powell. 1943. An integral related to the radiation integrals. *Philosophical Magazine*, 34, 236, (September 1943), 600–607.
- [1032] Rudolph W. Preisendorfer. 1957. A mathematical foundation for radiative transfer theory. *Journal of Mathematics and Mechanics*, 6, 6, (November 1957), 685–730.
- [1033] Rudolph W. Preisendorfer. 1958. Functional relations for the R and T operators on plane-parallel media. *Proceedings of the National Academy of Sciences*, 44, 323–327. doi: [10/ftb2tq](#).
- [1034] Rudolph W. Preisendorfer. 1958. Invariant imbedding relation for the principles of invariance. *Proceedings of the National Academy of Sciences*, 44, 320–323. doi: [10/bs2wgc](#).
- [1035] Rudolph W. Preisendorfer. 1968. A survey of theoretical hydrologic optics. *Journal of Quantitative Spectroscopy and Radiative Transfer*, 8, 325–338. doi: [10/ddt57q](#).
- [1036] Rudolph W. Preisendorfer. 1971. General theory of radiative transfer across the random atmosphere-ocean interface. *Journal of Quantitative Spectroscopy and Radiative Transfer*, 11, 723–737. doi: [10/b2x8b2](#).
- [1037] Romain Prévost, Alec Jacobson, Wojciech Jarosz, and Olga Sorkine-Hornung. 2016. Large-scale painting of photographs by interactive optimization. *Computers & Graphics*, 55, (April 1, 2016), 108–117. ISSN: 0097-8493. doi: [10/f8g49d](#).
- [1038] Romain Prévost, Wojciech Jarosz, and Olga Sorkine-Hornung. 2015. A vectorial framework for ray traced diffusion curves. *Computer Graphics Forum*, 34, 1, (February 1, 2015), 253–264. ISSN: 0167-7055. doi: [10/f6497s](#).
- [1039] Romain Prévost, Emily Whiting, Sylvain Lefebvre, and Olga Sorkine-Hornung. 2013. Make it stand: balancing shapes for 3D fabrication. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 32, 4, (July 2013), 81:1–81:10. ISSN: 0730-0301. doi: [10/gfz9bj](#).

- [1040] Anil K. Prinja. 1989. Forward-backward transport theories of ion-solid interactions: variational approach. *Physical Review B*, 39, 13, (May 1989), 8858–8866.
- [1041] Anil K. Prinja. 1991. A family of transport equations in neutron transport theory. *Annals of Nuclear Energy*, 18, 3, 147–154.
- [1042] D. Pritchard and W. Heidrich. 2003. Cloth motion capture. *Computer Graphics Forum*, 22, 3, (September 2003), 263–271. ISSN: 1467-8659. doi: [10/cq4gjn](#).
- [1043] Xavier Pueyo, Dani Tost, Ignacio Martin, and Blanca Garcia. 1997. Radiosity for dynamic environments. *The Journal of Visualization and Computer Animation*, 8, 4, (October 1997), 221–231. doi: [cfigh46](#).
- [1044] Peter Z. G. Qian and Mingyao Ai. 2010. Nested lattice sampling: a new sampling scheme derived by randomizing nested orthogonal arrays. *Journal of the American Statistical Association*, 105, 491, 1147–1155. ISSN: 01621459. doi: [10/fwjp8h](#).
- [1045] Hui Qiao, Jingyu Lin, Yebin Liu, Matthias B Hullin, and Qionghai Dai. 2015. Resolving transient time profile in ToF imaging via log-sum sparse regularization. *Opt. Lett.*, 40, 6. doi: [10/gfz5m4](#).
- [1046] Hongxing Qin, Yi Chen, Jinlong He, and Baoquan Chen. 2017. Wasserstein Blue Noise Sampling. *ACM Transactions on Graphics*, 36, 4, Article 137a, (October 2017). ISSN: 0730-0301. doi: [10/gdb9gb](#).
- [1047] A. Raab and G. Beikert. 1999. Two new Monte Carlo methods for point flux estimation. *Computer Physics Communications*, 123, 1, (December 1, 1999), 27–45. ISSN: 0010-4655. doi: [10/cmg4gf](#).
- [1048] Michal Radziszewski, Krzysztof Boryczko, and Witold Alda. 2009. An improved technique for full spectral rendering. *Journal of the World Society for Computer Graphics (WSCG)*, 17, 1–3, 9–16. ISSN: 1213-6972 (hardcopy).
- [1049] Jonathan Ragan-Kelley, Charlie Kilpatrick, Brian W. Smith, Doug Epps, Paul Green, Christophe Hery, and Frédo Durand. 2007. The lightspeed automatic interactive lighting preview system. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 26, 3, (July 29, 2007), 25. ISSN: 07300301. doi: [10/d27dzt](#).
- [1050] N. Raghuvanshi, R. Narain, and M. C. Lin. 2009. Efficient and accurate sound propagation using adaptive rectangular decomposition. *IEEE Transactions on Visualization and Computer Graphics*, 15, 5, 789–801. ISSN: 1077-2626. doi: [10/bbh2x6](#).
- [1051] Ravi Ramamoorthi. 2009. Precomputation-based rendering. *Foundations and Trends® in Computer Graphics and Vision*, 3, 4, (April 17, 2009), 281–369. ISSN: 1572-2740, 1572-2759. doi: [10/c8zq2b](#).
- [1052] Ravi Ramamoorthi, John Anderson, Mark Meyer, and Derek Nowrouzezahrai. 2012. A theory of Monte Carlo visibility sampling. *ACM Transactions on Graphics*, 31, 5, (September 2012), 121:1–121:16. ISSN: 0730-0301. doi: [10/gbbmz](#).
- [1053] Ravi Ramamoorthi and Pat Hanrahan. 2002. Frequency space environment map rendering. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 21, 3, (July 1, 2002), 517–526. ISSN: 07300301. doi: [10/bmjvtd](#).
- [1054] Ravi Ramamoorthi and Pat Hanrahan. 2004. A signal-processing framework for reflection. *ACM Transactions on Graphics*, 23, 4, (October 2004), 1004–1042. ISSN: 0730-0301. doi: [10/fnfbft](#).
- [1055] Ravi Ramamoorthi, Dhruv Mahajan, and Peter Belhumeur. 2007. A first-order analysis of lighting, shading, and shadows. *ACM Transactions on Graphics*, 26, 1, (January 2007), 2:1–2:21. ISSN: 0730-0301. doi: [10/dhkp9c](#).
- [1056] Jaona Randrianalisoa and Dominique Baillis. 2009. Radiative transfer in dispersed media: comparison between homogeneous phase and multiphase approaches. *ASME Journal of Heat Transfer*, 132, 2, (December 9, 2009), 023405-023405–11. ISSN: 0022-1481. doi: [10/b6wx2x](#).
- [1057] Jaona Randrianalisoa and Dominique Baillis. 2010. Radiative properties of densely packed spheres in semitransparent media: A new geometric optics approach. *Journal of Quantitative Spectroscopy and Radiative Transfer*, 111, 10, (July 1, 2010), 1372–1388. ISSN: 0022-4073. doi: [10/bhnb8t](#).
- [1058] C. Radhakrishna Rao. 1947. Factorial experiments derivable from combinatorial arrangements of arrays. *Supplement to the Journal of the Royal Statistical Society*, 9, 1, 128–139. ISSN: 14666162. doi: [10/cck4gf](#).
- [1059] Dan Raviv, Christopher Barsi, Nikhil Naik, Micha Feigin, and Ramesh Raskar. 2014. Pose estimation using time-resolved inversion of diffuse light. *Optics Express*, 22, 17. doi: [10/gfz5m5](#).
- [1060] John William Strutt Lord Rayleigh. 1871. On the scattering of light by small particles. *Philosophical Magazine*, 61, 447–454.
- [1061] Lord Rayleigh. 1871. On the light from the sky, its polarization and colour. *Philosophical Magazine*, XLI, 107–120, 274–279.
- [1062] M. S. Rea and I. G. Jeffrey. 1990. A new luminance and image analysis system for lighting and vision I. Equipment and calibration. *Journal of the Illuminating Engineering Society*, 19, 1, 64–72.
- [1063] R. Redheffer. 1962. On the relation of transmission line theory to scattering and transfer. *Journal of Mathematics and Physics*, 41, 1, 1–41.
- [1064] W. H. Reed. 1971. The effectiveness of acceleration techniques for iterative methods in transport theory. *Nuclear Science and Engineering*, 45, 3, (September 1971), 245–255.
- [1065] William T. Reeves. 1983. Particle systems – a technique for modeling a class of fuzzy objects. *Computer Graphics (Proceedings of SIGGRAPH)*, 17, 3, (July 1983), 359–376.
- [1066] William T. Reeves and Ricki Blau. 1985. Approximate and probabilistic algorithms for shading and rendering structured particle systems. *Computer Graphics (Proceedings of SIGGRAPH)*, 19, 3, (July 1985), 313–322. ISSN: 0097-8930. doi: [10/cntd5c](#).
- [1067] William T. Reeves, David H. Salesin, and Robert L. Cook. 1987. Rendering antialiased shadows with depth maps. *Computer Graphics (Proceedings of SIGGRAPH)*, 283–291. doi: [10/bc4hw2](#).
- [1068] Florian Reibold, Johannes Hanika, Alisa Jung, and Carsten Dachsbacher. 2018. Selective guided sampling with complete light transport paths. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 37, 6, (December 2018), 223:1–223:14. ISSN: 0730-0301. doi: [10/gfz2g93](#).
- [1069] Tim Reiner, Anton Kaplanyan, Marcel Reinhard, and Carsten Dachsbacher. 2012. Selective inspection and interactive visualization of light transport in virtual scenes. *Computer Graphics Forum (Proceedings of Eurographics)*, 31, 711–718, 2pt3. ISSN: 1467-8659. doi: [10/gfz5vc](#).
- [1070] Tim Reiner, Gregor Mückl, and Carsten Dachsbacher. 2011. Interactive modeling of implicit surfaces using a direct visualization approach with signed distance functions. *Computers & Graphics. Proceedings of Shape Modeling International* 35, 3, (June 1, 2011), 596–603. ISSN: 0097-8493. doi: [10/fsnj24](#).
- [1071] Bernhard Reinert, Tobias Ritschel, Hans-Peter Seidel, and Iliyan Georgiev. 2016. Projective blue-noise sampling. *Computer Graphics Forum*, 35, 1, (February 1, 2016), 285–295. ISSN: 0167-7055. doi: [10/f8dm4x](#).
- [1072] Harris Reinhardt. 1944. Brightness units. *Illuminating Engineering*, 39, 8, (September 1944), 521–533.
- [1073] Peiran Ren, Jiaping Wang, Minmin Gong, Stephen Lin, Xin Tong, and Baining Guo. 2013. Global illumination with radiance regression functions. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 32, 4, (July 2013), 130:1–130:12. ISSN: 0730-0301. doi: [10/gbdf7z](#).
- [1074] Zhong Ren, Rui Wang, John Snyder, Kun Zhou, Xinguo Liu, Bo Sun, Peter-Pike Sloan, Hujun Bao, Qunsheng Peng, and Baining Guo. 2006. Real-time soft shadows in dynamic scenes using spherical harmonic exponentiation. *ACM Transactions on Graphics*, 25, 3, (July 2006), 977–986. doi: [10/fwjd59](#).
- [1075] Zhong Ren, Kun Zhou, Stephen Lin, and Baining Guo. 2008. Gradient-based interpolation and sampling for real-time rendering of inhomogeneous, single-scattering media. *Computer Graphics Forum (Proceedings of Pacific Graphics)*, 27, 7, 1945–1953. ISSN: 1467-8659. doi: [10/dzh62s](#).
- [1076] Craig W. Reynolds. 1987. Flocks, herds, and schools: a distributed behavioral model. *Computer Graphics (Proceedings of SIGGRAPH)*, 21, 4, (July 1987), 25–34.
- [1077] Herbert Rief, A. Dubi, and Tov Elperin. 1984. Track length estimation applied to point detector. *Nuclear Science and Engineering*, 87, 59–71. doi: [10/gfzsm7](#).
- [1078] Tobias Ritschel, Carsten Dachsbacher, Thorsten Grosch, and Jan Kautz. 2012. The state of the art in interactive global illumination. *Computer Graphics Forum*, 31, 1, 160–188. ISSN: 1467-8659. doi: [10/gfzwbm](#).
- [1079] Tobias Ritschel, Elmar Eisemann, Inwo Ha, James Kim, and Hans-Peter Seidel. 2011. Making imperfect shadow maps view-adaptive: high-quality global illumination in large dynamic scenes. *Computer Graphics Forum*, 30, 8, 2258–2269. doi: [10/bj3bnz](#).
- [1080] Tobias Ritschel, Thomas Engelhardt, Thorsten Grosch, Hans-Peter Seidel, Jan Kautz, and Carsten Dachsbacher. 2009. Micro-rendering for scalable, parallel final gathering. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 28, 5, (December 2009), 132:1–132:8. doi: [10/d2txh7](#).
- [1081] Tobias Ritschel, Thorsten Grosch, Min H Kim, Hans-Peter Seidel, Carsten Dachsbacher, and Jan Kautz. 2008. Imperfect shadow maps for efficient computation of indirect illumination. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 27, 5, (December 2008), 129:1–129:8. ISSN: 07300301. doi: [10/b94956](#).
- [1082] Tobias Ritschel, Makoto Okabe, Thorsten Thormählen, and Hans-Peter Seidel. 2009. Interactive reflection editing. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 28, 5, (December 1, 2009), 1. ISSN: 07300301. doi: [10/c42h7z](#).
- [1083] Tobias Ritschel, Thorsten Thormählen, Carsten Dachsbacher, Jan Kautz, and Hans-Peter Seidel. 2010. Interactive on-surface signal deformation. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 29, 4, (July 26, 2010), 1. ISSN: 07300301. doi: [10/b2r3wc](#).
- [1084] Alec Rivers, Andrew Adams, and Frédo Durand. 2012. Sculpting by numbers. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 31, 6, (November 2012), 157:1–157:7. ISSN: 0730-0301. doi: [10/gfz9f2](#).
- [1085] Alec Rivers, Ilan E. Moyer, and Frédo Durand. 2012. Position-correcting tools for 2D digital fabrication. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 31, 4, (July 2012), 88:1–88:7. ISSN: 0730-0301. doi: [10/gbbwnj](#).
- [1086] Mark A. Robertson, Sean Borman, and Robert L. Stevenson. 2003. Estimation-theoretic approach to dynamic range enhancement using multiple exposures. *Journal of Electronic Imaging*, 12, 2, 219–228. doi: [10/dm6msz](#).

- [1087] M. Robkin and M. Clark Jr. 1960. Integral reactor theory; orthogonality and importance. *Nuclear Science and Engineering*, 8, 5, (November 1960), 437–442.
- [1088] S. D. Roth. 1982. Ray casting for modeling solids. *Computer Graphics and Image Processing*, 18, 109–144.
- [1089] Fabrice Rousselle, Petrik Clarberg, Luc Leblanc, Victor Ostromoukhov, and Pierre Poulin. 2008. Efficient product sampling using hierarchical thresholding. *The Visual Computer (Proceedings of Computer Graphics International)*, 24, 7, (July 1, 2008), 465–474. ISSN: 1432-2315. DOI: [10/cb2rc5](#).
- [1090] Fabrice Rousselle, Wojciech Jarosz, and Jan Novák. 2016. Image-space control variates for rendering. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 35, 6, (November 2016), 169:1–169:12. ISSN: 0730-0301. DOI: [10/f9cphw](#).
- [1091] Fabrice Rousselle, Claude Knaus, and Matthias Zwicker. 2011. Adaptive sampling and reconstruction using greedy error minimization. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 30, 6, (December 1, 2011), 1. ISSN: 07300301. DOI: [10/c82v5c](#).
- [1092] Fabrice Rousselle, Claude Knaus, and Matthias Zwicker. 2012. Adaptive rendering with non-local means filtering. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 31, 6, (November 2012), 195:1–195:11. ISSN: 0730-0301. DOI: [10/f96zx3](#).
- [1093] Fabrice Rousselle, Marco Manzi, and Matthias Zwicker. 2013. Robust denoising using feature and color information. *Computer Graphics Forum (Proceedings of Pacific Graphics)*, 32, 7, (October 1, 2013), 121–130. ISSN: 0167-7055. DOI: [10/gfzwbm](#).
- [1094] Riccardo Roveri, A. Cengiz Öztireli, and Markus Gross. 2017. General point sampling with adaptive density and correlations. *Computer Graphics Forum*. DOI: [10/gbm2jp](#).
- [1095] Riccardo Roveri, A. Cengiz Öztireli, Sebastian Martin, Barbara Solenthaler, and Markus Gross. 2015. Example based repetitive structure synthesis. *Computer Graphics Forum*. DOI: [10/f7s4bn](#).
- [1096] G. Rowlands. 1961. The application of the variational method to neutron transport theory. *Journal of Nuclear Energy, Part A: Reactor Science*, 13, 176–182. DOI: [10/d7tk44](#).
- [1097] Steve Rubin and Turner Whitted. 1980. A three-dimensional representation for fast rendering of complex scenes. *Computer Graphics (Proceedings of SIGGRAPH)*, 14, 3, (July 1980), 110–116.
- [1098] Dean Rubine. 1991. Specifying gestures by example. *Computer Graphics (Proceedings of SIGGRAPH)*, 25, 4, (July 1991), 329–337.
- [1099] Daniel Ruijters and Philippe Thévenaz. 2012. GPU prefilter for accurate cubic B-spline interpolation. *The Computer Journal*, 55, 1, (January 1, 2012), 15–20. ISSN: 0010-4620. DOI: [10/fppwz2](#).
- [1100] Holly Rushmeier. 1995. Input for participating media.
- [1101] Holly E. Rushmeier, Daniel R. Baum, and David E. Hall. 1991. Accelerating the hemi-cube algorithm for calculating radiation form factors. *ASME Journal of Heat Transfer*, 113, 4, 1044–1047. ISSN: 0022-1481. DOI: [10/b728xg](#).
- [1102] Holly E. Rushmeier and Kenneth E. Torrance. 1987. The zonal method for calculating light intensities in the presence of a participating medium. *Computer Graphics (Proceedings of SIGGRAPH)*, 21, 4, (July 1987), 293–302. ISSN: 0097-8930. DOI: [10/ckbhdj](#).
- [1103] Holly E. Rushmeier and Kenneth E. Torrance. 1990. Extending the radiosity method to include specularly reflecting and translucent materials. *ACM Transactions on Graphics*, 9, 1, (January 1990), 1–27. DOI: [10/cr5fgj](#).
- [1104] Paolo Sabella. 1988. A rendering algorithm for visualizing 3D scalar fields. *Computer Graphics (Proceedings of SIGGRAPH)*, 22, 4, (August 1988), 51–57.
- [1105] Iman Sadeghi, Adolfo Munoz, Philip Laven, Wojciech Jarosz, Francisco J. Seron, Diego Gutierrez, and Henrik Wann Jensen. 2012. Physically-based simulation of rainbows. *ACM Transactions on Graphics*, 31, 1, (January 2012), 3:1–3:12. ISSN: 07300301. DOI: [10/gfzndf](#).
- [1106] Iman Sadeghi, Heather Pritchett, Henrik Wann Jensen, and Rasmus Tamstorf. 2010. An artist friendly hair shading system. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 29, 4, (July 26, 2010), 1. ISSN: 07300301. DOI: [10/cxxecd](#).
- [1107] Stephan R. Sain. 2002. Multivariate locally adaptive density estimation. *Computational Statistics & Data Analysis*, 39, 2, (April 28, 2002), 165–186. ISSN: 0167-9473. DOI: [10/cm4vtk](#).
- [1108] Stephan R. Sain and David W. Scott. 1996. On locally adaptive density estimation. *Journal of the American Statistical Association*, 91, 436, 1525–1534. ISSN: 01621459. DOI: [10/gfzqh8](#).
- [1109] Takafumi Saito and Tokihiro Takahashi. 1990. Comprehensible rendering of 3-D shapes. *Computer Graphics (Proceedings of SIGGRAPH)*, 24, 4, (September 1990), 197–206. DOI: [10/fp3t53](#).
- [1110] Yusaku Sako and Kikuo Fujimura. 2000. Shape similarity by homotopic deformation. *The Visual Computer*, 16, 1, (February 1, 2000), 47–61. ISSN: 1432-2315. DOI: [10/b6z9nn](#).
- [1111] Marco Salvi, Kiril Vidimče, Andrew Lauritzen, and Aaron Lefohn. 2010. Adaptive volumetric shadow maps. *Computer Graphics Forum (Proceedings of the Eurographics Symposium on Rendering)*, 29, 4, (August 26, 2010), 1289–1296. ISSN: 01677055. DOI: [10/bpvfmq](#).
- [1112] Hanan Samet. 1982. Neighbor finding techniques for images represented by quadrees. *Computer Graphics and Image Processing*, 18, 37–57.
- [1113] Hanan Samet. 1988. Hierarchical representations of collections of small rectangles. *Computing Surveys*, 20, 4, 271–309.
- [1114] Hanan Samet. 1989. Implementing ray tracing with octrees and neighbor finding. *Computers & Graphics*, 13, 4, 445–460. DOI: [10/cbx3js](#).
- [1115] Guy Satat, Barmak Heshmat, Christopher Barsi, Dan Raviv, Ou Chen, Mouni G Bawendi, and Ramesh Raskar. 2015. Locating and classifying fluorescent tags behind turbid layers using time-resolved inversion. *Nature Communications*, 6. DOI: [10/f7bqrr](#).
- [1116] Mateu Sbert. 1993. An integral geometry based method for fast form-factor computation. *Computer Graphics Forum (Proceedings of Eurographics)*, 12, 3, (September 1993), 409–420.
- [1117] Mateu Sbert. 1997. Optimal source selection in shooting random walk Monte Carlo radiosity. *Computer Graphics Forum (Proceedings of Eurographics)*, 16, 3, (August 1997), 301–308. C301–C308.
- [1118] Mateu Sbert, Alex Brusi, Robert Tobler, and Werner Purgathofer. 2000. Random walk radiosity with generalized transition probabilities. *Graphical Models*, 6, 2, 56–70. DOI: [10/dm9f5z](#).
- [1119] Mateu Sbert, Vlastimil Havran, and Laszlo Szirmay-Kalos. 2018. Multiple importance sampling revisited: breaking the bounds. *EURASIP Journal on Advances in Signal Processing*, 2018, 1, (February 27, 2018), 15. ISSN: 1687-6180. DOI: [10/gf22kk](#).
- [1120] Henrik Schäfer, Frank Lenzen, and Christoph S Garbe. 2014. Model based scattering correction in time-of-flight cameras. *Optics Express*, 22, 24. DOI: [10/gfz5m7](#).
- [1121] G. Scharf. 1967. Functional-analytic discussion of the linearized Boltzmann equation. *Helvetica Physica Acta*, 40, 929–945.
- [1122] Kristina Scherbaum, Tobias Ritschel, Matthias Hullin, Thorsten Thormählen, Volker Blanz, and Hans-Peter Seidel. 2011. Computer-suggested facial makeup. *Computer Graphics Forum (Proceedings of Eurographics)*, 30, 2, 485–492. DOI: [10/dr3hv2](#).
- [1123] Daniel Scherzer, Chuong H. Nguyen, Tobias Ritschel, and Hans-Peter Seidel. 2012. Pre-convolved radiance caching. *Computer Graphics Forum (Proceedings of the Eurographics Symposium on Rendering)*, 31, 4, (June 2012), 1391–1397. DOI: [10/gfzwbz](#).
- [1124] D. Schiff and S. Ziering. 1960. Many-fold moment method. *Nuclear Science and Engineering*, 7, 2, (February 1960), 172–183.
- [1125] Lars Schjølth, Jon Sporring, and Ole Fogh Olsen. 2008. Diffusion based photon mapping. *Computer Graphics Forum (Proceedings of Eurographics)*, 27, 8, (December 2008), 2114–2127. ISSN: 01677055. DOI: [10/cfnfj](#).
- [1126] Thomas Schlömer and Oliver Deussen. 2011. Accurate spectral analysis of two-dimensional point sets. *Journal of Graphics, GPU, and Game Tools*, 15, 3, 152–160. DOI: [10/dqmjnk](#).
- [1127] Christian Schmaltz, Pascal Gwosdek, Andrés Bruhn, and Joachim Weickert. 2010. Electrostatic halftoning. *Computer Graphics Forum*, 29, 8, 2313–2327. ISSN: 1467-8659. DOI: [10/fph3j8](#).
- [1128] Thorsten-Walther Schmidt, Jan Novák, Johannes Meng, Anton S. Kaplanyan, Tim Reiner, Derek Nowrouzezahrai, and Carsten Dachsbacher. 2013. Path-space manipulation of physically-based light transport. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 32, 4, (July 2013), 129:1–129:11. ISSN: 0730-0301. DOI: [10/gbdg7p](#).
- [1129] Thorsten-Walther Schmidt, Fabio Pellacini, Derek Nowrouzezahrai, Wojciech Jarosz, and Carsten Dachsbacher. 2016. State of the art in artistic editing of appearance, lighting and material. *Computer Graphics Forum*, 35, 1, (February 1, 2016), 216–233. ISSN: 0167-7055. DOI: [10/f8c8qv](#).
- [1130] Eric D. Schoen, Pieter T. Eendebak, and Man V. M. Nguyen. 2010. Complete enumeration of pure-level and mixed-level orthogonal arrays. *Journal of Combinatorial Designs*, 18, 2, 123–140. DOI: [10/bc4c23](#).
- [1131] Manuel Scholz, Jan Bender, and Carsten Dachsbacher. 2015. Real-time isosurface extraction with view-dependent level of detail and applications. *Computer Graphics Forum*, 34, 1, 103–115. ISSN: 1467-8659. DOI: [10/f648mh](#).
- [1132] Kai Schröder, Reinhard Klein, and Arno Zinke. 2011. A volumetric approach to predictive rendering of fabrics. *Computer Graphics Forum (Proceedings of the Eurographics Symposium on Rendering)*, 30, 4, (June 2011), 1277–1286. ISSN: 0167-7055. DOI: [10/djq8v5](#).
- [1133] Christian Schumacher, Bernhard Thomaszewski, and Markus Gross. 2016. Stenciling: designing structurally-sound surfaces with decorative patterns. *Computer Graphics Forum*. ISSN: 1467-8659. DOI: [10/f842rb](#).
- [1134] Vincent Schüssler, Eric Heitz, Johannes Hanika, and Carsten Dachsbacher. 2017. Microfacet-based normal mapping for robust Monte Carlo path tracing. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 36, 6, (November 2017), 205:1–205:12.

- [1135] Arthur Schuster. 1903. The influence of radiation on the transmission of heat. *Philosophical Magazine*, 5, 26, (February 1903), 243–257.
- [1136] Arthur Schuster. 1905. Radiation through a foggy atmosphere. *Astrophysical Journal*, 21, 1, (January 1905), 1–22. First derivation of radiative transfer in participating media.
- [1137] Jorge Schwarzhaupt, Henrik Wann Jensen, and Wojciech Jarosz. 2012. Practical Hessian-based error control for irradiance caching. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 31, 6, (November 2012), 1. ISSN: 07300301. DOI: [10/gbb6n4](#).
- [1138] K. Schwarzschild. 1906. On the equilibrium of the sun's atmosphere. *Nachrichten von der Königlichen Gesellschaft der Wissenschaften zu Göttingen. Math.-phys. Klasse*, 195, 41–53. (See Menzel Menzel-1966 for English translation).
- [1139] K. Schwarzschild. 1914. Diffusion and absorption in the sun's atmosphere. *Sitzungsberichte der Königlich Preussischen Akademie der Wissenschaften*, 1183–1200. (See Menzel Menzel-1966 for English translation).
- [1140] Thomas W. Sederberg and D. C. Anderson. 1985. Steiner surface patches. *IEEE Computer Graphics & Applications*, 5, (May 1985), 23–36.
- [1141] Thomas W. Sederberg and Eugene Greenwood. 1992. A physically based approach to 2-D shape blending. *Computer Graphics (Proceedings of SIGGRAPH)*, 26, 2, (July 1992), 25–34.
- [1142] Thomas W. Sederberg and Scott R. Parry. 1986. Free-form deformation of solid geometric models. *Computer Graphics (Proceedings of SIGGRAPH)*, 20, 4, (August 31, 1986), 151–160. ISSN: 00978930. DOI: [10/cb8rr3](#).
- [1143] B Segovia, J C Iehl, and B Péroche. 2007. Metropolis instant radiosity. *Computer Graphics Forum (Proceedings of Eurographics)*, 26, 3, 425–434.
- [1144] Zdenek Sekera. 1968. Radiative transfer and the scattering problem. *Journal of Quantitative Spectroscopy and Radiative Transfer*, 8, 17–24. DOI: [10/d8gwxp](#).
- [1145] D. S. Selengut. 1962. The construction of approximate theories by variational methods. *Transactions of the American Nuclear Society*, 5, 2, (November 1962), 413–414.
- [1146] D. S. Selengut. 1962. Transport corrections to diffusion theory. *Transactions of the American Nuclear Society*, 5, 1, (June 1962), 40–41.
- [1147] Pradeep Sen, Billy Chen, Gaurav Garg, Stephen R. Marschner, Mark Horowitz, Marc Levoy, and Hendrik P. A. Lensch. 2005. Dual photography. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 24, 3, 745–755. ISSN: 0730-0301. DOI: [10/dnmsnq](#).
- [1148] Pradeep Sen and Soheil Darabi. 2010. Compressive estimation for signal integration in rendering. *Computer Graphics Forum (Proceedings of the Eurographics Symposium on Rendering)*, 29, 4. DOI: [10/b3jtcv](#).
- [1149] Pradeep Sen and Soheil Darabi. 2011. Compressive rendering: a rendering application of compressed sensing. *IEEE Transactions on Visualization and Computer Graphics*, 17, 4, (April 2011), 487–499. ISSN: 1077-2626. DOI: [10/fp9cr5](#).
- [1150] Pradeep Sen and Soheil Darabi. 2012. On filtering the noise from the random parameters in Monte Carlo rendering. *ACM Transactions on Graphics*, 31, 3, (May 2012), 18:1–18:15. ISSN: 0730-0301. DOI: [10/gfz5nm](#).
- [1151] Carlo H. Séquin and Eliot K. Smyrl. 1989. Parameterized ray-tracing. *Computer Graphics (Proceedings of SIGGRAPH)*, 23, 3, (July 1989), 307–314. ISSN: 00978930. DOI: [10/c28vm5](#).
- [1152] J. A. Sethian and Peter Smereka. 2003. Level set methods for fluid interfaces. *Annual Review of Fluid Mechanics*, 35, 1, 341–372. DOI: [10/ffqv25](#).
- [1153] Ariel Shamir and Ari Rappoport. 1996. Extraction of typographic elements from outline representations of fonts. *Computer Graphics Forum (Proceedings of Eurographics)*, 259–268.
- [1154] N. Shamsundar, E. M. Sparrow, and R. P. Heimsch. 1973. Monte Carlo radiation solutions—effect of energy partitioning and number of rays. *International Journal of Heat and Mass Transfer*, 16, 3, 690–694. DOI: [10/frzwwf](#).
- [1155] C. E. Shannon. 1949. Communication in the presence of noise. *Proc. Institute of Radio Engineers*, 37, 1, 10–21.
- [1156] Gaurav Sharma, Wencheng Wu, and Edul N. Dalal. 2005. The CIEDE2000 color-difference formula: Implementation notes, supplementary test data, and mathematical observations. *Color Research & Application*, 30, 1, 21–30. ISSN: 1520-6378. DOI: [10/fqmv29](#).
- [1157] Raymond A Shaw, Alexander B Kostinski, and Daniel D Lanterman. 2002. Super-exponential extinction of radiation in a negatively correlated random medium. *Journal of Quantitative Spectroscopy and Radiative Transfer*, 75, 1, (August 1, 2002), 13–20. ISSN: 0022-4073. DOI: [10/c4wr3h](#).
- [1158] David L. Shealy and Donald G. Burkhard. 1973. Caustic surfaces and irradiance for reflection and refraction from an ellipsoid, elliptic paraboloid, and elliptic cone. *Applied Optics*, 12, 12, (December 1973), 2955–2959.
- [1159] Yu Sheng, Yulong Shi, Lili Wang, and Srinivasa G. Narasimhan. 2014. Translucent radiosity: efficiently combining diffuse inter-reflection and subsurface scattering. *IEEE Transactions on Visualization and Computer Graphics*, 20, 7, (July 2014), 1009–1021. ISSN: 1077-2626. DOI: [10/f6c2bd](#).
- [1160] M. P. Sherman. 1967. Moment methods in radiative transfer problems. *Journal of Quantitative Spectroscopy and Radiative Transfer*, 7, 89–109.
- [1161] Jonathan Richard Shewchuk. 2002. Delaunay refinement algorithms for triangular mesh generation. *Computational Geometry*. 16th ACM Symposium on Computational Geometry 22, 1, (May 1, 2002), 21–74. ISSN: 0925-7721. DOI: [10/djd325](#).
- [1162] Roy Shilkrot, Pattie Maes, Joseph A. Paradiso, and Amit Zoran. 2015. Augmented airbrush for computer aided painting (CAP). *ACM Transactions on Graphics*, 34, 2, (March 2015), 19:1–19:11. ISSN: 0730-0301. DOI: [10/gfz9f3](#).
- [1163] H. Shim and S. Lee. 2016. Recovering translucent objects using a single time-of-flight depth camera. *IEEE Transactions on Circuits and Systems for Video Technology*, 26, 5. DOI: [10/gfz5m8](#).
- [1164] Mikio Shinya, Tokihiro Takahashi, and Seiichi Naito. 1987. Principles and applications of pencil tracing. *Computer Graphics (Proceedings of SIGGRAPH)*, 21, 4, (July 1987), 45–54. ISSN: 00978930. DOI: [10/b657bp](#).
- [1165] Peter Shirley. 1990. A ray tracing algorithm for global illumination. *Proceedings of Computer Graphics International (CGI)*, (May 1990), 205–212.
- [1166] Peter Shirley. 1992. Time complexity of Monte Carlo radiosity. *Computers & Graphics*, 16, 1, 117–120. DOI: [10/bkjq9](#).
- [1167] Peter Shirley and Kenneth Chiu. 1997. A low distortion map between disk and square. *Journal of Graphics Tools*, 2, 3, (January 1997), 45–52. ISSN: 1086-7651. DOI: [10/gfzncw](#).
- [1168] Peter Shirley and Allan Tuchman. 1990. A polygonal approximation to direct scalar volume rendering. *Computer Graphics (Proceedings of SIGGRAPH)*, 24, 5, (November 1990), 63–70.
- [1169] Peter Shirley, Changyao Wang, and Kurt Zimmerman. 1996. Monte Carlo techniques for direct lighting calculations. *ACM Transactions on Graphics*, 15, 1, (January 1996), 1–36. ISSN: 0730-0301. DOI: [10/dgdgbb](#).
- [1170] Leon A. Shirman and Salim S. Abi-Ezzi. 1993. The cone of normals technique for fast processing of curved patches. *Computer Graphics Forum (Proceedings of Eurographics)*, 12, 3, 261–272. DOI: [10/bs2vsv](#).
- [1171] Shikhar Shrestha, Felix Heide, Wolfgang Heidrich, and Gordon Wetzstein. 2016. Computational imaging with multi-camera time-of-flight systems. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 35, 4. DOI: [10/gfz5m9](#).
- [1172] J. Sijbers, A. J. den Dekker, J. Van Audekerke, M. Verhoye, and D. Van Dyck. 1998. Estimation of the noise in magnitude MR images. *Magnetic Resonance Imaging*, 16, 1, (January 1, 1998), 87–90. ISSN: 0730-725X. DOI: [10/bn39wd](#).
- [1173] Martin Šik, Hisanari Otsu, Toshiya Hachisuka, and Jaroslav Krivánek. 2016. Robust light transport simulation via Metropolised bidirectional estimators. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 35, 6, (November 2016), 245:1–245:12. ISSN: 0730-0301. DOI: [10/gfz4kj](#).
- [1174] François X. Sillion. 1995. A unified hierarchical algorithm for global illumination with scattering volumes and object clusters. *IEEE Transactions on Visualization and Computer Graphics*, 1, 3, (September 1995), 240–254. ISSN: 1077-2626. DOI: [10/fhjg65](#).
- [1175] François X. Sillion, James R. Arvo, Stephen H. Westin, and Donald P. Greenberg. 1991. A global illumination solution for general reflectance distributions. *Computer Graphics (Proceedings of SIGGRAPH)*, 25, 4, (July 1991), 187–196. ISSN: 0097-8930. DOI: [10/bnxc3q](#).
- [1176] François X. Sillion and Claude Puech. 1989. A general two-pass method integrating specular and diffuse reflection. *Computer Graphics (Proceedings of SIGGRAPH)*, 23, 3, (July 1989), 335–344. ISSN: 0097-8930. DOI: [10/dmd4f3](#).
- [1177] Samuel Siltanen, Tapio Lokki, Sami Kiminki, and Lauri Savioja. 2007. The room acoustic rendering equation. *Journal of the Acoustical Society of America*, 122, 3, (September 2007), 1624–1635. DOI: [10/frbmz2](#).
- [1178] Florian Simon, Johannes Hanika, Tobias Zirr, and Carsten Dachsbacher. 2017. Line integration for rendering heterogeneous emissive volumes. *Computer Graphics Forum (Proceedings of the Eurographics Symposium on Rendering)*, 36, 4, (June 2017).
- [1179] Karen Simonyan and Andrew Zisserman. 2014. Very deep convolutional networks for large-scale image recognition, (September 4, 2014). arXiv: [1409.1556 \[cs\]](#).
- [1180] Karl Sims. 1991. Artificial evolution for computer graphics. *Computer Graphics (Proceedings of SIGGRAPH)*, 25, 4, (July 1991), 319–328.
- [1181] B. P. Singh and M. Kaviany. 1992. Modelling radiative heat transfer in packed beds. *International Journal of Heat and Mass Transfer*, 35, 6, (June 1, 1992), 1397–1405. ISSN: 0017-9310. DOI: [10/d5t48d](#).
- [1182] Gurprit Singh and Wojciech Jarosz. 2017. Convergence analysis for anisotropic Monte Carlo sampling spectra. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 36, 4, (July 2017), 137:1–137:14. ISSN: 0730-0301. DOI: [10/gbxfhj](#).
- [1183] Gurprit Singh, Bailey Miller, and Wojciech Jarosz. 2017. Variance and convergence analysis of Monte Carlo line and segment sampling. *Computer Graphics Forum (Proceedings of the Eurographics Symposium on Rendering)*, 36, 4, (July 2017), 79–89. ISSN: 0167-7055. DOI: [10/gfzncj](#).
- [1184] Gurprit Singh, Cengiz Öztireli, Abdalla G.M. Ahmed, David Coeurjolly, Kartic Subr, Oliver Deussen, Victor Ostromoukhov, Ravi Ramamoorthi, and Wojciech

- Jaros. 2019. Analysis of sample correlations for Monte Carlo rendering. *Computer Graphics Forum (Proceedings of Eurographics State of the Art Reports)*, 38, 2, (April 2019).
- [1185] Gurprit Singh, Kartic Subr, David Coeurjolly, Victor Ostromoukhov, and Wojciech Jarosz. 2019. Fourier analysis of correlated Monte Carlo importance sampling. *Computer Graphics Forum*, 38, 1, (April 5, 2019). ISSN: 0167-7055, 1467-8659. doi: [10/gfznck](#).
- [1186] J. M. Singh and P. J. Narayanan. 2010. Real-time ray tracing of implicit surfaces on the GPU. *IEEE Transactions on Visualization and Computer Graphics*, 16, 2, (March 2010), 261–272. ISSN: 1077-2626. doi: [10/fdxhd3](#).
- [1187] Monica Skoge, Aleksandar Donev, Frank H. Stillinger, and Salvatore Torquato. 2006. Packing hyperspheres in high-dimensional Euclidean spaces. *Physical Review E*, 74, 4, (October 30, 2006), 041127. doi: [10/cx7ksg](#).
- [1188] Mélina Skouras, Bernhard Thomaszewski, Peter Kaufmann, Akash Garg, Bernd Bickel, Eitan Grinspun, and Markus Gross. 2014. Designing inflatable structures. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 33, 4, (July 2014), 63:1–63:10. ISSN: 0730-0301. doi: [10/f6cprc](#).
- [1189] Helge Skulderud. 1968. The stochastic computer simulation of ion motion in a gas subjected to a constant electric field. *Journal of Physics D: Applied Physics*, 1, 11, 1567–1568. doi: [10/brdgr7](#).
- [1190] Peter-Pike Sloan, Jesse Hall, John Hart, and John Snyder. 2003. Clustered principal components for precomputed radiance transfer. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 22, 3, (July 1, 2003), 382. ISSN: 07300301. doi: [10/dbvt9z](#).
- [1191] Peter-Pike Sloan, Jan Kautz, and John Snyder. 2002. Precomputed radiance transfer for real-time rendering in dynamic, low-frequency lighting environments. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 21, 3, 527–536. ISSN: 0730-0301. doi: [10/fqg3kn](#).
- [1192] Peter-Pike Sloan, Ben Luna, and John Snyder. 2005. Local, deformable pre-computed radiance transfer. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 24, 3, (July 31, 2005), 1216–1224. ISSN: 0730-0301. doi: [10/bvbs8qw](#).
- [1193] Philipp Slusallek, Marc Stamminger, Wolfgang Heidrich, Jan-Christian Popp, and Hans-Peter Seidel. 1998. Composite lighting simulations with lighting networks. *IEEE Computer Graphics & Applications*, 18, 2, (March 1998), 22–31. ISSN 0272-1716. doi: [10/fsmcwn](#).
- [1194] Dmitriy Smirnov, Matthew Fisher, Vladimir G. Kim, Richard Zhang, and Justin Solomon. 2019. Deep parametric shape predictions using distance fields, (April 18, 2019). arXiv: [1904.08921 \[cs\]](#).
- [1195] Alvy Ray Smith. 1984. Plants fractals and formal languages. *Computer Graphics (Proceedings of SIGGRAPH)*, 18, 3, (July 1984), 1–10.
- [1196] B. Smith, J. Vasut, T. Hyde, L. Matthews, J. Reay, M. Cook, and J. Schmoke. 2004. Dusty plasma correlation function experiment. *Advances in Space Research. Scientific Exploration, Planetary Protection, Active Experiments and Dusty Plasmas* 34, 11, (January 1, 2004), 2379–2383. ISSN: 0273-1177. doi: [10/dsg362](#).
- [1197] T. Smith and J. Guild. 1931. The C.I.E. colorimetric standards and their use. *Transactions of the Optical Society*, 33, 3, (January 1931), 73–134. ISSN: 1475-4878. doi: [10/fvzpzn](#).
- [1198] Brian E. Smits, James R. Arvo, and David H. Salesin. 1992. An importance-driven radiosity algorithm. *Computer Graphics (Proceedings of SIGGRAPH)*, 26, 2, (July 1992), 273–282. ISSN: 0097-8930. doi: [10/c6nqbs](#).
- [1199] John M. Snyder. 1992. Interval analysis for computer graphics. *Computer Graphics (Proceedings of SIGGRAPH)*, 26, 2, (July 1992), 121–130.
- [1200] John M. Snyder and Alan H. Barr. 1987. Ray tracing complex models containing surface tessellations. *Computer Graphics (Proceedings of SIGGRAPH)*, 21, 4, (July 1987), 119–128. doi: [10/fbp6nj](#).
- [1201] Ilya M. Sobol. 1967. The distribution of points in a cube and the approximate evaluation of integrals. *USSR Computational Mathematics and Mathematical Physics*, 7, 86–112. doi: [10/crdj6j](#).
- [1202] Cyril Soler, Mahdi M. Bagher, and Derek Nowrouzezahrai. 2015. Efficient and accurate spherical kernel integrals using isotropic decomposition. *ACM Transactions on Graphics*, 34, 6, (December 2015).
- [1203] Cyril Soler, François X. Sillion, Frederic Blaise, and Philippe Dericffe. 2003. An efficient instantiation algorithm for simulating radiant energy transfer in plant models. *ACM Transactions on Graphics*, 22, 2, (April 2003), 204–233. doi: [10/bcjrhf](#).
- [1204] Cyril Soler, Kartic Subr, Frédéric Durand, Nicolas Holzschuch, and François X. Sillion. 2009. Fourier depth of field. *ACM Transactions on Graphics*, 28, 2, (May 2009), 18:1–18:12. ISSN: 0730-0301. doi: [10/brdbsb](#).
- [1205] Chaoming Song, Ping Wang, and Hernán A. Makse. 2008. A phase diagram for jammed matter. *Nature*, 453, 7195, (May 2008), 629–632. ISSN: 1476-4687. doi: [10/bb59zq](#).
- [1206] Ying Song, Xin Tong, Fabio Pellacini, and Pieter Peers. 2009. SubEdit: a representation for editing measured heterogeneous subsurface scattering. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 28, 3, (July 27, 2009), 1. ISSN: 07300301. doi: [10/brwqcn](#).
- [1207] Romain Soulié, Stéphane Mérillou, Olivier Terraz, and Djamechid Ghazanfarpour. 2007. Modeling and rendering of heterogeneous granular materials: granite application. *Computer Graphics Forum*, 26, 1, 66–79. ISSN: 1467-8659. doi: [10/dzk3dd](#).
- [1208] J. Spanier. 1979. A new family of estimators for random walk problems. *IMA Journal of Applied Mathematics*, 23, 1, (January 1, 1979), 1–31. ISSN: 0272-4960. doi: [10/b8jdpn](#).
- [1209] Jerome Spanier. 1966. Two pairs of families of estimators for transport problems. *SIAM Journal on Applied Mathematics*, 14, 4, (July 1966), 702–713. ISSN: 00361399. doi: [10/dg35nt](#).
- [1210] E. J. Sparrow, E. R. G. Eckert, and V. K. Jonsson. 1962. An enclosure theory for radiative exchange between specularly and diffusely reflecting surfaces. *ASME Journal of Heat Transfer*. C 84, 4, (November 1962), 294–300.
- [1211] E. M. Sparrow. 1960. Application of variational methods to radiative heat-transfer calculations. *ASME Journal of Heat Transfer*. C 82, 4, (November 1960), 375–380.
- [1212] E. M. Sparrow. 1963. A new and simpler formulation for radiative angle factors. *ASME Journal of Heat Transfer*. C 85, 2, (May 1963), 81–88. doi: [10/gfzwbz](#).
- [1213] E. M. Sparrow and A. Haji-Sheikh. 1965. A generalized variational method for calculating radiant interchange between surfaces. *ASME Journal of Heat Transfer*. C 87, 1, (February 1965), 103–109.
- [1214] E. M. Sparrow and S. L. Lin. 1965. Radiant heat transfer at a surface having both specular and diffuse reflectance components. *International Journal of Heat and Mass Transfer*, 8, 5, (May 1965), 769–779. doi: [10/cnrjh5](#).
- [1215] Ben Spencer and Mark W. Jones. 2009. Hierarchical photon mapping. *IEEE Transactions on Visualization and Computer Graphics*, 15, 1, (January 2009), 49–61. ISSN: 1077-2626. doi: [10/dcvbqv](#).
- [1216] Ben Spencer and Mark W. Jones. 2009. Into the blue: better caustics through photon relaxation. *Computer Graphics Forum*, 28, 2, (April 1, 2009), 319–328. ISSN: 01677055, 14678659. doi: [10/bssr8t](#).
- [1217] Domina Eberle Spencer. 1942. Calculation of illumination from triangular sources. *Journal of the Optical Society of America*, 32, 5, 274–281. doi: [10/ckxj8s](#).
- [1218] I. F. Spiro, R. C. Jones, and D. Q. Wark. 1965. Atmospheric transmission: concepts, symbols, units and nomenclature. *Infrared Physics*, 5, 1, 11–36.
- [1219] Michael M. Stark, M. Stark, Elaine Cohen, Tom Lyche, Peter Shirley, Frank Stenger, Thomas Henderson, and David S. Chapman. 2002. Analytic illumination in polyhedral environments.
- [1220] Charles M. Stein. 1981. Estimation of the mean of a multivariate normal distribution. *The Annals of Statistics*, 9, 6, (November 1981), 1135–1151. ISSN: 0090-5364, 2168-8966. doi: [10/bwrkj4](#).
- [1221] Michael Stein. 1987. Large sample properties of simulations using Latin hypercube sampling. *Technometrics*, 29, 2, 143–151. doi: [10/gfzncm](#).
- [1222] David M. Steinberg and Dennis K. J. Lin. 2006. A construction method for orthogonal Latin hypercube designs. *Biometrika*, 93, 2, 279–288. ISSN: 00063444. doi: [10/bns86t](#).
- [1223] Herbert A. Steinberg and Malvin H. Kalos. 1971. Bounded estimators for flux at a point in Monte Carlo. *Nuclear Science and Engineering*, 44, 3, (June 1, 1971), 406–412. ISSN: 0029-5639. doi: [10/gfzndd](#).
- [1224] John C. Stewart. 1968. On the x- and y-functions and Green's function for a finite slab. *Journal of Quantitative Spectroscopy and Radiative Transfer*, 8, 487–493. doi: [10/fn2xwg](#).
- [1225] John C. Stewart, Ivan Kušćer, and Norman J. McCormick. 1966. Equivalence of special models in energy-dependent neutron transport and nongrey radiative transfer. *Annals of Physics*, 40, 321–333.
- [1226] Kartic Subr and Jan Kautz. 2013. Fourier analysis of stochastic sampling strategies for assessing bias and variance in integration. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 32, 4, (July 2013), 128:1–128:12. ISSN: 0730-0301. doi: [10/gbdg7c](#).
- [1227] Kartic Subr, Derek Nowrouzezahrai, Wojciech Jarosz, Jan Kautz, and Kenny Mitchell. 2014. Error analysis of estimators that use combinations of stochastic sampling strategies for direct illumination. *Computer Graphics Forum (Proceedings of the Eurographics Symposium on Rendering)*, 33, 4, (June 2014), 93–102. ISSN: 1467-8659. doi: [10/f6fgw4](#).
- [1228] Masamichi Sugihara, Brian Wyvill, and Ryan Schmidt. 2010. WarpCurves: A tool for explicit manipulation of implicit surfaces. *Computers & Graphics. Proceedings of Shape Modeling International* 34, 3, (June 1, 2010), 282–291. ISSN: 0097-8493. doi: [10/dqnmqj](#).
- [1229] W. E. Sumpner. 1893. The diffusion of light. *Philosophical Magazine*, 35, 213, (February 1893), 81–87.
- [1230] Bo Sun, Ravi Ramamoorthi, Srinivasa G. Narasimhan, and Shree K. Nayar. 2005. A practical analytic single scattering model for real time rendering. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 24, 3, 1040–1049. ISSN: 0730-0301. doi: [10/fgnbqt](#).
- [1231] Fasheng Sun, Min-Qian Liu, and Dennis K. J. Lin. 2009. Construction of orthogonal Latin hypercube designs. *Biometrika*, 96, 4, (October 2009), 971–974. ISSN: 0006-3444. doi: [10/dkmc5r](#).

- [1232] Fasheng Sun, Min-Qian Liu, and Peter Z. G. Qian. 2014. On the construction of nested space-filling designs. *The Annals of Statistics*, 42, 4, 1394–1425. ISSN: 0090-5364. doi: [10/gf3nmd](#).
- [1233] Jian Sun, Jiaya Jia, Chi-Keung Tang, and Heung-Yeung Shum. 2004. Poisson matting. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 23, 3, (August 1, 2004), 315–321. ISSN: 07300301. doi: [10/cmkq93](#).
- [1234] Jian Sun, Lin Liang, Fang Wen, and Heung-Yeung Shum. 2007. Image vectorization using optimized gradient meshes. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 26, 3, (July 29, 2007), 11. ISSN: 07300301. doi: [10/bs8bf3](#).
- [1235] Weifeng Sun and Amar Mukherjee. 2006. Generalized wavelet product integral for rendering dynamic glossy objects. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 25, 3, (July 1, 2006), 955–966. ISSN: 07300301. doi: [10/d8gq6s](#).
- [1236] Xin Sun, Guofu Xie, Yue Dong, Stephen Lin, Weiwei Xu, Wencheng Wang, Xin Tong, and Baining Guo. 2012. Diffusion curve textures for resolution independent texture mapping. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 31, 4, (July 2012), 74:1–74:9. ISSN: 0730-0301. doi: [10/gbbwnp](#).
- [1237] Xin Sun, Kun Zhou, Yanyun Chen, Stephen Lin, Jiaoying Shi, and Baining Guo. 2007. Interactive relighting with dynamic BRDFs. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 26, 3, (July 29, 2007), 27. ISSN: 07300301. doi: [10/d8zjw4](#).
- [1238] Xin Sun, Kun Zhou, Jie Guo, Guofu Xie, Jingui Pan, Wencheng Wang, and Baining Guo. 2013. Line segment sampling with blue-noise properties. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 32, 4, (July 2013), 127:1–127:14. ISSN: 0730-0301. doi: [10/gbdg4r](#).
- [1239] Xin Sun, Kun Zhou, Stephen Lin, and Baining Guo. 2010. Line space gathering for single scattering in large scenes. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 29, 4, (July 26, 2010), 54:1–54:8. ISSN: 0730-0301. doi: [10/dzxvvr](#).
- [1240] Xin Sun, Kun Zhou, Eric Stollnitz, Jiaoying Shi, and Baining Guo. 2008. Interactive relighting of dynamic refractive objects. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 27, 3, (August 1, 2008), 1. ISSN: 07300301. doi: [10/tq5wd5](#).
- [1241] Ivan E. Sutherland, Robert F. Sproull, and Robert A. Schumacker. 1974. A characterization of ten hidden-surface algorithms. *Computing Surveys*, 6, 1, (March 1974), 1–55.
- [1242] Laszlo Szecsi, Laszlo Szirmay-Kalos, and Csaba Kelemen. 2003. Variance reduction for Russian-roulette. *Journal of the World Society for Computer Graphics (WSCG)*, 11, 1–3.
- [1243] Richard Szeliski. 1996. Video mosaics for virtual environments. *IEEE Computer Graphics & Applications*, 16, 2, 22–30.
- [1244] Laszlo Szirmay-Kalos, Iliyan Georgiev, Milán Magdics, and Werner Purgathofer. 1999. Importance driven quasi-random walk solution of the rendering equation. *Computers & Graphics*, 23, 2, 203–212. doi: [10/cn3gj9](#).
- [1245] László Szirmay-Kalos, Iliyan Georgiev, Milán Magdics, Balázs Molnár, and Dávid Légrády. 2017. Unbiased estimators to render procedurally generated inhomogeneous participating media. *Computer Graphics Forum (Proceedings of Eurographics)*, 36, 2.
- [1246] László Szirmay-Kalos, Balázs Tóth, and Milán Magdics. 2011. Free path sampling in high resolution inhomogeneous participating media. *Computer Graphics Forum*, 30, 1, (March 2011), 85–97. ISSN: 01677055. doi: [10/bpkdzm](#).
- [1247] László Szirmay-Kalos and Tamás Umenhoffer. 2008. Displacement mapping on the GPU - state of the art. *Computer Graphics Forum*, 27, 6, 1567–1592.
- [1248] Eric Tabellion and Arnauld Lamorlette. 2004. An approximate global illumination system for computer generated films. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 23, 3, 469–476. ISSN: 0730-0301. doi: [10/cw2mqm](#).
- [1249] Ryuichi Tadano, Adithya Kumar Pediredla, Kaushik Mitra, and Ashok Veeraraghavan. 2015. Spatial Phase-Sweep: Increasing temporal resolution of transient imaging using a light source array, (December 21, 2015). arXiv: [1512.06539 \[cs\]](#).
- [1250] Andrea Tagliasacchi, Ibraheem Alhashim, Matt Olson, and Hao Zhang. 2012. Mean curvature skeletons. *Computer Graphics Forum*, 31, 5, 1735–1744. ISSN: 1467-8659. doi: [10/f37jtz](#).
- [1251] Tapio Takala and James Hahn. 1992. Sound rendering. *Computer Graphics (Proceedings of SIGGRAPH)*, 211–220. doi: [10/dr2grw](#).
- [1252] Kenshi Takayama, Olga Sorkine, Andrew Nealen, and Takeo Igarashi. 2010. Volumetric modeling with diffusion surfaces. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 29, 6, (December 1, 2010), 180:1–180:8. ISSN: 07300301. doi: [10/bw5627](#).
- [1253] H. Takeda, S. Farsiu, and P. Milanfar. 2007. Kernel regression for image processing and reconstruction. *IEEE Transactions on Image Processing*, 16, 2, (February 2007), 349–366. ISSN: 1057-7149. doi: [10/b4gfwp](#).
- [1254] Zhiqiang Tan. 1989. Radiative heat transfer in multidimensional emitting, absorbing, and anisotropic scattering media – mathematical formulation and numerical method. *ASME Journal of Heat Transfer*, 111, (February 1989), 141–147.
- [1255] Zhiqiang Tan. 1989. Radiative heat transfer in multidimensional emitting, absorbing, and anisotropic scattering media—mathematical formulation and numerical method. *ASME Journal of Heat Transfer*, 111, 1, (February 1, 1989), 141–147. ISSN: 0022-1481. doi: [10/b33g44](#).
- [1256] Boxin Tang. 1993. Orthogonal array-based Latin hypercubes. *Journal of the American Statistical Association*, 88, 424, (December 1993), 1392–1397. ISSN: 1537-274X. doi: [10/gfzncp](#).
- [1257] Boxin Tang. 1998. Selecting Latin hypercubes using correlation criteria. *Statistica Sinica*, 8, 3, 965–977. ISSN: 10170405, 19968507.
- [1258] Jonathan Taylor, Vladimir Tankovich, Danhang Tang, Cem Keskin, David Kim, Philip Davidson, Adarsh Kowdle, and Shahram Izadi. 2017. Articulated distance fields for ultra-fast tracking of hands interacting. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 36, 6, (November 2017), 244:1–244:12. ISSN: 0730-0301. doi: [10/gcqbht](#).
- [1259] Seth J. Teller. 1992. Computing the antipenumbra of an area light source. *Computer Graphics (Proceedings of SIGGRAPH)*, 26, 2, (July 1992), 139–148.
- [1260] Demetri Terzopoulos, John Platt, Alan Barr, and Kurt Fleischer. 1987. Elastically deformable models. *Computer Graphics (Proceedings of SIGGRAPH)*, 21, 4, (August 1, 1987), 205–214. ISSN: 00978930. doi: [10/c4xrhv](#).
- [1261] J. Tesselndorf. 1987. Radiative transfer as a sum over paths. *Physical Review A*, 35, 2, (January 1, 1987), 872–878. doi: [10/czvqzc](#).
- [1262] Jerry Tesselndorf. 1990. Radiative transfer on curved surfaces. *Journal of Mathematical Physics*, 31, 4, (April 1990), 1010–1019. ISSN: 0022-2488. doi: [10/bm892q](#).
- [1263] M. Thomas and W. S. Rigdon. 1964. A simplified formulation for radiative transfer. *American Institute of Aeronautics and Astronautics Journal*, 2, 11, (November 1964), 2052–2054.
- [1264] Bernhard Thomaszewski, Stelian Coros, Damien Gauge, Vittorio Megaro, Eitan Grinspun, and Markus Gross. 2014. Computational design of linkage-based characters. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 33, 4, (July 2014), 64:1–64:9. ISSN: 0730-0301. doi: [10/fccpqj](#).
- [1265] Luke Tierney. 1998. A note on Metropolis-Hastings kernels for general state spaces. *The Annals of Applied Probability*, 8, 1, (February 1998), 1–9. ISSN: 1050-5164, 2168-8737. doi: [10/cpmmn7](#).
- [1266] Hideki Todo, Ken-ichi Anjyo, William Baxter, and Takeo Igarashi. 2007. Locally controllable stylized shading. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 26, 3, (July 29, 2007), 17. ISSN: 07300301. doi: [10/bvk82w](#).
- [1267] Yusuke Tokuyoshi and Takahiro Harada. 2016. Stochastic light culling. *Journal of Computer Graphics Techniques (JCGT)*, 5, 1.
- [1268] Xin Tong, Jiaping Wang, Stephen Lin, Baining Guo, and Heung-Yeung Shum. 2005. Modeling and rendering of quasi-homogeneous materials. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 24, 3, (July 1, 2005), 1054. ISSN: 07300301. doi: [10/dgj65m](#).
- [1269] J. S. Toor and R. Viskanta. 1968. A numerical experiment of radiant heat interchange by the Monte Carlo method. *International Journal of Heat and Mass Transfer*, 11, 883–897. doi: [10/ft5kfz](#).
- [1270] S. Torquato and B. Lu. 1993. Chord-length distribution function for two-phase random media. *Physical Review E*, 47, 4, (April 1, 1993), 2950–2953. doi: [10/dwggd5](#).
- [1271] Salvatore Torquato, Obiana U. Uche, and Frank H. Stillinger. 2006. Random sequential addition of hard spheres in high Euclidean dimensions. *Physical Review E*, 74, 6. doi: [10/d9q29g](#).
- [1272] Kenneth E. Torrance and Ephraim M. Sparrow. 1967. Theory for off-specular reflection from roughened surfaces. *Journal of the Optical Society of America*, 57, 9, 1105–1114. doi: [10/dw6f9n](#).
- [1273] Daniel L. Toth. 1985. On ray tracing parametric surfaces. *Computer Graphics (Proceedings of SIGGRAPH)*, 19, 3, (July 1985), 171–179.
- [1274] Grigorios Tsagakatakis, Arnaud Woiselle, George Tzagkarakis, Marc Bousquet, Jean-Luc Starck, and Panagiotis Tsakalides. 2015. Multireturn compressed gated range imaging. *Optical Engineering*, 54, 3. doi: [10/gfz5nb](#).
- [1275] Yu-Ting Tsai, Chin-Chen Chang, Qing-Zhen Jiang, and Shr-Ching Weng. 2008. Importance sampling of products from illumination and BRDF using spherical radial basis functions. *The Visual Computer*, 24, 7, (July 2008), 817–826. ISSN: 0178-2789. doi: [10/bbtxn7](#).
- [1276] Yu-Ting Tsai and Zen-Chung Shih. 2006. All-frequency precomputed radiance transfer using spherical radial basis functions and clustered tensor approximation. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 25, 3, 967–976. ISSN: 0730-0301. doi: [10/dwsd3h](#).
- [1277] Norimichi Tsumura, Nobutoshi Ojima, Kayoko Sato, Mitsuhiro Shiraishi, Hideto Shimizu, Hirohide Nabeshima, Syuuichi Akazaki, Kimihiko Hori, and Yoichi Miyake. 2003. Image-based skin color and texture analysis/synthesis by extracting hemoglobin and melanin information in the skin. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 22, 3, 770–779. ISSN: 0730-0301. doi: [10/b57z7p](#).
- [1278] Borom Tunwattapanpong, Graham Fyffe, Paul Graham, Jay Busch, Xueming Yu, Abhijeet Ghosh, and Paul Debevec. 2013. Acquiring reflectance and shape from continuous spherical harmonic illumination. *ACM Transactions on Graphics*

- (*Proceedings of SIGGRAPH*), 32, 4, Article 109, 109:1–109:12. ISSN: 0730-0301. doi: [10/gbdgxw](#).
- [1279] Greg Turk. 1992. Re-tiling polygonal surfaces. *Computer Graphics (Proceedings of SIGGRAPH)*, 26, 2, (July 1992), 55–64.
- [1280] G. E. Uhlenbeck. 1973. The validity and the limitations of the Boltzmann equation. *Acta Physica Austriaca Supplementum X*, 107–119. Proceedings of the International Symposium “100 Years Boltzmann Equation”.
- [1281] Seiji Ukai. 1972. Solution of multi-dimensional neutron transport equation by finite element method. *Journal of Nuclear Science and Technology*, 9, 6, (June 1972), 366–373.
- [1282] R. A. Ulichney. 1988. Dithering with blue noise. *Proceedings of the IEEE*, 76, 1, (January 1988), 56–79. ISSN: 0018-9219. doi: [10/brrtszd](#).
- [1283] K. Umashankar and A. Taflov. 1982. A novel method to analyze electromagnetic scattering of complex objects. *IEEE Transactions on Electromagnetic Compatibility, EMC-24*, 4, (November 1982), 397–405. ISSN: 0018-9375. doi: [10/bbwvnt](#).
- [1284] Nobuyuki Umetani, Takeo Igarashi, and Niloy J. Mitra. 2012. Guided exploration of physically valid shapes for furniture design. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 31, 4, Article 86, (July 2012), 86:1–86:11. ISSN: 0730-0301. doi: [10/gbbwpd](#).
- [1285] Nobuyuki Umetani, Yuki Koyama, Ryan Schmidt, and Takeo Igarashi. 2014. Pteromys: interactive design and optimization of free-formed free-flight model airplanes. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 33, 4, (July 2014), 65:1–65:10. ISSN: 0730-0301. doi: [10/tzc](#).
- [1286] S. Uneo and A. P. Wang. 1974. Scattering and transmission functions of radiation by a finite atmosphere with a diffuse-and-specular reflector. *Bulletin of the American Astronomical Society*, 6, 3, 385.
- [1287] Jonas Unger, Stefan Gustavson, Per Larsson, and Anders Ynnerman. 2008. Free form incident light fields. *Computer Graphics Forum (Proceedings of the Eurographics Symposium on Rendering)*, 1293–1301. doi: [10/bkd9kw](#).
- [1288] M. Unser. 2000. Sampling—50 Years After Shannon. *Proceedings of the IEEE*, 88, 4, (April 2000), 569–587. ISSN: 0018-9219. doi: [10/b4rn6n](#).
- [1289] Craig Upson and Michael Keeler. 1988. V-buffer: visible volume rendering. *Computer Graphics (Proceedings of SIGGRAPH)*, 22, 4, (August 1988), 59–64.
- [1290] Carlos Ureña, Marcos Fajardo, and Alan King. 2013. An area-preserving parametrization for spherical rectangles. *Computer Graphics Forum (Proceedings of the Eurographics Symposium on Rendering)*, 32, 4, 59–66. ISSN: 1467-8659. doi: [10/gfzncr](#).
- [1291] Karthik Vaidyanathan, Jacob Munkberg, Petrik Clarberg, and Marco Salvi. 2015. Layered light field reconstruction for defocus blur. *ACM Transactions on Graphics*, 34, 2, (March 2015), 23:1–23:12. ISSN: 0730-0301. doi: [10/f648n8](#).
- [1292] Rodolphe Vaillant, Loïc Barthe, Gaël Guennebaud, Marie-Paule Cani, Damien Rohmer, Brian Wyvill, Olivier Gourmel, and Mathias Paulin. 2013. Implicit skinning: real-time skin deformation with contact modeling. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 32, 4, (July 2013), 125:1–125:12. ISSN: 0730-0301. doi: [10/gfz54q](#).
- [1293] Rodolphe Vaillant, Gaël Guennebaud, Loïc Barthe, Brian Wyvill, and Marie-Paule Cani. 2014. Robust iso-surface tracking for interactive character skinning. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 33, 6, (November 2014), 189:1–189:11. ISSN: 0730-0301. doi: [10/gfz54r](#).
- [1294] M. S. Vallarta and R. P. Feynmann. 1939. The scattering of cosmic rays by the stars of a galaxy. *Physical Review*, 55, 5, (March 1939), 506–507.
- [1295] D. Van de Ville and M. Kocher. 2009. SURE-based non-local means. *IEEE Signal Processing Letters*, 16, 11, (November 2009), 973–976. ISSN: 1070-9908. doi: [10/ccrxzx](#).
- [1296] Hendrik Christoffel van de Hulst. 1948. Scattering in a planetary atmosphere. *Astrophysical Journal*, 107, 1, (January 1948), 220–246. ISSN: 0004-637X. doi: [10/ct8fpj](#).
- [1297] Aaron van den Oord, Sander Dieleman, Heiga Zen, Karen Simonyan, Oriol Vinyals, Alex Graves, Nal Kalchbrenner, Andrew Senior, and Koray Kavukcuoglu. 2016. WaveNet: a generative model for raw audio, (September 12, 2016). arXiv: [1609.03499 \[cs\]](#).
- [1298] J. J. van Wijk. 1984. Ray tracing objects defined by sweeping planar cubic splines. *ACM Transactions on Graphics*, 3, 3, (July 1984), 223–237. doi: [10/bkp823](#).
- [1299] Peter Vangorp, Jurgen Laurijssen, and Philip Dutré. 2007. The influence of shape on the perception of material reflectance. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 26, 3. doi: [10/c63gbh](#).
- [1300] P.L. Varkonyi and G. Domokos. 2006. Static equilibria of rigid bodies: dice, pebbles, and the poincare-hopf theorem. *Journal of Nonlinear Science*, 16, 3, (June 1, 2006), 255–281. ISSN: 1432-1467. doi: [10/bq6rfz](#).
- [1301] Richard Vasques and Edward W. Larsen. 2014. Non-classical particle transport with angular-dependent path-length distributions. I: Theory. *Annals of Nuclear Energy*, 70, 292–300, Supplement C. ISSN: 0306-4549. doi: [10/gfz723](#).
- [1302] Richard Vasques and Edward W. Larsen. 2014. Non-classical particle transport with angular-dependent path-length distributions. II: Application to pebble bed reactor cores. *Annals of Nuclear Energy*, 70, 301–311, Supplement C. ISSN: 0306-4549. doi: [10/f55pxw](#).
- [1303] Edgar Velázquez-Armendáriz, Zhao Dong, Bruce Walter, and Donald P. Greenberg. 2015. Complex luminaires: illumination and appearance rendering. *ACM Transactions on Graphics*, 34, 3, Article 26, (May 2015), 26:1–26:15. doi: [10/gfz725](#).
- [1304] Andreas Velten, Thomas Willwacher, Otkrist Gupta, Ashok Veeraraghavan, Mouni G. Bawendi, and Ramesh Raskar. 2012. Recovering three-dimensional shape around a corner using ultrafast time-of-flight imaging. *Nature Communications*, 3.
- [1305] Andreas Velten, Di Wu, Adrian Jarabo, Belen Masia, Christopher Barsi, Chinmaya Joshi, Everett Lawson, Mouni Bawendi, Diego Gutierrez, and Ramesh Raskar. 2013. Femto-photography: capturing and visualizing the propagation of light. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 32, 4, Article 44, (July 2013), 44:1–44:8. ISSN: 0730-0301. doi: [10/gfxpkt](#).
- [1306] Andreas Velten, Di Wu, Belen Masia, Adrian Jarabo, Christopher Barsi, Chinmaya Joshi, Everett Lawson, Mouni Bawendi, Diego Gutierrez, and Ramesh Raskar. 2016. Transient imaging of macroscopic scenes at picosecond resolution. *Communications of the ACM*.
- [1307] C. P. Verbeck and D. P. Greenberg. 1984. A comprehensive light source description for computer graphics. *IEEE Computer Graphics & Applications*, 4, 7, (July 1984), 66–75. doi: [10/c74qvv](#).
- [1308] Jakob J. Verbeek, Jan R. J. Nunnink, and Nikos Vlassis. 2006. Accelerated EM-based clustering of large data sets. *Data Mining and Knowledge Discovery*, 13, 3, (November 2006), 291–307. ISSN: 1573-756X. doi: [10/dk7fgt](#).
- [1309] Romain Vergne, Pascal Barla, Roland W. Fleming, and Xavier Granier. 2012. Surface flows for image-based shading design. *ACM Transactions on Graphics*, 31, 4, (July 2012), 94:1–94:9. ISSN: 0730-0301. doi: [10/gbbwnb](#).
- [1310] Ryusuke Villemin and Christophe Hery. 2013. Practical illumination from flames. *Journal of Computer Graphics Techniques (JCGT)*, 2, 2, 142–155.
- [1311] Emmanuel Villermaux and Benjamin Bossa. 2009. Single-drop fragmentation determines size distribution of raindrops. *Nature Physics*, 5, 9, (September 2009), 697–702. ISSN: 1745-2481. doi: [10/bw8w4d](#).
- [1312] George Vogiatzis and Carlos Hernández. 2012. Self-calibrated, multi-spectral photometric stereo for 3D face capture. *International Journal of Computer Vision (IJCV)*, 97, 1, 91–103. doi: [10/dzhvrv](#).
- [1313] Wolfgang von Funck, Holger Theisel, and Hans-Peter Seidel. 2006. Vector field based shape deformations. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 25, 3, (July 1, 2006), 1118. ISSN: 07300301. doi: [10/c8h9dt](#).
- [1314] John von Neumann. 1951. Various techniques used in connection with random digits. *Journal of Research of the National Bureau of Standards. Applied Mathematics, Series 12*, 36–38.
- [1315] Jiří Vorba, Ondřej Karlík, Martin Šik, Tobias Ritschel, and Jaroslav Krivánek. 2014. On-line learning of parametric mixture models for light transport simulation. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 33, 4, (August 2014), 101:1–101:11. ISSN: 0730-0301. doi: [10/f6c2cp](#).
- [1316] Jiří Vorba and Jaroslav Krivánek. 2016. Adjoint-driven Russian roulette and splitting in light transport simulation. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 35, 4, (July 2016), 42:1–42:11. ISSN: 0730-0301. doi: [10/f89mcz](#).
- [1317] Florent Wachtel, Adrien Pilleboue, David Coeurjolly, Katherine Breeden, Gurprit Singh, Gaël Cathelin, Fernando de Goes, Mathieu Desbrun, and Victor Ostromoukhov. 2014. Fast tile-based adaptive sampling with user-specified Fourier spectra. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 33, 4, Article 56, (July 2014), 56:1–56:11. ISSN: 0730-0301.
- [1318] Ingo Wald, William R. Mark, Johannes Günther, Solomon Boulos, Thiago Ize, Warren Hunt, Steven G. Parker, and Peter Shirley. 2009. State of the art in ray tracing animated scenes. *Computer Graphics Forum*, 28, 6, 1691–1722. ISSN: 1467-8659. doi: [10/b2bqbm](#).
- [1319] Ingo Wald, Philipp Slusallek, Carsten Benthin, and Markus Wagner. 2001. Interactive rendering with coherent ray tracing. *Computer Graphics Forum (Proceedings of Eurographics)*, 20, 3, 153–165. ISSN: 1467-8659. doi: [10/fgz2r](#).
- [1320] Ingo Wald, Sven Woop, Carsten Benthin, Gregory S. Johnson, and Manfred Ernst. 2014. Embree: a kernel framework for efficient CPU ray tracing. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 33, 4. doi: [10/gfzwcw](#).
- [1321] John R. Wallace, Michael F. Cohen, and Donald P. Greenberg. 1987. A two-pass solution to the rendering equation: a synthesis of ray tracing and radiosity methods. *Computer Graphics (Proceedings of SIGGRAPH)*, 21, 4, (July 1987), 311–320. ISSN: 0097-8930. doi: [10/bnqgn3](#).
- [1322] John R. Wallace, Kells A. Elmquist, and Eric A. Haines. 1989. A ray tracing algorithm for progressive radiosity. *Computer Graphics (Proceedings of SIGGRAPH)*, 23, 3, (July 1989), 315–324.
- [1323] John W. T. Walsh. 1929. Note on a geometrical radiation problem. *Philosophical Magazine*, 7, 1092–1093.
- [1324] John W. T. Walsh. 1929. Uniformly diffused light through two apertures. *Philosophical Magazine*, 7, 1093–1094.

- [1325] Bruce Walter, Adam Arbree, Kavita Bala, and Donald P Greenberg. 2006. Multidimensional lightcuts. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 25, 3, (July 2006), 1081–1088. ISSN: 0730-0301. doi: [10/dzgsz7](#).
- [1326] Bruce Walter, Sebastian Fernandez, Adam Arbree, Kavita Bala, Michael Donikian, and Donald P Greenberg. 2005. Lightcuts: a scalable approach to illumination. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 24, 3, (August 2005), 1098–1107. ISSN: 0730-0301. doi: [10/dhp5d3](#).
- [1327] Bruce Walter, Philip M. Hubbard, Peter Shirley, and Donald P. Greenberg. 1997. Global illumination using local linear density estimation. *ACM Transactions on Graphics*, 16, 3, (July 1997), 217–259. ISSN: 0730-0301. doi: [10/fdxkwb](#).
- [1328] Bruce Walter, Pramook Khungurn, and Kavita Bala. 2012. Bidirectional lightcuts. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 31, 4, (July 2012), 59:1–59:11. ISSN: 0730-0301. doi: [10/gfzrcx](#).
- [1329] Bruce Walter, Shuang Zhao, Nicolas Holzschuch, and Kavita Bala. 2009. Single scattering in refractive media with triangle mesh boundaries. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 28, 3, (August 2009), 1. ISSN: 07300301. doi: [10/bq66rh](#).
- [1330] Alan P. Wang. 1990. Basic equations of three-dimensional radiative transfer. *Journal of Mathematical Physics*, 31, 1, (January 1990), 175–181.
- [1331] Changyaw Wang and Kelvin Sung. 1999. Multi-stage N-rooks sampling method. *Journal of Graphics Tools*, 4, 1, 39–47. doi: [10/gfzqh7](#).
- [1332] Jiaping Wang, Peiran Ren, Minmin Gong, John Snyder, and Baining Guo. 2009. All-frequency rendering of dynamic, spatially-varying reflectance. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 28, 5, (December 1, 2009), 133:1–133:10. ISSN: 0730-0301. doi: [10/dfr74x](#).
- [1333] Jiaping Wang, Shuang Zhao, Xin Tong, Stephen Lin, Zhouchen Lin, Yue Dong, Baining Guo, and Heung-Yeung Shum. 2008. Modeling and rendering of heterogeneous translucent materials using the diffusion equation. *ACM Transactions on Graphics*, 27, 1, 1–18.
- [1334] Jingwen Wang and Ravi Ramamoorthi. 2018. Analytic spherical harmonic coefficients for polygonal area lights. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 37, 4, (July 30, 2018), 1–11. ISSN: 07300301. doi: [10/gd52s2](#).
- [1335] Kun Wang and Yang Li. 2013. Constructions of nested orthogonal arrays. *Journal of Combinatorial Designs*, 21, 10, 464–477. ISSN: 1520-6610. doi: [10/gf2zf9](#).
- [1336] L. Wang and Emily Whiting. 2016. Buoyancy optimization for computational fabrication. *Computer Graphics Forum (Proceedings of Eurographics)*, 35, 2, 49–58. ISSN: 1467-8659. doi: [10/f8q5rb](#).
- [1337] Lihong Wang, Steven L. Jacques, and Liqiong Zheng. 1995. MCML—Monte Carlo modeling of light transport in multi-layered tissues. *Computer Methods and Programs in Biomedicine*, 47, 2, (July 1, 1995), 131–146. ISSN: 0169-2607. doi: [10/fshzdg](#).
- [1338] Lihong Wang, Steven Jacques, and Liqiong Zheng. 1995. MCML: Monte Carlo modeling of light transport in multi-layered tissues. *Computer Methods in Programs and Biomedicine*, 8, (July 1995), 313–371.
- [1339] Rui Wang, John Tran, and David Luebke. 2005. All-frequency interactive relighting of translucent objects with single and multiple scattering. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 24, 3, (July 2005), 1202–1207. ISSN: 0730-0301. doi: [10/b2gts2](#).
- [1340] Rui Wang, John Tran, and David Luebke. 2006. All-frequency relighting of glossy objects. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 25, 2, (April 2006), 293–318. doi: [10/dvkh4r](#).
- [1341] Yu Wang, Alec Jacobson, Jernej Barbič, and Ladislav Kavan. 2015. Linear subspace design for real-time shape deformation. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 34, 4, (July 2015), 57:1–57:11. ISSN: 0730-0301. doi: [10/f7m2z2](#).
- [1342] Zhou Wang, Alan C Bovik, Hamid R Sheikh, and Eero P Simoncelli. 2004. Image quality assessment: from error visibility to structural similarity. *IEEE Transactions on Image Processing*, 13, 4, 600–612. ISSN: 1057-7149. doi: [10/c7sr27](#).
- [1343] Gregory J. Ward. 1992. Measuring and modeling anisotropic reflection. *Computer Graphics (Proceedings of SIGGRAPH)*, 26, 2, (July 1992), 265–272. ISSN: 0097-8930. doi: [10/fm228r](#).
- [1344] Gregory J. Ward, Francis M. Rubinstein, and Robert D. Clear. 1988. A ray tracing solution for diffuse interreflection. *Computer Graphics (Proceedings of SIGGRAPH)*, 22, 4, (August 1988), 85–92. ISSN: 0097-8930. doi: [10/dk6rt5](#).
- [1345] K. Ward, Florence Bertails, T.-Y. Kim, S.R. Marschner, M.-P. Cani, and M.C. Lin. 2007. A survey on hair modeling: styling, simulation, and rendering. *IEEE Transactions on Visualization and Computer Graphics*, 13, 2, 213–234. ISSN: 1077-2626. doi: [10/dr62s](#).
- [1346] David F. Watson and Alistair I. Mees. 1996. Natural trees—neighbourhood-location in a nutshell. *International Journal of Geographical Information Systems*, 10, 5, (July 1, 1996), 563–572. ISSN: 0269-3798. doi: [10/bmjsdf](#).
- [1347] Mark Watt. 1990. Light-water interaction using backward beam tracing. *Computer Graphics (Proceedings of SIGGRAPH)*, 24, 4, (July 1990), 377–385. doi: [10/bb7t4s](#).
- [1348] Pascal Weber, Johannes Hanika, and Carsten Dachsbacher. 2017. Multiple vertex next event estimation for lighting in dense, forward-scattering media. *Computer Graphics Forum (Proceedings of Eurographics)*, 36, 2, (April 2017), 21–30. doi: [10/gbm2gf](#).
- [1349] Hank Weghorst, Gary Hooper, and Donald Greenberg. 1984. Improved computational methods for ray tracing. *ACM Transactions on Graphics*, 3, 1, (January 1984), 52–69. doi: [10/cxk2h2](#).
- [1350] Li-Yi Wei. 2008. Parallel Poisson disk sampling. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 27, 3, Article 20, (August 2008), 20:1–20:9. ISSN: 0730-0301. doi: [10/cs3jjv](#).
- [1351] Li-Yi Wei. 2010. Multi-class blue noise sampling. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 29, 4, (July 26, 2010), 79:1–79:8. ISSN: 0730-0301. doi: [10/btbws2](#).
- [1352] Li-Yi Wei and Rui Wang. 2011. Differential domain analysis for non-uniform sampling. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 30, 4, (July 1, 2011), 50:1–50:10. ISSN: 07300301. doi: [10/d43g4g](#).
- [1353] H. K. Weickmann and H. J. aufm Kampe. 1953. Physical properties of cumulus clouds. *Journal of Meteorology*, 10, 3, 204–211. doi: [10/df246b](#).
- [1354] Andrea Weidlich and Alexander Wilkie. 2008. Realistic rendering of birefringency in uniaxial crystals. *ACM Transactions on Graphics*, 27, 1, Article 6, (March 2008), 6:1–6:12. ISSN: 0730-0301. doi: [10/d8xg6j](#).
- [1355] Kevin Weiler. 1980. Polygon comparison using a graph representation. *Computer Graphics (Proceedings of SIGGRAPH)*, 14, 3, (July 1980), 10–18.
- [1356] Kevin Weiler and Peter Atherton. 1977. Hidden surface removal using polygon area sorting. *Computer Graphics (Proceedings of SIGGRAPH)*, 11, 3, 214–222.
- [1357] Daniel Weiskopf, Marc Borchers, Thomas Ertl, Martin Falk, Oliver Fechtig, Regine Frank, Frank Grave, Andreas King, Ute Kraus, Thomas Muller, Hans-Peter Nollert, Isabel Rica Mendez, Hanns Ruder, Tobias Schafitzel, Sonja Schar, Corvin Zahn, and Michael Zatloukal. 2006. Explanatory and illustrative visualization of special and general relativity. *IEEE Transactions on Visualization and Computer Graphics*, 12, 4. doi: [10/bpj7ms](#).
- [1358] Daniel Weiskopf, Ute Kraus, and Hanns Ruder. 1999. Searchlight and Doppler effects in the visualization of special relativity: a corrected derivation of the transformation of radiance. *ACM Transactions on Graphics*, 18, 3, 278–292. doi: [10/cvrr4q](#).
- [1359] W. H. Wells and J. J. Sidorowich. 1982. Anisotropic multiple scattering of collimated irradiance. *Annals of Physics*, 144, 203–237.
- [1360] Burton Wendroff. 1969. A difference scheme for radiative transfer. *Journal of Computational Physics*, 4, 2, 211–229. doi: [10/bwvxxwm](#).
- [1361] Andreas Wenger, Andrew Gardner, Chris Tchou, Jonas Unger, Tim Hawkins, and Paul Debevec. 2005. Performance relighting and reflectance transformation with time-multiplexed illumination. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 24, 3, 756–764. ISSN: 0730-0301. doi: [10/b8brdn](#).
- [1362] Stephen H. Westin, James R. Arvo, and Kenneth E. Torrance. 1992. Predicting reflectance functions from complex surfaces. *Computer Graphics (Proceedings of SIGGRAPH)*, 26, 2, (July 1992), 255–264. ISSN: 0097-8930. doi: [10/fbx44r](#).
- [1363] Lee Westover. 1990. Footprint evaluation for volume rendering. *Computer Graphics (Proceedings of SIGGRAPH)*, 24, 4, (August 1990), 367–376.
- [1364] Gordon Wetzstein, Douglas Lanman, Wolfgang Heidrich, and Ramesh Raskar. 2011. Layered 3D: tomographic image synthesis for attenuation-based light field and high dynamic range displays. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 30, 4, (July 1, 2011), 95:1–95:12. ISSN: 0730-0301. doi: [10/d6gcgq](#).
- [1365] Tim Weyrich, Jia Deng, Connelly Barnes, Szymon Rusinkiewicz, and Adam Finkelstein. 2007. Digital bas-relief from 3D scenes. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 26, 3, (July 29, 2007), 32. ISSN: 07300301. doi: [10/btdpvd](#).
- [1366] Tim Weyrich, Jason Lawrence, Hendrik P. A. Lensch, Szymon Rusinkiewicz, and Todd Zickler. 2009. Principles of appearance acquisition and representation. *Foundations and Trends® in Computer Graphics and Vision*, 4, 2, (August 20, 2009), 75–191. ISSN: 1572-2740, 1572-2759. doi: [10/c36r2s](#).
- [1367] Tim Weyrich, Wojciech Matusik, Hanspeter Pfister, Bernd Bickel, Craig Donner, Chien Tu, Janet McAndless, Jinho Lee, Addy Ngan, Henrik Wann Jensen, and Markus Gross. 2006. Analysis of human faces using a measurement-based skin reflectance model. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 25, 3, (July 2006), 1013–1024. ISSN: 07300301. doi: [10/ctncb6](#).
- [1368] Tim Weyrich, Pieter Peers, Wojciech Matusik, and Szymon Rusinkiewicz. 2009. Fabricating microgeometry for custom surface reflectance. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 28, 3, (July 2009), 32:1–32:6. doi: [10/djtxsz](#).
- [1369] Kyu-Young Whang, Ju-Won Song, Ji-Woong Chang, Ji-Yun Kim, Wan-Sup Cho, Chong-Mok Park, and Il-Yeol Song. 1995. Octree-R: an adaptive octree for efficient ray tracing. *IEEE Transactions on Visualization and Computer Graphics*, 1, 4, (December 1995), 343–349.
- [1370] William H. Whitmore. 1939. Interreflections inside an infinite cylinder. *Journal of Mathematics and Physics*, 17, 4, (January 1939), 218–232.
- [1371] Turner Whitted. 1980. An improved illumination model for shaded display. *Communications of the ACM*, 23, 6, (January 6, 1980), 343–349. ISSN: 0001-0782. doi: [10/dgdj7j](#).

- [1372] Turner Whitted and David M. Weimer. 1982. A software testbed for the development of 3D raster graphics systems. *ACM Transactions on Graphics*, 1, 1, (January 1982), 43–58. doi: [10/dvrhgz](#).
- [1373] Refael Whyte, Lee Streeter, Michael J Cree, and Adrian A Dorrington. 2015. Resolving multiple propagation paths in time of flight range cameras using direct and global separation methods. *Optical Engineering*, 54, 11. doi: [10/gfz5nf](#).
- [1374] Eugene P. Wigner. 1954. The problem of multiple scattering. *Physical Review*, 94, 1, (April 1954), 17–25.
- [1375] Rupert Wildt. 1956. Radiative transfer and thermodynamics. *Astrophysical Journal*, 123, 1, (January 1956), 107–116.
- [1376] Jane Wilhelms and Allen Van Gelder. 1991. A coherent projection approach for direct volume rendering. *Computer Graphics (Proceedings of SIGGRAPH)*, 25, 4, (July 1991), 275–284.
- [1377] Alexander Wilkie, Sehera Nawaz, Marc Droske, Andrea Weidlich, and Johannes Hanika. 2014. Hero wavelength spectral sampling. *Computer Graphics Forum (Proceedings of the Eurographics Symposium on Rendering)*, 33, 4, (June 2014), 123–131. doi: [10/f6fgb4](#).
- [1378] Lance Williams. 1978. Casting curved shadows on curved surfaces. *Computer Graphics (Proceedings of SIGGRAPH)*, 12, 3, (August 1978), 270–274. doi: [10/ft4zz](#).
- [1379] Lance Williams. 1983. Pyramidal parametrics. *Computer Graphics (Proceedings of SIGGRAPH)*, 17, 3, (July 1, 1983), 1–11. ISSN: 00978930. doi: [10/cq4xrd](#).
- [1380] Michael Maurice Rudolph Williams. 1971. Mathematical methods in particle transport theory.
- [1381] Josh Wills, Sameer Agarwal, David Kriegman, and Serge Belongie. 2009. Toward a perceptual space for gloss. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 28, 4, (September 2009), 103:1–103:15. ISSN: 0730-0301. doi: [10/d2j4zc](#).
- [1382] Cyrus A. Wilson, Abhijeet Ghosh, Pieter Peers, Jen-Yuan Chiang, Jay Busch, and Paul Debevec. 2010. Temporal upsampling of performance geometry using photometric alignment. *ACM Transactions on Graphics*, 29, 2, Article 17, 17:1–17:11. ISSN: 0730-0301. doi: [10/bbgpwt](#).
- [1383] H. Winnemöller, A. Orzan, L. Boissieux, and J. Thollot. 2009. Texture design and draping in 2D images. *Computer Graphics Forum (Proceedings of the Eurographics Symposium on Rendering)*, 28, 4, 1091–1099. ISSN: 1467-8659. doi: [10/dhmq9c](#).
- [1384] Holger Winnemöller, Sven C Olsen, and Bruce Gooch. 2006. Real-time video abstraction. *ACM Transactions on Graphics*, 25, 3, 1221–1226. doi: [10/fpfbck](#).
- [1385] Andrew Witkin and Michael Kass. 1988. Spacetime constraints. *Computer Graphics (Proceedings of SIGGRAPH)*, 22, 4, (August 1, 1988), 159–168. ISSN: 00978930. doi: [10/cbsn2w](#).
- [1386] Lawrence B. Wolf. 1992. Diffuse reflection. *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 23, 4, (June 1992), 472–478.
- [1387] Lawrence B. Wolff and David J. Kurlander. 1990. Ray tracing with polarization parameters. *IEEE Computer Graphics & Applications*, 10, 6, (November 1990), 44–55. ISSN: 0272-1716. doi: [10/cjmk6m](#).
- [1388] Kin-Ming Wong and Tien-Tsin Wong. 2017. Blue noise sampling using an N-body simulation-based method. *The Visual Computer*, 33, 6–8, (June 1, 2017), 823–832. ISSN: 1432-2315. doi: [10/gbjj74](#).
- [1389] Robert J Woodham. 1980. Photometric method for determining surface orientation from multiple images. *Optical Engineering*, 19, 1, 139–144. doi: [10/gfz9fm](#).
- [1390] Joseph T. Woolley. 1971. Reflectance and transmittance of light by leaves. *Plant Physiology*, 47, 5, (May 1, 1971), 656–662. ISSN: 0032-0889, 1532-2548. doi: [10/c772pj](#).
- [1391] Magnus Wrenninge. 2016. Efficient rendering of volumetric motion blur using temporally unstructured volumes. *Journal of Computer Graphics Techniques (JCGT)*, 5, 1, (January 2016), 1–34.
- [1392] Di Wu, Andreas Velten, Matthew O’Toole, Belen Masia, Amit Agrawal, Qionghai Dai, and Ramesh Raskar. 2014. Decomposing global light transport using time of flight imaging. *International Journal of Computer Vision (IJCV)*, 107. doi: [10/f5v589](#).
- [1393] Hongzhi Wu, Julie Dorsey, and Holly Rushmeier. 2011. Physically-based interactive bi-scale material design. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 30, 6, (December 1, 2011), 1. ISSN: 07300301. doi: [10/cqtdrq](#).
- [1394] Hongzhi Wu, Julie Dorsey, and Holly Rushmeier. 2013. Inverse bi-scale material design. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 32, 6, (November 2013), 163:1–163:10. ISSN: 0730-0301. doi: [10/gbd5kf](#).
- [1395] Jun Wu, Yang Wang, Lev Perelman, Irving Itzkan, Ramachandra R Dasari, and Michael S Feld. 1995. Time-resolved multichannel imaging of fluorescent objects embedded in turbid media. *Opt. Lett.*, 20, 5. doi: [10/b68pc5](#).
- [1396] Rihui Wu, Adrian Jarabo, Jinli Suo, Feng Dai, Yongdong Zhang, Qionghai Dai, and Diego Gutierrez. 2018. Adaptive polarization-difference transient imaging for depth estimation in scattering media. *Opt. Lett.*, 6, (March 2018), 1299–1302. doi: [10/gfz5kv](#).
- [1397] Yonghui Wu, Mike Schuster, Zhifeng Chen, Quoc V. Le, Mohammad Norouzi, Wolfgang Macherey, Maxim Krikun, Yuan Cao, Qin Gao, Klaus Macherey, Jeff Klingner, Apurva Shah, Melvin Johnson, Xiaobing Liu, Łukasz Kaiser, Stephan Gouws, Yoshiyuki Kato, Taku Kudo, Hideto Kazawa, Keith Stevens, George Kurian, Nishant Patil, Wei Wang, Cliff Young, Jason Smith, Jason Riesa, Alex Rudnick, Oriol Vinyals, Greg Corrado, Macduff Hughes, and Jeffrey Dean. 2016. Google’s neural machine translation system: bridging the gap between human and machine translation, (September 26, 2016). arXiv: [1609.08144 \[cs\]](#).
- [1398] Brian Wyvill, Andrew Guy, and Eric Galin. 1999. Extending the CSG tree: Warping, blending and boolean operations in an implicit surface modeling system. *Computer Graphics Forum*, 18, 2, 149–158. ISSN: 1467-8659. doi: [10/fid743](#).
- [1399] Brian Wyvill, Craig McPheeters, and Geoff Wyvill. 1986. Animating soft objects. *The Visual Computer*, 2, 4, (August 1, 1986), 235–242. ISSN: 1432-2315. doi: [10/ct7psx](#).
- [1400] Brian Wyvill, Craig McPheeters, and Geoff Wyvill. 1987. Solid texturing of soft objects. *IEEE Computer Graphics & Applications*, 7, 12, (December 1987), 20–26. doi: [10/djzhsh](#).
- [1401] Brian Wyvill and Geoff Wyvill. 1989. Field functions for implicit surfaces. *The Visual Computer*, 5, 1, (January 1, 1989), 75–82. ISSN: 1432-2315. doi: [10/cx7r28](#).
- [1402] Geoff Wyvill, Craig McPheeters, and Brian Wyvill. 1986. Data structure for soft objects. *The Visual Computer*, 2, 4, (August 1, 1986), 227–234. ISSN: 1432-2315. doi: [10/dndmwc](#).
- [1403] Shi-Qing Xin, Bruno Lévy, Zhonggui Chen, Lei Chu, Yaohui Yu, Changhe Tu, and Wenping Wang. 2016. Centroidal power diagrams with capacity constraints: computation, applications, and extension. *ACM Transactions on Graphics*, 35, 6, Article 244, (November 2016), 244:1–244:12. ISSN: 0730-0301. doi: [10/gfz5hc](#).
- [1404] Xixian Xiong, Fugen Zhou, Xiangzhi Bai, Bindang Xue, and Changming Sun. 2016. Semi-automated infrared simulation on real urban scenes based on multi-view images. *Optics Express*, 24, 11, (May 2016), 11345–11375. doi: [10/gfzsm5](#).
- [1405] Feng Xu, James A. Lock, and Cameron Tropea. 2010. Debye series for light scattering by a spheroid. *Journal of the Optical Society of America A*, 27, 4, (April 1, 2010), 671–686. ISSN: 1520-8532. doi: [10/c682pg](#).
- [1406] Kun Xu, Yue Gao, Yong Li, Tao Ju, and Shi-Min Hu. 2007. Real-time homogenous translucent material editing. *Computer Graphics Forum (Proceedings of Eurographics)*, 26, 3, (September 2007), 545–552. ISSN: 1467-8659. doi: [10/dcbqmw](#).
- [1407] Kun Xu, Wei-Lun Sun, Zhao Dong, Dan-Yong Zhao, Run-Dong Wu, and Shi-Min Hu. 2013. Anisotropic spherical Gaussians. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 32, 6, (November 2013), 209:1–209:11. ISSN: 0730-0301. doi: [10/gbd5rd](#).
- [1408] Ruifeng Xu and Sumanta N. Pattanaik. 2005. A novel Monte Carlo noise reduction operator. *IEEE Computer Graphics & Applications*, 25, 2, (March 2005), 31–35. ISSN: 0272-1716. doi: [10/cgs6vx](#).
- [1409] Wen Xu, Alex Nikolov, Darsh T. Wasan, Alex Gonsalves, and Rajendra P. Borwankar. 1998. Fat particle structure and stability of food emulsions. *Journal of Food Science*, 63, 2, 183–188. ISSN: 1750-3841. doi: [10/c9drqt](#).
- [1410] Yin Xu, Ligang Liu, Craig Gotsman, and Steven J. Gortler. 2011. Capacity-constrained Delaunay triangulation for point distributions. *Computers & Graphics*, 35, 3, 510–516. Shape Modeling International (SMI) Conference 2011. ISSN: 0097-8493. doi: [10/d5z3jm](#).
- [1411] Y. Yamada. 1995. Light-tissue interaction and optical imaging in biomedicine. *Ann. Rev. Fluid Mech. Heat Transfer*, 6, 1–59. doi: [10/gfz5np](#).
- [1412] Fujio Yamaguchi. 1978. A new curve fitting method using a CRT computer display. *Computer Graphics and Image Processing*, 7, 425–437.
- [1413] Ziro Yamauti. 1926. The light flux distribution of a system of interreflecting surfaces. *Journal of the Optical Society of America*, 13, 5, (November 1926), 561–571. doi: [10/fc76dx](#).
- [1414] Dong-Ming Yan and Peter Wonka. 2013. Gap processing for adaptive maximal Poisson-disk sampling. *ACM Transactions on Graphics*, 32, 5, 148:1–148:15. doi: [10/gbd5wt](#).
- [1415] Ling-Qi Yan, Miloš Hašan, Wenzel Jakob, Jason Lawrence, Steve Marschner, and Ravi Ramamoorthi. 2014. Rendering glints on high-resolution normal-mapped specular surfaces. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 33, 4, (July 2014), 116:1–116:9. ISSN: 0730-0301. doi: [10/f6cprc](#).
- [1416] Ling-Qi Yan, Chi-Wei Tseng, Henrik Wann Jensen, and Ravi Ramamoorthi. 2015. Physically-accurate fur reflectance: modelling, measurement and rendering. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 34, 6.
- [1417] Ling-Qi Yan, Yahan Zhou, Kun Xu, and Rui Wang. 2012. Accurate translucent material rendering under spherical Gaussian lights. *Computer Graphics Forum (Proceedings of Pacific Graphics)*, 31, 7, 2267–2276. ISSN: 1467-8659. doi: [10/f4bd5n](#).
- [1418] Ping Yang and K. N. Liou. 1995. Light scattering by hexagonal ice crystals: comparison of finite-difference time domain and geometric optics models. *Journal of the Optical Society of America A*, 12, 1, (January 1, 1995), 162–176. ISSN: 1520-8532. doi: [10/c3bb4n](#).
- [1419] Ping Yang and K. N. Liou. 1996. Finite-difference time domain method for light scattering by small ice crystals in three-dimensional space. *Journal of the Optical Society of America A*, 13, 10, (October 1, 1996), 2072–2085. ISSN: 1520-8532. doi: [10/bs3mzb](#).

- [1420] Chunhui Yao, Bin Wang, Bin Chan, Junhai Yong, and Jean-Claude Paul. 2010. Multi-image based photon tracing for interactive global illumination of dynamic scenes. *Computer Graphics Forum (Proceedings of the Eurographics Symposium on Rendering)*, 29, 4, 1315–1324.
- [1421] Hector Yee, Sumanta Pattanaik, and Donald P. Greenberg. 2001. Spatiotemporal sensitivity and visual attention for efficient rendering of dynamic environments. *ACM Transactions on Graphics*, 20, 1, (January 2001), 39–65. ISSN: 0730-0301. doi: [10/b978sv](#).
- [1422] Kane S. Yee. 1966. Numerical solution of initial boundary value problems involving maxwell's equations in isotropic media. *IEEE Transactions on Antennas and Propagation*, 14, 3, (May 1966), 302–307. ISSN: 0018-926X. doi: [10/b8dmtt](#).
- [1423] John I. Yellott Jr. 1983. Spectral consequences of photoreceptor sampling in the rhesus retina. *Science*, 221, 4608, (July 22, 1983), 382–385. ISSN: 0036-8075, 1095-9203. doi: [10/brfz5f](#).
- [1424] Yuhui Yin, Dennis K.J. Lin, and Min-Qian Liu. 2014. Sliced Latin hypercube designs via orthogonal arrays. *Journal of Statistical Planning and Inference*, 149, (June 2014), 162–171. ISSN: 0378-3758. doi: [10/gfzncs](#).
- [1425] A. Yodh and B. Chance. 1995. Spectroscopy and imaging with diffusing light. *Phys. Today*, 48, 34–40. doi: [10/c3dd9r](#).
- [1426] K. M. Yoo and R. R. Alfano. 1990. Time-resolved coherent and incoherent components of forward light scattering in random media. *Opt. Lett.*, 15, 6. doi: [10/cskkhh](#).
- [1427] Hironori Yoshida, Takeo Igarashi, Yusuke Obuchi, Yosuke Takami, Jun Sato, Mika Araki, Masaaki Miki, Kosuke Nagata, Kazuhide Sakai, and Syunsuke Igarashi. 2015. Architecture-scale human-assisted additive manufacturing. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 34, 4, (July 2015), 88:1–88:8. ISSN: 0730-0301. doi: [10/f7mz9r](#).
- [1428] Shin Yoshizawa, Alexander Belyaev, and Hans-Peter Seidel. 2007. Skeleton-based variational mesh deformations. *Computer Graphics Forum*, 26, 3, 255–264. ISSN: 1467-8659. doi: [10/cqrz7x](#).
- [1429] Insu Yu, Andrew Cox, Min H Kim, Tobias Ritschel, Thorsten Grosch, Carsten Dachsbacher, and Jan Kautz. 2009. Perceptual influence of approximate visibility in indirect illumination. *ACM Transactions on Applied Perception*, 6, 4, (September 2009), 24:1–24:14. doi: [10/b95z8h](#).
- [1430] Yonghao Yue, Kei Iwasaki, Bing-Yu Chen, Yoshinori Dobashi, and Tomoyuki Nishita. 2010. Unbiased, adaptive stochastic sampling for rendering inhomogeneous participating media. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 29, 6, (December 2010), 177:1–177:8. doi: [10/bp73xb](#).
- [1431] Yonghao Yue, Kei Iwasaki, Bing-Yu Chen, Yoshinori Dobashi, and Tomoyuki Nishita. 2011. Toward optimal space partitioning for unbiased, adaptive free path sampling of inhomogeneous participating media. *Computer Graphics Forum (Proceedings of Pacific Graphics)*, 30, 7, 1911–1919. doi: [10/b9x66x](#).
- [1432] Yonghao Yue, Kei Iwasaki, Bing-Yu Chen, Yoshinori Dobashi, and Tomoyuki Nishita. 2012. Pixel Art with Refracted Light by Rearrangeable Sticks. *Computer Graphics Forum (Proceedings of Eurographics)*, 31, 575–582, 2pt3. ISSN: 1467-8659. doi: [10/gbbdf](#).
- [1433] W. W. Yuen and C. L. Tien. 1980. A successive approximation approach to problems in radiative transfer with a differential approximation. *ASME Journal of Heat Transfer*, 102, 1, (February 1980), 86–91.
- [1434] Can Yuksel and Cem Yuksel. 2017. Lighting grid hierarchy for self-illuminating explosions. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 36, 4, Article 110, 110:1–110:10. doi: [10/gbxhjc](#).
- [1435] Cem Yuksel. 2015. Sample elimination for generating Poisson disk sample sets. *Computer Graphics Forum (Proceedings of Eurographics)*, 34, 2, (May 1, 2015), 25–32. ISSN: 0167-7055. doi: [10/f7k7c7](#).
- [1436] S. K. Zaremba. 1968. The mathematical basis of Monte Carlo and quasi-Monte Carlo methods. *SIAM Review*, 10, 3, (July 1, 1968), 303–314. ISSN: 0036-1445. doi: [10/bkw77v](#).
- [1437] Kun Zeng, Mingtian Zhao, Caiming Xiong, and Song-Chun Zhu. 2009. From image parsing to painterly rendering. *ACM Transactions on Graphics*, 29, 1, (December 2009), 2:1–2:11. ISSN: 0730-0301. doi: [10/cp8nvw](#).
- [1438] Li Zhang, Noah Snively, Brian Curless, and Steven M. Seitz. 2004. Spacetime faces: high resolution capture for modeling and animation. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 23, 3, 548–558. ISSN: 0730-0301. doi: [10/bmw62](#).
- [1439] Tian-fang Zhang, Guobin Wu, and Alope Dey. 2019. Construction of some new families of nested orthogonal arrays. *Communications in Statistics - Theory and Methods*, 48, 3, (February 1, 2019), 774–779. ISSN: 0361-0926. doi: [10/gfz2f4](#).
- [1440] Xiuda Zhang and Huimin Yan. 2011. Three-dimensional active imaging with maximum depth range. *Applied Optics*, 50, 12. doi: [10/cn7j9s](#).
- [1441] Xiuda Zhang, Huimin Yan, and Jun Lv. 2012. Multireturn three-dimensional active imaging based on compressive sensing. *Opt. Lett.*, 37, 23. doi: [10/gfz5nh](#).
- [1442] Yong Zhang, Hongliang Yi, and Heping Tan. 2013. One-dimensional transient radiative transfer by lattice Boltzmann method. *Optics Express*, 21, 21, 24532–24549. doi: [10/gfz5nj](#).
- [1443] Haiming Zhao, Chengkuan Hong, Juncong Lin, Xiaogang Jin, and Weiwei Xu. 2016. Make it swing: Fabricating personalized roly-poly toys. *Computer Aided Geometric Design. Geometric Modeling and Processing 2016* 43, (March 1, 2016), 226–236. ISSN: 0167-8396. doi: [10/f8nrjx](#).
- [1444] Shuang Zhao, Miloš Hašan, Ravi Ramamoorthi, and Kavita Bala. 2013. Modular flux transfer: efficient rendering of high-resolution volumes with repeated structures. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 32, 4, (July 2013), 131:1–131:12. ISSN: 0730-0301. doi: [10/gfzwcw](#).
- [1445] Shuang Zhao, Ravi Ramamoorthi, and Kavita Bala. 2014. High-order similarity relations in radiative transfer. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 33, 4, (July 2014), 104:1–104:12. ISSN: 0730-0301. doi: [10/f6c26p](#).
- [1446] Shuang Zhao, Lifan Wu, Frédo Durand, and Ravi Ramamoorthi. 2016. Downsampling scattering parameters for rendering anisotropic media. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 35, 6, (November 2016), 166:1–166:11. ISSN: 0730-0301. doi: [10/f9cpqs](#).
- [1447] Kun Zhou, Qiming Hou, Rui Wang, and Baining Guo. 2008. Real-Time kd-tree construction on graphics hardware. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 27, 5, (December 2008), 126:1–126:11.
- [1448] Kun Zhou, Yaohua Hu, Stephen Lin, Baining Guo, and Heung-Yeung Shum. 2005. Precomputed shadow fields for dynamic scenes. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 24, 3, (July 2005), 1196–1201. doi: [10/f9cb85](#).
- [1449] Kun Zhou, Zhong Ren, Stephen Lin, Hujun Bao, Baining Guo, and Heung-Yeung Shum. 2008. Real-time smoke rendering using compensated ray marching. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 27, 3, (August 1, 2008), 36:1–36:12. ISSN: 07300301. doi: [10/cjpfhx](#).
- [1450] Yahan Zhou, Haibin Huang, Li-Yi Wei, and Rui Wang. 2012. Point sampling with general noise spectrum. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 31, 4, (July 2012), 76:1–76:11. ISSN: 0730-0301. doi: [10/gfznc2](#).
- [1451] C. Zhu and Q. Liu. 2013. Review of Monte Carlo modeling of light transport in tissues. *J. Biomed. Opt.*, 18, 5. doi: [10/gbdg9z](#).
- [1452] Lifeng Zhu, Weiwei Xu, John Snyder, Yang Liu, Guoping Wang, and Baining Guo. 2012. Motion-guided mechanical toy modeling. *ACM Transactions on Graphics (Proceedings of SIGGRAPH Asia)*, 31, 6, (November 2012), 127:1–127:10. ISSN: 0730-0301. doi: [10/f96zxm](#).
- [1453] Yufeng Zhu, Pradeep Garigipati, Pieter Peers, Paul Debevec, and Abhijeet Ghosh. 2013. Estimating diffusion parameters from polarized spherical-gradient illumination. *IEEE Computer Graphics & Applications*, 33, 3, 34–43. ISSN: 0272-1716. doi: [10/gfz9fk](#).
- [1454] Henning Zimmer, Fabrice Rousselle, Wenzel Jakob, Oliver Wang, David Adler, Wojciech Jarosz, Olga Sorkine-Hornung, and Alexander Sorkine-Hornung. 2015. Path-space motion estimation and decomposition for robust animation filtering. *Computer Graphics Forum (Proceedings of the Eurographics Symposium on Rendering)*, 34, 4, (July 1, 2015), 131–142. ISSN: 0167-7055. doi: [10/f7mb34](#).
- [1455] Arno Zinke, Cem Yuksel, Andreas Weber, and John Keyser. 2008. Dual scattering approximation for fast multiple scattering in hair. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 27, 3, (August 1, 2008), 32:1–32:10. ISSN: 07300301. doi: [10/bt33s4](#).
- [1456] Tobias Zirr, Johannes Hanika, and Carsten Dachsbacher. 2018. Re-weighting firefly samples for improved finite-sample Monte Carlo estimates. *Computer Graphics Forum*, 37, 6, (September 1, 2018), 410–421. ISSN: 0167-7055. doi: [10/gdv89k](#).
- [1457] Michael Zollhöfer, Angela Dai, Matthias Innmann, Chenglei Wu, Marc Stamminger, Christian Theobalt, and Matthias Nießner. 2015. Shading-based refinement on volumetric signed distance functions. *ACM Transactions on Graphics (Proceedings of SIGGRAPH)*, 34, 4, (July 2015), 96:1–96:14. ISSN: 0730-0301. doi: [10/f7m2r3](#).
- [1458] Matthias Zwicker, Wojciech Jarosz, Jaakko Lehtinen, Bochang Moon, Ravi Ramamoorthi, Fabrice Rousselle, Pradeep Sen, Cyril Soler, and Sung-Eui Yoon. 2015. Recent advances in adaptive sampling and reconstruction for Monte Carlo rendering. *Computer Graphics Forum (Proceedings of Eurographics State of the Art Reports)*, 34, 2, (May 2015), 667–681. ISSN: 14678659. doi: [10/f7k6kj](#).
- [1459] Matthias Zwicker, Hanspeter Pfister, Jeroen van Baar, and Markus Gross. 2002. EWA splatting. *IEEE Transactions on Visualization and Computer Graphics*, 8, 3, (July 2002), 223–238. doi: [10/btc75p](#).

CONFERENCE PAPERS

- [1460] Attila Áfra, Carsten Benthin, Ingo Wald, and Jacob Munkberg. 2016. Local shading coherence extraction for SIMD-efficient path tracing on CPUs. In *Proceedings of High Performance Graphics*.
- [1461] Timo Aila and Samuli Laine. 2009. Understanding the efficiency of ray traversal on GPUs. In *Proceedings of High Performance Graphics*. ACM Press, New Orleans, Louisiana, 145. ISBN: 978-1-60558-603-8. doi: [10/f2kfw](#).
- [1462] O. Akerlund, M. Unger, and R. Wang. 2007. Precomputed visibility cuts for interactive relighting with dynamic BRDFs. In *Proceedings of Pacific Graphics*. IEEE Computer Society, (October 2007), 161–170. doi: [10/cd936w](#).

- [1463] John Amanatides. 1992. Algorithms for the detection and elimination of specular aliasing. In *Proceedings of Computer Graphics International (CGI)* (Vancouver, Canada), 86–93.
- [1464] John Amanatides and Andrew Woo. 1987. A fast voxel traversal algorithm for ray tracing. In *Proceedings of Eurographics*. Eurographics Association, 3–10. doi: [10.2312/egtp.19871000](#).
- [1465] D. Anderson, J. Frankel, J. Marks, A. Agarwala, P. Beardsley, J. Hodgins, D. Leigh, K. Ryall, E. Sullivan, and J. Yedidia. 2000. Tangible interaction + graphical interpretation: a new approach to 3D modeling. In *Annual Conference Series (Proceedings of SIGGRAPH)*. (July 2000).
- [1466] Alexis Angelidis and Karan Singh. 2007. Kinodynamic skinning using volume-preserving deformations. In *Proceedings of the Eurographics/ACM SIGGRAPH Symposium on Computer Animation* (San Diego, California). Eurographics Association, Aire-la-Ville, Switzerland, Switzerland, 129–140. ISBN: 978-1-59593-624-0.
- [1467] Thomas Annen, Jan Kautz, Frédo Durand, and Hans-Peter Seidel. 2004. Spherical harmonic gradients for mid-range illumination. In *Rendering Techniques (Proceedings of the Eurographics Symposium on Rendering)* (Norrköping, Sweden). Alexander Keller and Henrik Wann Jensen, editors. Eurographics Association, (June 2004), 331–336. ISBN: 3-905673-12-6.
- [1468] Thomas Annen, Tom Mertens, Hans-Peter Seidel, Eddy Flerackers, and Jan Kautz. 2008. Exponential shadow maps. In *Proceedings of Graphics Interface*.
- [1469] Oscar Anson, Francisco J. Seron, and Diego Gutierrez. 2008. NURBS-based inverse reflector design. In *Congreso Espanol de Informatica Grafica*. Eurographics Association, 65–74. ISBN: 978-3-905673-69-2. doi: [10/gfz9g4](#).
- [1470] John K. Antonio. 1994. Optimal trajectory planning for spray coating. In *Proc. Robotics and Automation*. Volume 3. (May 1994), 2570–2577.
- [1471] Arthur Appel. 1968. Some techniques for shading machine renderings of solids. In *Proceedings of the Spring Joint Computer Conference*. Volume 32. ACM Press, 37–45. doi: [10/ch6p7d](#).
- [1472] James Arvo. 1986. Backward ray tracing. In *Developments in Ray Tracing* (ACM SIGGRAPH Course Notes). Volume 12. (August 1986), 259–263.
- [1473] James Arvo. 1990. Ray tracing with meta-hierarchies. In *Advanced Topics in Ray Tracing* (ACM SIGGRAPH Course Notes). Volume 24. (August 1990).
- [1474] James Arvo. 1994. The irradiance Jacobian for partially occluded polyhedral sources. In *Annual Conference Series (Proceedings of SIGGRAPH)*. ACM Press, New York, NY, USA, (July 1994), 343–350. ISBN: 978-0-89791-667-7. doi: [10/bkjm2r](#).
- [1475] James Arvo. 1995. The role of functional analysis in global illumination. In *Rendering Techniques (Proceedings of the Eurographics Workshop on Rendering)*. P. M. Hanrahan and W. Purgathofer, editors. Springer-Verlag, NY, 115–126.
- [1476] James Arvo. 1999. Computer aided serendipity: The role of autonomous assistants in problem solving. In *Proceedings of Computer Graphics International (CGI)* (Kingston, Ontario). (June 1999), 183–192.
- [1477] James R. Arvo. 1995. Stratified sampling of spherical triangles. In *Annual Conference Series (Proceedings of SIGGRAPH)*. ACM Press, (August 1995), 437–438. ISBN: 978-0-89791-701-8. doi: [10/bdqrqbf](#).
- [1478] James R. Arvo, Kenneth Torrance, and Brian Smits. 1994. A framework for the analysis of error in global illumination algorithms. In *Annual Conference Series (Proceedings of SIGGRAPH)* (New York, NY, USA). ACM Press, (July 1994), 75–84. ISBN: 978-0-89791-667-7. doi: [10/dvnmnw7](#).
- [1479] James Richard Arvo. 1993. Transfer Functions in Global Illumination. In *Global Illumination* (ACM SIGGRAPH Course Notes). Chapter 1, 1–28.
- [1480] James Richard Arvo. 1995. Applications of irradiance tensors to the simulation of non-Lambertian phenomena. In *Annual Conference Series (Proceedings of SIGGRAPH)*. ACM Press, (August 1995), 335–342. ISBN: 978-0-89791-701-8. doi: [10/c2fss9](#).
- [1481] James Richard Arvo. 2001. Stratified sampling of 2-manifolds. In *State of the Art in Monte Carlo Global Illumination* (ACM SIGGRAPH Course Notes). Henrik Wann Jensen, editor. Volume 29. (August 2001). Chapter 4.
- [1482] James Arvo and David Kirk. 1988. Modeling plants with environment-sensitive automata. In *Proceedings of Ausgraph '88* (Melbourne, Australia). (July 1988), 27–33.
- [1483] James Arvo and Kevin Novins. 1994. Iso-contour volume rendering. In *1994 ACM/IEEE Symposium on Volume Visualization* (WashDC). (October 1994).
- [1484] James Arvo and Kevin Novins. 2000. Fluid sketches: continuous recognition and morphing of simple hand-drawn shapes. In *UIST-2000* (San Diego, California). (November 2000).
- [1485] James Arvo and Kevin Novins. 2000. Smart text: a synthesis of recognition and morphing. In *AAAI Spring Symposium on Smart Graphics* (Stanford, California). (March 2000), 140–147.
- [1486] Michael Ashikmin, Simon Premoze, and Peter Shirley. 2000. A microfacet-based BRDF generator. In *Annual Conference Series (Proceedings of SIGGRAPH)*. ACM Press/Addison-Wesley Publishing Co., New York, NY, USA, (July 2000), 65–74. ISBN: 978-1-58113-208-3. doi: [10/fw8n5d](#).
- [1487] Olaf Aspelund. 1958. On a new method for solving the Boltzmann equation in neutron transport theory. In *Second International Conference on the Peaceful Uses of Atomic Energy* (Geneva). Volume 16, 530–534.
- [1488] Larry Aupperle and Pat Hanrahan. 1993. A hierarchical illumination algorithm for surfaces with glossy reflection. In *Annual Conference Series (Proceedings of SIGGRAPH)* (Anaheim, CA). ACM Press, (August 1993), 155–162. ISBN: 978-0-89791-601-1. doi: [10/cjqs64](#).
- [1489] Larry Aupperle and Pat Hanrahan. 1993. Importance and discrete three point transport. In *Photorealistic Rendering Techniques (Proceedings of the Eurographics Workshop on Rendering)* number Series EG 93 RW (Paris, France). (June 1993), 85–94.
- [1490] Lionel Baboud and Xavier Décoret. 2006. Rendering geometry with relief textures. In *Proceedings of Graphics Interface* (Quebec, Canada). Canadian Information Processing Society, 195–201.
- [1491] Csaba Bálint, Gábor Valasek, and Lajos Gergő. 2019. Operations on signed distance functions. In *The 11th Conference of PhD Students in Computer Science*. (March 6, 2019).
- [1492] Michael Balzer and Daniel Heck. 2008. Capacity-constrained Voronoi diagrams in finite spaces. In *Proceedings of the 5th Annual International Symposium on Voronoi Diagrams in Science and Engineering*. Volume 2, 44–56.
- [1493] Gladimir V. G. Baranoski, Randall Bramley, and Peter Shirley. 1995. Fast radiosity solutions for environments with high average reflectance. In *Rendering Techniques (Proceedings of the Eurographics Workshop on Rendering)*. P. M. Hanrahan and W. Purgathofer, editors. Springer-Verlag, NY, 345–356.
- [1494] Gladimir V. G. Baranoski and Aravind Krishnaswamy. 2008. Light interaction with human skin: from believable images to predictable models. In *Sigacourse Article 10* (Singapore), 10:1–10:80. doi: [10/djq39q](#).
- [1495] Erwin H. Bareiss. 1958. A survey and classification of transport theory calculation techniques. In *Second International Conference on the Peaceful Uses of Atomic Energy* (Geneva). Volume 16, 503–516.
- [1496] Connelly Barnes, Eli Shechtman, Dan B. Goldman, and Adam Finkelstein. 2010. The generalized PatchMatch correspondence algorithm. In *Proceedings of the European Conference on Computer Vision (ECCV)* (Lecture Notes in Computer Science). Kostas Daniilidis, Petros Maragos, and Nikos Paragios, editors. Springer-Verlag, (September 2010), 29–43. ISBN: 978-3-642-15558-1.
- [1497] Rui M. Bastos, António A. de Sousa, and Fernando N. Ferreira. 1993. Reconstruction of illumination functions using Hermite bicubic interpolation. In *Photorealistic Rendering Techniques (Proceedings of the Eurographics Workshop on Rendering)* (Paris, France). (June 1993).
- [1498] Peter Battaglia, Razvan Pascanu, Matthew Lai, Danilo Jimenez Rezende, et al. 2016. Interaction networks for learning about objects, relations and physics. In *Advances in Neural Information Processing Systems (NIPS)*, 4502–4510.
- [1499] Louis Bavoil, Miguel Sainz, and Rouslan Dimitrov. 2008. Image-space horizon-based ambient occlusion. In *ACM SIGGRAPH Talks* (Los Angeles, California). doi: [10/c8mwsx](#).
- [1500] Bill Baxter, Vincent Scheib, Ming C. Lin, and Dinesh Manocha. 2001. DAB: interactive haptic painting with 3D virtual brushes. In *Annual Conference Series (Proceedings of SIGGRAPH)* (SIGGRAPH '01). ACM, New York, NY, USA, 461–468. ISBN: 978-1-58113-374-5. doi: [10/fh8djb](#).
- [1501] William Baxter, Jeremy Wendt, and Ming C. Lin. 2004. IMPaSto: a realistic, interactive model for paint. In *Proceedings of Non-Photorealistic Animation and Rendering* (NPAR '04) (Annecy, France). ACM, New York, NY, USA, 45–148. ISBN: 978-1-58113-887-0. doi: [10/dxpnzj](#).
- [1502] Thabo Beeler, Derek Bradley, Henning Zimmer, and Markus Gross. 2012. Improved reconstruction of deforming surfaces by cancelling ambient occlusion. In *Proceedings of the European Conference on Computer Vision (ECCV)* (Lecture Notes in Computer Science). Springer-Verlag, 30–43. doi: [10/gfz9g6](#).
- [1503] A Beer. 1852. Bestimmung der absorption des rothen lichts in farbigen flüssigkeiten. In *Annalen Der Physik Und Chemie* 86, 78–88.
- [1504] Philippe Bekaert and Yves D. Willems. 1994. A progressive importance-driven rendering algorithm. In *Proceedings of the Spring Conference on Computer Graphics (SCCG)*. Comenius University Press, (June 1994), 58–67.
- [1505] Philippe Bekaert and Yves D. Willems. 1995. Importance-driven progressive refinement radiosity. In *Rendering Techniques (Proceedings of the Eurographics Workshop on Rendering)*. P. M. Hanrahan and W. Purgathofer, editors. Springer-Verlag, 316–325.
- [1506] M. O. Benouamer and D. Michelucci. 1997. Bridging the gap between CSG and Brep via a triple ray representation. In *Proceedings of the Fourth ACM Symposium on Solid Modeling and Applications* (Atlanta, Georgia, USA). ACM Press, New York, NY, USA, 68–79. ISBN: 978-0-89791-946-3. doi: [10/cnjxkf](#).
- [1507] Martin Bertram, Eduard Deines, Jan Mohring, Jevgenij Jigorovs, and Hans Hagen. 2005. Phonon tracing for auralization and visualization of sound. In *Proceedings of IEEE Visualization 2005*, 154–158. doi: [10/czhpnf](#).
- [1508] Hedlena Bezerra, Elmar Eisemann, Doug DeCarlo, and Joëlle Thollot. 2010. Diffusion constraints for vector graphics. In *Proceedings of Non-Photorealistic*

- Animation and Rendering* (NPAR '10) (Annecy, France). ACM, New York, NY, USA, 35–42. ISBN: 978-1-4503-0125-1. DOI: [10/d4dfhx](#).
- [1509] Neeta Bhat. 1993. Application of rapid hierarchical radiosity to participating media. In *Proceedings of ATARV-93: Advanced Techniques in Animation, Rendering, and Visualization* (Ankara, Turkey). Bilkent University, (July 1993), 43–53.
- [1510] Neeta Bhat and A. Tokuta. 1992. Photorealistic volume rendering of media with directional scattering. In *CE, EGWR93*. Alan Chalmers, Derek Paddon, and François X. Sillion, editors. Consolidation Express Bristol, 227–246.
- [1511] Markus Billeter, Erik Sintorn, and Ulf Assarsson. 2010. Real time volumetric shadows using polygonal light volumes. In *Proceedings of High Performance Graphics*. Eurographics Association, Aire-la-Ville, Switzerland, Switzerland, 39–45.
- [1512] Mark R. Bolin and Gary W. Meyer. 1998. A perceptually based adaptive sampling algorithm. In *Annual Conference Series (Proceedings of SIGGRAPH)*. ACM, New York, NY, USA, 299–309. ISBN: 0-89791-999-8. DOI: [10/d5rj57](#).
- [1513] Thomas E. Booth. 1987. Generalized zero-variance solutions and intelligent random numbers. In *Proceedings of the 19th Conference on Winter Simulation*, 445–451. DOI: [10/ctrq5t](#).
- [1514] George Borshukov and J. P. Lewis. 2003. Realistic human face rendering for "The matrix reloaded". In *ACM SIGGRAPH Sketches*, 1–1. DOI: [10/dmdtpj](#).
- [1515] George Borshukov, Dan Piponi, Oystein Larsen, J. P. Lewis, and Christina Tempelaar-Lietz. 2003. Universal capture: image-based facial animation for "The matrix reloaded". In *ACM SIGGRAPH Sketches* (San Diego, California), 1–1. DOI: [10/b4ctw8](#).
- [1516] Antoine Boudet, Paul Pitot, David Pratmarty, and Mathias Paulin. 2005. Photon splatting for participating media. In *Proceedings of GRAPHITE*. ACM Press, Dunedin, New Zealand, (November 2005), 197–204, 460. ISBN: 978-1-59593-201-3. DOI: [10/cm8jqj](#).
- [1517] Antoine Bouthors, Fabrice Neyret, Nelson Max, Eric Bruneton, and Cyril Crassin. 2008. Interactive multiple anisotropic scattering in clouds. In *Proceedings of the Symposium on Interactive 3D Graphics and Games* (Redwood City, California). ACM Press, New York, NY, USA, 173–182. ISBN: 978-1-59593-983-8. DOI: [10/cfhsu5](#).
- [1518] Christian Bouville, Kadi Bouatouch, Pierre Tellier, and Xavier Pueyo. 1990. A theoretical analysis of global illumination models. In *Photorealism in Computer Graphics (Proceedings of the Eurographics Workshop on Photosimulation, Realism and Physics in Computer Graphics)* (Rennes, France). (June 1990), 53–66.
- [1519] Matthew Brand and Aaron Hertzmann. 2000. Style machines. In *Annual Conference Series (Proceedings of SIGGRAPH)* (SIGGRAPH '00). ACM Press/Addison-Wesley Publishing Co., New York, NY, USA, (July 2000), 183–192. ISBN: 978-1-58113-208-3. DOI: [10/b8rgxz](#).
- [1520] Normand Brière and Pierre Poulin. 1996. Hierarchical view-dependent structures for interactive scene manipulation. In *Annual Conference Series (Proceedings of SIGGRAPH)*. ACM Press, New York, NY, USA, 83–90. ISBN: 978-0-89791-746-9. DOI: [10/dnkkx8](#).
- [1521] Jonathan Bronson, Penny Rheingans, and Marc Olano. 2008. Semi-automatic stencil creation through error minimization. In *Proceedings of Non-Photorealistic Animation and Rendering* (NPAR '08) (Annecy, France). ACM, New York, NY, USA, 31–37. ISBN: 978-1-60558-150-7. DOI: [10/dz5xf](#).
- [1522] Forrest B. Brown and William R. Martin. 2003. Direct sampling of Monte Carlo flight paths in media with continuously varying cross-sections. In *Nuclear Mathematical and Computational Sciences: A Century in Review, A Century Anew*. American Nuclear Society.
- [1523] H. Buckley. 1928. Some problems of inter-reflection. In *Proceedings of the International Congress on Illumination*. The Chemical Publishing Company, Easton, PA, 888–911.
- [1524] David Burke, Abhijeet Ghosh, and Wolfgang Heidrich. 2004. Bidirectional importance sampling for illumination from environment maps. In *ACM SIGGRAPH Sketches*, 112. ISBN: 1-59593-896-2. DOI: [10/b33qt2](#).
- [1525] David Burke, Abhijeet Ghosh, and Wolfgang Heidrich. 2005. Bidirectional importance sampling for direct illumination. In *Rendering Techniques (Proceedings of the Eurographics Symposium on Rendering)*. Eurographics Association, (June 2005), 147–156. ISBN: 3-905673-23-1. DOI: [10/gfzsmz](#).
- [1526] Brent Burley. 2012. Physically-based shading at disney. In *Practical Physically-Based Shading in Film and Game Production* (Los Angeles, California), 10:1–10:7.
- [1527] Brent Burley. 2015. Extending the Disney BRDF to a BSDF with integrated subsurface scattering. In *Physically Based Shading in Theory and Practice* (ACM SIGGRAPH Course Notes).
- [1528] William Buxton, Eugene Fiume, Ralph Hill, and Carson Woo. 1983. Continuous hand-gesture input. In *Proceedings of Computer Graphics International (CGI)*, 191–195.
- [1529] Richard H. Byrd, Jorge Nocedal, and Richard A. Waltz. 2006. KNITRO: An integrated package for nonlinear optimization. In *Large-Scale Nonlinear Optimization* (Nonconvex Optimization and Its Applications). G. Di Pillo and M. Roma, editors. Springer-Verlag, Boston, MA, 35–59. ISBN: 978-0-387-30065-8. DOI: [10/cdqwqn](#).
- [1530] Brian Cabral and Leith Leedom. 1993. Imaging vector fields using line integral convolution. In *Annual Conference Series (Proceedings of SIGGRAPH)*. (August 1993), 263–270.
- [1531] Brian Cabral, Marc Olano, and Philip Nemec. 1999. Reflection space image based rendering. In *Annual Conference Series (Proceedings of SIGGRAPH)*. Alyn Rockwood, editor. Addison Wesley Longman, (August 1999), 165–170.
- [1532] Mike Cammarano and Henrik Wann Jensen. 2002. Time dependent photon mapping. In *Rendering Techniques (Proceedings of the Eurographics Workshop on Rendering)* (Pisa, Italy). Paul Debevec and Simon Gibson, editors. Eurographics Association, 135–144. ISBN: 978-1-58113-534-3. DOI: [10/c54t](#).
- [1533] Thomas Camminady, Martin Frank, and Edward W. Larsen. 2017. Nonclassical particle transport in heterogeneous materials. In *International Conference on Mathematics & Computational Methods Applied to Nuclear Science & Engineering*. (April 2017).
- [1534] B. G. Carlson and G. I. Bell. 1958. Solution of the transport equation by the S_n method. In *Second International Conference on the Peaceful Uses of Atomic Energy* (Geneva). Volume 16, 535–549.
- [1535] Nathan A. Carr, Jared Hoberock, Keenan Crane, and John C. Hart. 2006. Fast GPU ray tracing of dynamic meshes using geometry images. In *Proceedings of Graphics Interface* (Quebec, Canada). Canadian Information Processing Society, 203–209.
- [1536] A. O. Chahdi, A. Halli, A. Ragragui, and K. Satori. 2017. Per-pixel displacement mapping using hybrid cone approach. In *2017 International Conference on Advanced Technologies for Signal and Image Processing (ATSIP)*. (May 2017), 1–4. DOI: [10/gfz56g](#).
- [1537] Jin-Xiang Chai, Xin Tong, Shing-Chow Chan, and Heung-Yeung Shum. 2000. Plenoptic sampling. In *Annual Conference Series (Proceedings of SIGGRAPH)*. ACM Press/Addison-Wesley Publishing Co., New York, NY, USA, 307–318. ISBN: 978-1-58113-208-3. DOI: [10/d7rtpj](#).
- [1538] Bay-Wei Chang, Jock D. Mackinlay, and Polle T. Zellweger. 2000. Fluidly revealing information in fluid documents. In *AAAI Spring Symposium on Smart Graphics* (Stanford, California). (March 2000), 178–181.
- [1539] Edoardo Charbon. 2007. Will avalanche photodiode arrays ever reach 1 megapixel. In *International Image Sensor Workshop*.
- [1540] Stéphane Chatty. 1994. Extending a graphical toolkit for two-handed interaction. In *UIST-1994*, 195–204.
- [1541] Huawei Chen, Jürgen Hesser, and Reinhard Männer. 2001. Fast volume deformation using inverse-ray-deformation and FFD. In *GraphiCon*.
- [1542] Jiawen Chen, Ilya Baran, Frédo Durand, and Wojciech Jarosz. 2011. Real-time volumetric shadows using 1D min-max mipmaps. In *Proceedings of the Symposium on Interactive 3D Graphics and Games*. ACM Press, San Francisco, California, 39. ISBN: 978-1-4503-0565-5. DOI: [10/ftbtdp](#).
- [1543] M. Chen, D. Silver, A. S. Winter, V. Singh, and N. Cornea. 2003. Spatial transfer functions: a unified approach to specifying deformation in volume modeling and animation. In *Proceedings of the 2003 Eurographics/IEEE TVCG Workshop on Volume Graphics* (VG '03) (Tokyo, Japan). ACM Press, New York, NY, USA, 35–44. ISBN: 978-1-58113-745-3. DOI: [10/b69pt4](#).
- [1544] Min Chen and James Arvo. 2000. A closed-form solution for the irradiance due to linearly-varying luminaires. In *Rendering Techniques (Proceedings of the Eurographics Workshop on Rendering)*. Bernard Péroche and Holly Rushmeier, editors. Redacted by W. Hansmann, W. Purgathofer, and François X. Sillion. Springer-Verlag, Vienna, (June 2000), 137–148. ISBN: 978-3-7091-6303-0. DOI: [10/gfz9gv](#).
- [1545] Min Chen and James Richard Arvo. 2001. Simulating non-Lambertian phenomena involving linearly-varying luminaires. In *Rendering Techniques (Proceedings of the Eurographics Workshop on Rendering)*. Springer-Verlag, (June 2001), 25–38. ISBN: 978-3-7091-6242-2. DOI: [10/chb4qg](#).
- [1546] Shenchang Eric Chen and Lance Williams. 1993. View interpolation for image synthesis. In *Annual Conference Series (Proceedings of SIGGRAPH)*. James T. Kajiya, editor. Volume 27. (August 1993), 279–288.
- [1547] Wei Chen, Liu Ren, Matthias Zwicker, and Hanspeter Pfister. 2004. Hardware-accelerated adaptive EWA volume splatting. In *Proceedings of IEEE Visualization 2004*. (October 2004).
- [1548] Matt Jen-Yuan Chiang, Peter Kutz, and Brent Burley. 2016. Practical and controllable subsurface scattering for production path tracing. In *ACM SIGGRAPH Talks* (Anaheim, California). ACM Press, (July 2016), 49:1–49:2. ISBN: 978-1-4503-4282-7. DOI: [10/gfzq7h](#).
- [1549] Patrick Chiu and Lynn Wilcox. 1998. A dynamic grouping technique for ink and audio notes. In *UIST-1998* (SanFran). (November 1998), 195–202.
- [1550] Byn Choi, Rakesh Komuravelli, Victor Lu, Hoyjin Sung, Robert L. Bocchino, Sarita V. Adve, and John C. Hart. 2010. Parallel SAH k-D tree construction. In *Proceedings of High Performance Graphics* (Saarbrücken, Germany). Eurographics Association, 77–86.

- [1551] P. A. Chou. 1989. Recognition of equations using a two-dimensional stochastic context-free grammar. In *Proceedings of SPIE Visual Communications and Image Processing IV*. Volume 1199, 852–863.
- [1552] Per H. Christensen and Dana Batali. 2004. An irradiance atlas for global illumination in complex production scenes. In *Rendering Techniques (Proceedings of the Eurographics Symposium on Rendering)*. A. Keller and H. W. Jensen, editors. (June 2004), 133–141.
- [1553] Per H. Christensen, George Harker, Jonathan Shade, Brenden Schubert, and Dana Batali. 2012. Multiresolution radiosity caching for global illumination in movies. In *ACM SIGGRAPH Talks* (Los Angeles, California). ACM, New York, NY, USA, 47:1–47:1. ISBN: 978-1-4503-1683-5. DOI: [10/gfz5nv](#).
- [1554] Per H. Christensen, David H. Salesin, and Tony D. DeRose. 1993. A continuous adjoint formulation for radiance transport. In *Photorealistic Rendering Techniques (Proceedings of the Eurographics Workshop on Rendering)* number Series EG 93 RW (Paris, France). (June 1993), 95–104.
- [1555] Per H. Christensen, Eric J. Stollnitz, David H. Salesin, and Tony D. DeRose. 1994. Wavelet radiance. In *Photorealistic Rendering Techniques (Proceedings of the Eurographics Workshop on Rendering)* (Darmstadt, Germany). (June 1994), 287–302.
- [1556] Per H. Christensen, Julian Fong, David M. Laur, and Dana Batali. 2006. Ray tracing for the movie 'Cars'. In *Proceedings of IEEE Symposium on Interactive Ray Tracing*. IEEE, (September 2006), 1–6. DOI: [10/bmiph7q](#).
- [1557] Nelson Chu, William Baxter, Li-Yi Wei, and Naga Govindaraju. 2010. Detail-preserving paint modeling for 3D brushes. In *Proceedings of Non-Photorealistic Animation and Rendering* (NPAR '10) (Annecy, France). ACM, New York, NY, USA, 27–34. ISBN: 978-1-4503-0125-1. DOI: [10/ctbqk5](#).
- [1558] David Cline, Parris K. Egbert, Justin F. Talbot, and David L. Cardon. 2006. Two stage importance sampling for direct lighting. In *Rendering Techniques (Proceedings of the Eurographics Symposium on Rendering)*. Eurographics Association, (June 2006), 103–113. ISBN: 3-905673-35-5. DOI: [10/gfzsm6](#).
- [1559] Andrew Clinton and Mark Elendt. 2009. Rendering volumes with microvoxels. In *ACM SIGGRAPH Talks* Article 47, 1 pages. DOI: [10/ddhnr](#).
- [1560] Steven Collins. 1992. Adaptive splatting for specular to diffuse light transport. In *CE_EGWR93*. (June 1992), 119–135.
- [1561] Steven Collins. 1995. Adaptive splatting for specular to diffuse light transport. In *Rendering Techniques (Proceedings of the Eurographics Workshop on Rendering)*. Georgios Sakas, Stefan Müller, and Peter Shirley, editors. Springer-Verlag, 121–135. ISBN: 978-3-642-87825-1.
- [1562] Steven Collins. 1995. Reconstruction of illumination from area luminaires. In *Rendering Techniques (Proceedings of the Eurographics Workshop on Rendering)*. P. M. Hanrahan and W. Purgathofer, editors. Springer-Verlag, NY, 274–283.
- [1563] Richard M. Conroy, Adrian A. Dorrington, Rainer Künemeyer, and Michael J. Cree. 2009. Range imager performance comparison in homodyne and heterodyne operating modes. In *IS&T/SPIE Electronic Imaging*. DOI: [10/bqxc4n](#).
- [1564] Damian M. Conway and Marion S. Cottingham. 1988. The isoluminance contour model. In *Proceedings of Ausgraph '88* (Melbourne, Australia). (July 1988), 43–50.
- [1565] António Cardoso Costa, António Augusto Sousa, and Fernando Nunes Ferreira. 1999. Lighting design: a goal based approach using optimisation. In *Rendering Techniques (Proceedings of the Eurographics Workshop on Rendering)*. Dani Lischinski and Greg Ward Larson, editors. Springer-Verlag, 317–328. ISBN: 978-3-7091-6809-7. DOI: [10/dk99px](#).
- [1566] Cyril Crassin, Fabrice Neyret, Sylvain Lefebvre, and Elmar Eisemann. 2009. GigaVoxels: ray-guided streaming for efficient and detailed voxel rendering. In *Proceedings of the Symposium on Interactive 3D Graphics and Games* (Boston, Massachusetts). ACM Press, 15–22.
- [1567] Brian Curless and Marc Levoy. 1996. A volumetric method for building complex models from range images. In *Annual Conference Series (Proceedings of SIGGRAPH)*. ACM Press, New York, NY, USA, 303–312. ISBN: 978-0-89791-746-9. DOI: [10/crn3vr](#).
- [1568] Cassidy J. Curtis, Sean E. Anderson, Joshua E. Seims, Kurt W. Fleischer, and David H. Salesin. 1997. Computer-generated watercolor. In *Annual Conference Series (Proceedings of SIGGRAPH)* (SIGGRAPH '97). ACM Press/Addison-Wesley Publishing Co., New York, NY, USA, 421–430. ISBN: 978-0-89791-896-1. DOI: [10/dcvjsd](#).
- [1569] Lawrence D. Cutler, Bernd Fröhlich, and Pat Hanrahan. 1997. Two-handed direct manipulation on the responsive workbench. In *Proceedings of the Symposium on Interactive 3D Graphics and Games* (Prov). (April 1997), 107–114.
- [1570] Eugene d'Eon. 2014. A dual-beam 3D searchlight BSSRDF. In *ACM SIGGRAPH Talks* (Vancouver, Canada). ACM Press, New York, NY, USA, 65:1–65:1. ISBN: 978-1-4503-2960-6. DOI: [10/gfzq7p](#).
- [1571] Eugene d'Eon, David Luebke, and Eric Enderton. 2007. Efficient rendering of human skin. In *Rendering Techniques (Proceedings of the Eurographics Symposium on Rendering)* (Grenoble, France). Eurographics Association, Aire-la-Ville, Switzerland, Switzerland, 147–157. ISBN: 978-3-905673-52-4. DOI: [10/gfzrc9](#).
- [1572] Eugene d'Eon, Steven Marschner, and Johannes Hanika. 2013. Importance sampling for physically-based hair fiber models. In *ACM SIGGRAPH Asia Technical Briefs*. DOI: [10/gfz5nw](#).
- [1573] Eugene d'Eon, Steven Marschner, and Johannes Hanika. 2014. A fiber scattering model with non-separable lobes. In *ACM SIGGRAPH Talks*. DOI: [10/gfz5nx](#).
- [1574] Carsten Dachsbacher and Jan Kautz. 2009. Real-time global illumination for dynamic scenes. In *ACM SIGGRAPH Course Notes* (New Orleans, Louisiana). DOI: [10/bhmg55](#).
- [1575] Carsten Dachsbacher and Marc Stamminger. 2003. Translucent shadow maps. In *Rendering Techniques (Proceedings of the Eurographics Symposium on Rendering)* (Leuven, Belgium). Eurographics Association, Aire-la-Ville, Switzerland, Switzerland, 197–201. ISBN: 978-3-905673-03-6.
- [1576] Carsten Dachsbacher and Marc Stamminger. 2005. Reflective shadow maps. In *Proceedings of the Symposium on Interactive 3D Graphics and Games* (Washington, District of Columbia). ACM Press, 203–208. DOI: [10/c83rvs](#).
- [1577] Carsten Dachsbacher and Marc Stamminger. 2006. Splatting indirect illumination. In *Proceedings of the Symposium on Interactive 3D Graphics and Games* (Redwood City, California). ACM Press, 93–100. DOI: [10/cvg7d8](#).
- [1578] Ken Dahm and Alexander Keller. 2017. Learning light transport the reinforced way. In *ACM SIGGRAPH Talks* Article 73 (Los Angeles, California). ACM Press, 73:1–73:2. ISBN: 978-1-4503-5008-2. DOI: [10/gfzsm4](#).
- [1579] Huidong Dai, Weiji He, Zhuang Miao, Yunfei Chen, and Guohua Gu. 2013. Three-dimensional active imaging using compressed gating. In *International Symposium on Photoelectronic Detection and Imaging*. DOI: [10/gfz5k5](#).
- [1580] H. Dammert and A. Keller. 2008. The edge volume heuristic - robust triangle subdivision for improved BVH performance. In *Proceedings of IEEE Symposium on Interactive Ray Tracing*. 2008 IEEE Symposium on Interactive Ray Tracing. (August 2008), 155–158. DOI: [10/c3pnzv](#).
- [1581] Holger Dammert and Alexander Keller. 2008. Edge volume heuristic - robust triangle subdivision for improved BVH performance. In *Proceedings of IEEE Symposium on Interactive Ray Tracing*. 155–158.
- [1582] Holger Dammert, Daniel Sewtz, Johannes Hanika, and Hendrik P. A. Lensch. 2010. Edge-avoiding À-trous wavelet transform for fast global illumination filtering. In *Proceedings of High Performance Graphics* (Saarbrücken, Germany). Eurographics Association, Aire-la-Ville, Switzerland, Switzerland, 67–75.
- [1583] Sabrina Dammert and Alexander Keller. 2008. Image synthesis by rank-1 lattices. In *Monte Carlo and Quasi-Monte Carlo Methods*. Alexander Keller, Stefan Heinrich, and Harald Niederreiter, editors. Springer-Verlag, 217–236. ISBN: 978-3-540-74496-2.
- [1584] John Danskin and Pat Hanrahan. 1992. Fast algorithms for volume ray tracing. In *Proceedings of the 1992 Workshop on Volume Visualization (VVS '92)* (Boston, Massachusetts, USA). ACM Press, New York, NY, USA, 91–98. ISBN: 978-0-89791-527-4. DOI: [10/dqddkv](#).
- [1585] Tomáš Davidovič, Iliyan Georgiev, and Philipp Slusallek. 2012. Progressive lightcuts for GPU. In *ACM SIGGRAPH Talks*. ACM Press, (May 8, 2012), 1. ISBN: 978-1-4503-1683-5. DOI: [10/gfzq7w](#).
- [1586] Paul Debevec. 1998. Rendering synthetic objects into real scenes: bridging traditional and image-based graphics with global illumination and high dynamic range photography. In *Annual Conference Series (Proceedings of SIGGRAPH)*. ACM Press, New York, NY, USA, 189–198. ISBN: 978-0-89791-999-9. DOI: [10/b9hzrf](#).
- [1587] Paul Debevec. 2006. A median cut algorithm for light probe sampling. In *ACM SIGGRAPH Course Notes* Article 6 (Boston, Massachusetts). ACM Press. ISBN: 1-59593-364-6. DOI: [10/bcx6bk](#).
- [1588] Paul Debevec, Tim Hawkins, Chris Tchou, Haarm-Pieter Duiker, Westley Sarokin, and Mark Sagar. 2000. Acquiring the reflectance field of a human face. In *Annual Conference Series (Proceedings of SIGGRAPH)*. ACM Press/Addison-Wesley Publishing Co., New York, NY, USA, (July 2000), 145–156. ISBN: 978-1-58113-208-3. DOI: [10/d329r5](#).
- [1589] Christopher DeCoro, Forrester Cole, Adam Finkelstein, and Szymon Rusinkiewicz. 2007. Stylized shadows. In *Proceedings of Non-Photorealistic Animation and Rendering* (San Diego, California). ACM Press, New York, NY, USA, 77–83. ISBN: 978-1-59593-624-0. DOI: [10/gfz5wh](#).
- [1590] Cyril Delalandre, Pascal Gautron, Jean-Eudes Marvie, and Guillaume François. 2011. Transmittance function mapping. In *Proceedings of the Symposium on Interactive 3D Graphics and Games* (San Francisco, California). ACM Press, New York, NY, USA, 31–38. ISBN: 978-1-4503-0565-5. DOI: [10/dcgkp7](#).
- [1591] Aaron Van den Oord, Nal Kalchbrenner, and Koray Kavukcuoglu. 2016. Pixel recurrent neural networks. In *Proceedings of The 33rd International Conference on Machine Learning*, 1747–1756.
- [1592] Mathieu Desbrun and Marie-Paule Gascuel. 1995. Animating soft substances with implicit surfaces. In *Annual Conference Series (Proceedings of SIGGRAPH)*. ACM, New York, NY, USA, 287–290. ISBN: 978-0-89791-701-8. DOI: [10/b96ndx](#).

- [1593] Oliver Deussen, Jörg Hamel, Andreas Raab, Stefan Schlechtweg, and Thomas Strothotte. 1999. An illustration technique using hardware-based intersections and skeletons. In *Proceedings of Computer Graphics International (CGI)* (Kingston, Ontario). (June 1999), 175–182.
- [1594] Oliver Deussen, Thomas Lindemeier, Sören Pirk, and Mark Tautzenberger. 2012. Feedback-guided stroke placement for a painting machine. In *Proceeding of the Symposium on Computational Aesthetics in Graphics, Visualization, and Imaging (CAE '12)* (Annecy, France). Eurographics Association, Goslar Germany, Germany, 25–33. ISBN: 978-1-4503-1584-5.
- [1595] Andreas Dietrich, Carsten Colditz, Oliver Deussen, and Philipp Slusallek. 2005. Realistic and interactive visualization of high-density plant ecosystems. In *Proceedings of the First Eurographics Conference on Natural Phenomena*, 73–81. doi: [10/gfz73c](#).
- [1596] David L. DiLaura. 1995. Non-diffuse radiative transfer II: planar area sources and receivers. In *Illumination Engineering Society of North America, Annual Conference Technical Papers*. Illuminating Engineering Society, (August 1995).
- [1597] Yoshinori Dobashi, Kazufumi Kaneda, Hideo Yamashita, Tsuyoshi Okita, and Tomoyuki Nishita. 2000. A simple, efficient method for realistic animation of clouds. In *Annual Conference Series (Proceedings of SIGGRAPH)*. ACM Press/Addison-Wesley Publishing Co., New York, NY, USA, 19–28. ISBN: 978-1-58113-208-3. doi: [10/fd9b7r](#).
- [1598] Yoshinori Dobashi and Tomoyuki Nishita. 2004. Radiosity for point-sampled geometry. In *Proceedings of Pacific Graphics*. IEEE Computer Society. (October 2004), 152–159.
- [1599] Zhao Dong, Thorsten Grosch, Tobias K. S. Ritschel, Jan Kautz, and Hans-Peter Seidel. 2009. Real-time indirect illumination with clustered visibility. In *Proceedings of Vision, Modeling and Visualization*, 187–196.
- [1600] William Donnelly and Andrew Lauritzen. 2006. Variance shadow maps. In *Proceedings of the Symposium on Interactive 3D Graphics and Games* (Redwood City, California). ACM Press, 161–165. ISBN: 1-59593-295-X.
- [1601] Craig Donner and Henrik Wann Jensen. 2006. A spectral BSSRDF for shading human skin. In *Rendering Techniques (Proceedings of the Eurographics Symposium on Rendering)* (Nicosia, Cyprus). Eurographics Association, Aire-la-Ville, Switzerland, (June 2006), 409–417. ISBN: 978-3-905673-35-7. doi: [10/gfz5tx](#).
- [1602] Craig Donner and Henrik Wann Jensen. 2007. Rendering translucent materials using photon diffusion. In *Rendering Techniques (Proceedings of the Eurographics Symposium on Rendering)*, 243–252. ISBN: 978-3-905673-52-4. doi: [10/gfz9d3](#).
- [1603] Adrian A Dorrington, John Peter Godbaz, Michael J Cree, Andrew D Payne, and Lee V Streeter. 2011. Separating true range measurements from multi-path and scattering interference in commercial range cameras. In *IS&T/SPIE Electronic Imaging*. doi: [10/bd4sps](#).
- [1604] Julie Dorsey, Alan Edelman, Henrik Wann Jensen, Justin Legakis, and Hans Köhling Pedersen. 1999. Modeling and rendering of weathered stone. In *Annual Conference Series (Proceedings of SIGGRAPH)*. ACM Press/Addison-Wesley Publishing Co., New York, NY, USA, (August 1999), 225–234. ISBN: 978-0-201-48560-8. doi: [10/djxbhn](#).
- [1605] Julie Dorsey and Pat Hanrahan. 1996. Modeling and rendering of metallic patinas. In *Annual Conference Series (Proceedings of SIGGRAPH)*. Addison-Wesley, (August 1996), 387–396.
- [1606] Julie Dorsey, Hans Köhling Pedersen, and Pat Hanrahan. 1996. Flow and changes in appearance. In *Annual Conference Series (Proceedings of SIGGRAPH)*. Addison-Wesley, (August 1996), 411–420.
- [1607] George Drettakis and Eugene Fiume. 1992. Concrete computation of global illumination using structured sampling. In *CE_EGWR93* (Bristol, UK). (May 1992), 189–202.
- [1608] George Drettakis and Eugene Fiume. 1994. A fast shadow algorithm for area light sources using backprojection. In *Annual Conference Series (Proceedings of SIGGRAPH)*. (July 1994), 223–230.
- [1609] James J. Duderstadt. 1971. Transport equations for dense, many-particle systems. In *Second Conference on Transport Theory*. CONF-710107. Department of Nuclear Energy. (April 1971), 2.
- [1610] Jonathan Dupuy, Eric Heitz, and Eugene d'Eon. 2016. Additional progress towards the unification of microfacet and microflake theories. In *Proceedings of EGSR (Experimental Ideas & Implementations)*. Eurographics Association, 55–63. ISBN: 978-3-03868-019-2. doi: [10/gfz72z](#).
- [1611] James W. Durkin and John F. Hughes. 1994. Nonpolygonal isosurface rendering for large datasets. In *Proceedings of Visualization '94*. IEEE Computer Society. (October 1994), 293–300.
- [1612] Philip Dutre, Phillipe Baekert, Frank Suykens, and Yves D. Willems. 1997. Bidirectional radiosity. In *Rendering Techniques (Proceedings of the Eurographics Workshop on Rendering)*. Julie Dorsey and Philipp Slusallek, editors. ISBN 3-211-83001-4. Springer-Verlag, 205–216.
- [1613] Philip Dutré, Eric P. Lafortune, and Yves D. Willems. 1994. A mathematical framework for global illumination algorithms. In *Journal of the World Society for Computer Graphics (WSCG)* (University of West Bohemia, Plzen, Czech Republic). University of West Bohemia, (January 1994), 75–84.
- [1614] Philip Dutre and Yves D. Willems. 1995. Potential-driven Monte Carlo particle tracing for diffuse environments with adaptive probability density functions. In *Rendering Techniques (Proceedings of the Eurographics Workshop on Rendering)*. P. M. Hanrahan and W. Purgathofer, editors. Springer-Verlag, 306–315.
- [1615] Philip Dutré and Yves D. Willems. 1995. Importance-driven Monte Carlo light tracing. In *Rendering Techniques (Proceedings of the Eurographics Workshop on Rendering)*. Georgios Sakas, Stefan Müller, and Peter Shirley, editors. Springer-Verlag, 188–197. ISBN: 978-3-642-87825-1.
- [1616] A.A. Efros and T.K. Leung. 1999. Texture synthesis by non-parametric sampling. In *Computer Vision, 1999. The Proc. Seventh IEEE International Conf. On*. Volume 2, 1033–1038 vol.2. doi: [10/fhh67](#).
- [1617] Per Einarsson, Charles-Felix Chabert, Andrew Jones, Wan-Chun Ma, Bruce Lamond, Tim Hawkins, Mark Bolas, Sebastian Sylwan, and Paul Debevec. 2006. Relighting human locomotion with flowed reflectance fields. In *Rendering Techniques (Proceedings of the Eurographics Symposium on Rendering)* (Nicosia, Cyprus), 183–194. ISBN: 3-905673-35-5. doi: [10/gfz9d4](#).
- [1618] P. Ekman and W.V. Friesen. 1978. The facial action coding system: a technique for the measurement of facial movement. In *Consulting Psychologists*.
- [1619] Thomas Engelhardt and Carsten Dachsbacher. 2010. Epipolar sampling for shadows and crepuscular rays in participating media with single scattering. In *Proceedings of the Symposium on Interactive 3D Graphics and Games*. ACM Press, Washington, D.C., 119–125. ISBN: 978-1-60558-939-8. doi: [10/ddp33t](#).
- [1620] Manfred Ernst, Tomas Akenine-Möller, and Henrik Wann Jensen. 2005. Interactive rendering of caustics using interpolated warped volumes. In *Proceedings of Graphics Interface* (Victoria, British Columbia). Canadian Human-Computer Communications Society, (May 2005), 87–96. ISBN: 1-56881-265-5.
- [1621] Manfred Ernst and Gunther Greiner. 2007. Early split clipping for bounding volume hierarchies. In *Proceedings of IEEE Symposium on Interactive Ray Tracing* (Washington, DC, USA). IEEE Computer Society, 73–78. doi: [10/dcxhvw](#).
- [1622] Manfred Ernst, Marc Stamminger, and Günther Greiner. 2006. Filter importance sampling. In *Proceedings of IEEE Symposium on Interactive Ray Tracing*. (September 2006), 125–132. doi: [10/c2q6gj](#).
- [1623] Luca Fascione, Johannes Hanika, Marcos Fajardo, Per Christensen, Brent Burley, Brian Green, Rob Pieké, Christopher Kulla, Christophe Hery, Ryusuke Villemin, Daniel Heckenberg, and André Mazzone. 2017. Path tracing in production (Parts 1 and 2). In *ACM SIGGRAPH Course Notes*. (August 2017). doi: [10/gfz2ck](#).
- [1624] Ronald Fedkiw, Jos Stam, and Henrik Wann Jensen. 2001. Visual simulation of smoke. In *Annual Conference Series (Proceedings of SIGGRAPH)*. ACM Press, New York, NY, USA, (August 2001), 15–22. ISBN: 978-1-58113-374-5. doi: [10/dgzbb8](#).
- [1625] Manuel Finckh, Holger Dammert, and Hendrik P. A. Lensch. 2010. Geometry construction from caustic images. In *Proceedings of the European Conference on Computer Vision (ECCV)* (Lecture Notes in Computer Science). Kostas Daniilidis, Petros Maragos, and Nikos Paragios, editors. Springer-Verlag, Berlin, Heidelberg, 464–477. ISBN: 978-3-642-15555-0.
- [1626] Matthew Flagg and James M. Rehg. 2006. Projector-guided painting. In *Proceeding of the ACM Symposium on User Interface Software and Technology (UIST)* (UIST '06) (Montreux, Switzerland). ACM, New York, NY, USA, 235–244. ISBN: 978-1-59593-313-3. doi: [10/dqvm75](#).
- [1627] Roland W. Fleming, Henrik Wann Jensen, and Heinrich H. Bühlhoff. 2004. Perceiving translucent materials. In *SAP*. ACM Press, New York, NY, USA, 127–134. ISBN: 978-1-58113-914-3. doi: [10/cqk6d3](#).
- [1628] Julian Fong, Magnus Wrenninge, Christopher Kulla, and Ralf Habel. 2017. Production volume rendering. In *ACM SIGGRAPH Course Notes* (Los Angeles, California). ACM Press, New York, NY, USA, 2:1–2:79. ISBN: 978-1-4503-5014-3. doi: [10/gfzfp5r](#).
- [1629] Alain Fournier. 1992. Normal distribution functions and multiple surfaces. In *Graphics Interface '92 Workshop on Local Illumination*. (May 1992), 45–52.
- [1630] Alain Fournier. 1995. Separating reflection functions for linear radiosity. In *Rendering Techniques (Proceedings of the Eurographics Workshop on Rendering)*. P. M. Hanrahan and W. Purgathofer, editors. Springer-Verlag, NY, 296–305.
- [1631] N. C. Francis, J. C. Stewart, L. S. Bohl, and T. J. Krieger. 1958. Variational solutions of the transport equation. In *Second International Conference on the Peaceful Uses of Atomic Energy* (Geneva). Volume 16, 517–529.
- [1632] Wm. Randolph Franklin. 1982. Efficient polyhedron intersection and union. In *Proceedings of Computer Graphics International (CGI)*, 73–80.
- [1633] Roald Fredericks, Pieterjan Bartels, and Philip Dutré. 2015. Adaptive light-slice for virtual ray lights. In *Proceedings of Eurographics Short Papers*. The Eurographics Association, 61–64. doi: [10/gfzq7m](#).
- [1634] Daniel Freedman, Yoni Smolin, Eyal Krupka, Ido Leichter, and Mirko Schmidt. 2014. SRA: fast removal of general multipath for tof sensors. In *Proceedings of the European Conference on Computer Vision (ECCV)*. doi: [10/gfz5k6](#).
- [1635] Sarah F. Frisken, Ronald N. Perry, Allyn P. Rockwood, and Thouis R. Jones. 2000. Adaptively sampled distance fields: A general representation of shape for computer graphics. In *Annual Conference Series (Proceedings of SIGGRAPH)*.

- ACM Press/Addison-Wesley Publishing Co., New York, NY, USA, 249–254. ISBN: 978-1-58113-208-3. doi: [10/bfns72](#).
- [1636] Jeppe Revall Frisvad, Niels Jørgen Christensen, and Peter Falster. 2007. The Aristotelian rainbow: from philosophy to computer graphics. In *Proceedings of GRAPHITE* (Perth, Australia). ACM Press, New York, NY, USA, 119–128. ISBN: 978-1-59593-912-8. doi: [10/b5ksfr](#).
- [1637] Stefan Fuchs. 2010. Multipath interference compensation in time-of-flight camera images. In *IEEE International Conference on Pattern Recognition*. doi: [10/bdc735](#).
- [1638] Stefan Fuchs and Gerd Hirzinger. 2008. Extrinsic and depth calibration of ToF-cameras. In *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*. doi: [10/b2s2s8](#).
- [1639] Thomas Funkhouser, Ingrid Carlbom, Gary Elko, Gopal Pingali, Mohan Sondhi, and Jim West. 1998. A beam tracing approach to acoustic modeling for interactive virtual environments. In *Annual Conference Series (Proceedings of SIGGRAPH)*. ACM Press, 21–32. ISBN: 0-89791-999-8. doi: [10/ddbj5](#).
- [1640] Graham Fyfe, Xueming Yu, and Paul Debevec. 2011. Single-shot photometric stereo by spectral multiplexing. In *IEEE International Conference on Computational Photography (ICCP)*. IEEE, 1–6.
- [1641] Kirill Garanzha, Jacopo Pantaleoni, and David McAllister. 2011. Simpler and faster HLBVH with work queues. In *Proceedings of High Performance Graphics* (Vancouver, British Columbia, Canada). ACM Press, 59–64.
- [1642] Marie-Paule Gascuel. 1993. An implicit formulation for precise contact modeling between flexible solids. In *Annual Conference Series (Proceedings of SIGGRAPH)* (Anaheim, CA). ACM, New York, NY, USA, 313–320. ISBN: 978-0-89791-601-1. doi: [10/cqsq53](#).
- [1643] Pascal Gautron, Jaroslav Krivánek, Kadi Bouatouch, and Sumanta Pattanaik. 2005. Radiance cache splatting: a GPU-friendly global illumination algorithm. In *Rendering Techniques (Proceedings of the Eurographics Symposium on Rendering)*. Kavita Bala and Philip Dutré, editors. Eurographics Association, (June 2005), 55–64. ISBN: 3-905673-23-1.
- [1644] Pascal Gautron, Jaroslav Krivánek, Sumanta N. Pattanaik, and Kadi Bouatouch. 2004. A novel hemispherical basis for accurate and efficient rendering. In *Rendering Techniques (Proceedings of the Eurographics Symposium on Rendering)* (Norrköping, Sweden). Eurographics Association, 321–330. ISBN: 3-905673-12-6.
- [1645] Robert Geist, Karl Rasche, James Westall, and Robert Schalkoff. 2004. Lattice-Boltzmann lighting. In *Rendering Techniques (Proceedings of the Eurographics Symposium on Rendering)*. A. Keller and H. W. Jensen, editors. (June 2004), 355–362. doi: [10/gfz727](#).
- [1646] Robert Geist and Jay Steele. 2008. A lighting model for fast rendering of forest ecosystems. In *Proceedings of IEEE Symposium on Interactive Ray Tracing*. (August 2008), 99–106. doi: [10/dj45q2](#).
- [1647] Asher Gelbart, Brian C. Redman, Robert S. Light, Coreen A. Schwartzlow, and Andrew J. Griffis. 2002. Flash lidar based on multiple-slit streak tube imaging lidar. In *Laser Radar Technology and Applications VII*. Volume 4723. SPIE, 9–18. doi: [10/brjp63](#).
- [1648] Athinodoros S. Georgiades. 2003. Recovering 3-D shape and reflectance from a small number of photographs. In *Rendering Techniques (Proceedings of the Eurographics Symposium on Rendering)*, 230–240. ISBN: 3-905673-03-7.
- [1649] Iliyan Georgiev and Marcos Fajardo. 2016. Blue-noise dithered sampling. In *ACM SIGGRAPH Talks* (Anaheim, California). ACM Press, 35:1–35:1. ISBN: 978-1-4503-4282-7. doi: [10/gfznbx](#).
- [1650] Iliyan Georgiev and Philipp Slusallek. 2010. Simple and robust iterative importance sampling of virtual point lights. In *Proceedings of Eurographics Short Papers* (Norrköping, Sweden). Eurographics Association, 57–60.
- [1651] Reid Gershbein and Pat Hanrahan. 2000. A fast relighting engine for interactive cinematic lighting design. In *Annual Conference Series (Proceedings of SIGGRAPH)*. ACM Press, New York, NY, USA, 353–358. ISBN: 978-1-58113-208-3. doi: [10/d89r34](#).
- [1652] Reid Gershbein, Peter Schroder, and Pat Hanrahan. 1994. Textures and radiosity: controlling emission and reflection with texture maps. In *Annual Conference Series (Proceedings of SIGGRAPH)*. (July 1994), 51–58.
- [1653] John P Godbaz, Michael J Cree, and Adrian A Dorrington. 2008. Mixed pixel return separation for a full-field ranger. In *IEEE International Conference Image and Vision Computing New Zealand '08*. doi: [10/c3cvr8](#).
- [1654] John P Godbaz, Michael J Cree, and Adrian A Dorrington. 2009. Multiple return separation for a full-field ranger via continuous waveform modelling. In *IS&T/SPIE Electronic Imaging*. doi: [10/cszx8n](#).
- [1655] John P Godbaz, Michael J Cree, and Adrian A Dorrington. 2010. Extending amcw LIDAR depth-of-field using a coded aperture. In *Asian Conference on Computer Vision 2010*.
- [1656] John P Godbaz, Michael J Cree, and Adrian A Dorrington. 2012. Closed-form inverses for the mixed pixel/multipath interference problem in amcw lidar. In *IS&T/SPIE Electronic Imaging*. doi: [10/fxp3c5](#).
- [1657] Luke Goddard. 2014. Silencing the noise on elysium. In *ACM SIGGRAPH Talks Article 38* (Vancouver, Canada). ACM, 38:1–38:1. ISBN: 978-1-4503-2960-6. doi: [10/gfz6ms](#).
- [1658] Jay S. Gondek, Gary W. Meyer, and Jonathan G. Newman. 1994. Wavelength dependent reflectance functions. In *Annual Conference Series (Proceedings of SIGGRAPH)*. ACM Press, New York, NY, USA, (July 1994), 213–220. ISBN: 978-0-89791-667-7. doi: [10/bt43z6](#).
- [1659] Steven J. Gortler, Radek Grzeszczuk, Richard Szeliski, and Michael F. Cohen. 1996. The lumigraph. In *Annual Conference Series (Proceedings of SIGGRAPH)*. Holly Rushmeier, editor. Addison-Wesley, New York, NY, USA, (August 1996), 43–54. ISBN: 0-89791-746-4. doi: [10/dkzg3q](#).
- [1660] Steven J. Gortler, Peter Schröder, Michael F. Cohen, and Pat Hanrahan. 1993. Wavelet radiosity. In *Annual Conference Series (Proceedings of SIGGRAPH)* (Anaheim, CA). ACM Press, New York, NY, USA, (August 1993), 221–230. ISBN: 978-0-89791-601-1. doi: [10/ffk58p](#).
- [1661] Hironobu Gotoda. 2010. A multilayer liquid crystal display for autostereoscopic 3D viewing. In *Stereoscopic Displays and Applications XXI*. Volume 7524. International Society for Optics and Photonics, (February 24, 2010), 1–8. doi: [10/cdw4kb](#).
- [1662] Paul Green, Jan Kautz, Wojciech Matusik, and Frédéric Durand. 2006. View-dependent precomputed light transport using nonlinear Gaussian function approximations. In *Proceedings of the Symposium on Interactive 3D Graphics and Games*. ACM. doi: [10/d6sb6g](#).
- [1663] Carl Johan Gribel, Michael Doggett, and Tomas Akenine-Möller. 2010. Analytical motion blur rasterization with compression. In *Proceedings of High Performance Graphics*. Eurographics Association, 163–172. ISBN: 978-3-905674-26-2. doi: [10/f2z5ds](#).
- [1664] David G Grier and Sven H Behrens. 2001. Interactions in colloidal suspensions. In *Electrostatic Effects in Soft Matter and Biophysics*. Springer-Verlag, 87–116. doi: [10/bwvj4d](#).
- [1665] Cindy M. Grimm and John F. Hughes. 1995. Modeling surfaces of arbitrary topology using manifolds. In *Annual Conference Series (Proceedings of SIGGRAPH)*. (August 1995), 359–368.
- [1666] C. C. Grosjean. 1958. Multiple isotropic scattering in convex homogeneous media bounded by vacuum. In *Proc. Second International Conference on the Peaceful Uses of Atomic Energy*. Volume 413.
- [1667] Mark D. Gross and Ellen Yi-Luen Do. 1996. Ambiguous intentions: a paper-like interface for creative design. In *UIST-1996* (Seattle, Washington), 183–192.
- [1668] Baining Guo. 1998. Progressive radiance evaluation using directional coherence maps. In *Annual Conference Series (Proceedings of SIGGRAPH)*. ACM, New York, NY, USA, 255–266. ISBN: 978-0-89791-999-9. doi: [10/dfh7jd](#).
- [1669] D. Gutierrez, F. J. Seron, O. Anson, and A. Muñoz. 2004. Chasing the green flash: a global illumination solution for inhomogeneous media. In *Proceedings of the Spring Conference on Computer Graphics (SCCG)*, 97–105. doi: [10/bmtrmq](#).
- [1670] Diego Gutierrez, Wojciech Jarosz, Srinivasa G. Narasimhan, and Craig Donner. 2009. Scattering. In *ACM SIGGRAPH Course Notes*. doi: [10/dskkwn](#).
- [1671] Diego Gutierrez, Henrik Wann Jensen, Wojciech Jarosz, and Craig Donner. 2009. Scattering. In *ACM SIGGRAPH Asia Course Notes Article 15* (Yokohama, Japan). ACM Press, (December 2009), 15:1–15:620. doi: [10/b9gsw9](#).
- [1672] Diego Gutierrez, Adolfo Muñoz, Oscar Anson, and Francisco J. Seron. 2005. Non-linear volume photon mapping. In *Rendering Techniques (Proceedings of the Eurographics Symposium on Rendering)*. Eurographics Association, (June 2005), 291–300. ISBN: 978-3-905673-23-4. doi: [10/gfzngk](#).
- [1673] Diego Gutierrez, Srinivasa G. Narasimhan, Henrik Wann Jensen, and Wojciech Jarosz. 2008. Scattering. In *ACM SIGGRAPH Asia Course Notes*. doi: [10/c8nckn](#).
- [1674] Ralf Habel, Alexander Kuesternig, and Michael Wimmer. 2007. Physically based real-time translucency for leaves. In *Rendering Techniques (Proceedings of the Eurographics Symposium on Rendering)*. (June 2007), 253–263. ISBN: 978-3-905673-52-4.
- [1675] T. Hachisuka, W. Jarosz, G. Bouchard, P. Christensen, J.R. Frisvad, W. Jakob, H.W. Jensen, M. Kaschak, C. Knaus, A. Selle, and B. Spencer. 2012. State of the art in photon density estimation. In *ACM SIGGRAPH Course Notes*. ISBN: 978-1-4503-1678-1. doi: [10/gfzndm](#).
- [1676] Toshiya Hachisuka, Iliyan Georgiev, Wojciech Jarosz, Jaroslav Krivánek, and Derek Nowrouzezahrai. 2017. Extended path integral formulation for volumetric transport. In *Proceedings of EGSR (Experimental Ideas & Implementations)*. Eurographics Association, (June 2017). doi: [10/gfznb3](#).
- [1677] Toshiya Hachisuka, Wojciech Jarosz, Iliyan Georgiev, Anton Kaplanyan, and Derek Nowrouzezahrai. 2013. State of the art in photon density estimation. In *ACM SIGGRAPH Asia Course Notes*. ISBN: 978-1-4503-2631-5. doi: [10/gfzndj](#).
- [1678] Johannes Hanika, Alexander Keller, and Hendrik P. A. Lensch. 2010. Two-level ray tracing with reordering for highly complex scenes. In *Proceedings of Graphics Interface* (Ottawa, Ontario, Canada). Canadian Information Processing Society, 145–152.
- [1679] Pat Hanrahan and Wolfgang Krueger. 1993. Reflection from layered surfaces due to subsurface scattering. In *Annual Conference Series (Proceedings of SIGGRAPH)*

- (New York, NY, USA). ACM Press, New York, NY, USA, 165–174. ISBN: 978-0-89791-601-1. doi: [10/b4tw3j](#).
- [1680] David Hart, Philip Dutré, and Donald P. Greenberg. 1999. Direct illumination with lazy visibility evaluation. In *Annual Conference Series (Proceedings of SIGGRAPH)*. (August 1999), 147–154.
- [1681] J.C. Hart, E. Bachta, W. Jarosz, and T. Fleury. 2002. Using particles to sample and control more complex implicit surfaces. In *Conf. smi*. ISBN: 0-7695-1546-0. doi: [10/dfw2ss](#).
- [1682] S. Haugo, A. Stahl, and E. Brekke. 2017. Continuous signed distance functions for 3D vision. In *2017 International Conference on 3D Vision (3DV)*. (October 2017), 116–125. doi: [10/gfz546](#).
- [1683] Alejo Hausner. 2001. Simulating decorative mosaics. In *Annual Conference Series (Proceedings of SIGGRAPH '01)*. ACM, New York, NY, USA, 573–580. ISBN: 978-1-58113-374-5. doi: [10/d7tkg3](#).
- [1684] Vlastimil Havran, Jiří Bittner, Robert Herzog, and Hans-Peter Seidel. 2005. Ray maps for global illumination. In *Rendering Techniques (Proceedings of the Eurographics Symposium on Rendering)*. Eurographics Association, (June 2005), 43–54. doi: [10/c2xphk](#).
- [1685] Tim Hawkins, Per Einarsson, and Paul Debevec. 2005. A dual light stage. In *Rendering Techniques (Proceedings of the Eurographics Symposium on Rendering)* (Konstanz, Germany), 91–98. ISBN: 3-905673-23-1. doi: [10/gfz9d5](#).
- [1686] Tim Hawkins, Andreas Wenger, Chris Tchou, Andrew Gardner, Fredrik Göransson, and Paul Debevec. 2004. Animatable facial reflectance fields. In *Rendering Techniques (Proceedings of the Eurographics Symposium on Rendering)* (Norrköping#246;ping, Sweden), 309–319. ISBN: 3-905673-12-6. doi: [10/gfz9d6](#).
- [1687] Kaiming He, Jian Sun, and Xiaoou Tang. 2010. Guided image filtering. In *Proceedings of the European Conference on Computer Vision (ECCV)* (Heraklion, Crete, Greece). Springer-Verlag, 1–14. ISBN: 3-642-15548-0 978-3-642-15548-2.
- [1688] Kaiming He, Xiangyu Zhang, Shaoqing Ren, and Jian Sun. 2016. Deep residual learning for image recognition. In *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*. doi: [10/gdcfkn](#).
- [1689] Felix Heide, Lei Xiao, Wolfgang Heidrich, and Matthias B. Hullin. 2014. Diffuse mirrors: 3D reconstruction from diffuse indirect illumination using inexpensive time-of-flight sensors. In *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*. doi: [10/gfz5mb](#).
- [1690] Wolfgang Heidrich, Stefan Bräbe, and Hans-Peter Seidel. 2000. Soft shadow maps for linear lights. In *Rendering Techniques (Proceedings of the Eurographics Workshop on Rendering)*. Bernard Péroche and Holly Rushmeier, editors. Redacted by W. Hansmann, W. Purgathofer, and François X. Sillion. Springer-Verlag, Vienna, 269–280. ISBN: 978-3-211-83535-7 978-3-7091-6303-0. doi: [10/gfzndc](#).
- [1691] Wolfgang Heidrich, Jan Kautz, Philipp Slusallek, and Hans-Peter Seidel. 1998. Canned light sources. In *Rendering Techniques (Proceedings of the Eurographics Workshop on Rendering)*. George Drettakis and Nelson Max, editors, 293–300. ISBN: 978-3-211-83213-4. doi: [10/bst2gn](#).
- [1692] Wolfgang Heidrich and Hans-Peter Seidel. 1999. Realistic, hardware-accelerated shading and lighting. In *Annual Conference Series (Proceedings of SIGGRAPH)*. Alyn Rockwood, editor. (August 1999), 171–178.
- [1693] Alan Heirich and James Arvo. 1996. Scalable photorealistic rendering of complex scenes. In *Proceedings of the Eurographics Workshop on Parallel Graphics and Visualization* (Bristol, England). (September 1996), 17–33.
- [1694] Alan Heirich and James Arvo. 1997. Parallel rendering with an actor model. In *Proceedings of Eurographics '97, Workshop on Programming Paradigms for Graphics* (Budapest, Hungary). (September 1997).
- [1695] Eric Heitz, Stephen Hill, and Morgan McGuire. 2018. Combining analytic direct illumination and stochastic shadows. In *Proceedings of the Symposium on Interactive 3D Graphics and Games* (Montreal, Quebec, Canada). ACM Press, New York, NY, USA, 2:1–2:11. ISBN: 978-1-4503-5705-0. doi: [10/gfznb7](#).
- [1696] Eric Heitz, Derek Nowrouzezahrai, Pierre Poulin, and Fabrice Neyret. 2013. Filtering color mapped textures and surfaces. In *Proceedings of the Symposium on Interactive 3D Graphics and Games* (Orlando, United States). Stephen N. Spencer, editor. ACM Press, (March 2013), 129–136. ISBN: 978-1-4503-1956-0. doi: [10/gfzp5z](#).
- [1697] Aaron Hertzmann. 1998. Painterly rendering with curved brush strokes of multiple sizes. In *Annual Conference Series (Proceedings of SIGGRAPH '98)*. ACM, New York, NY, USA, 453–460. ISBN: 978-0-89791-999-9. doi: [10/cdgr3f](#).
- [1698] Christophe Hery. 2003. Implementing a skin BSSRDF (or several). In *RenderMan, Theory and Practice* (ACM SIGGRAPH Course Notes).
- [1699] Christophe Hery and Ryusuke Villemin. 2013. Physically based lighting at Pixar. In *Physically Based Shading* (ACM SIGGRAPH Course Notes).
- [1700] Barmak Heshmat, Guy Satat, Christopher Barsi, and Ramesh Raskar. 2014. Single-shot ultrafast imaging using parallax-free alignment with a tilted lenslet array. In *CLEO: Science and Innovations*. doi: [10/gfz5md](#).
- [1701] Heinrich Hey and Werner Purgathofer. 2002. Importance sampling with hemispherical particle footprints. In *Proceedings of the Spring Conference on Computer Graphics (SCCG)* (Budmerice, Slovakia). ACM, New York, NY, USA, (April 2002), 107–114. ISBN: 978-1-58113-608-1. doi: [10/fmx2jp](#).
- [1702] Nicolas Holzschuch and François X. Sillion. 1995. Accurate computation of the radiosity gradient for constant and linear emitters. In *Rendering Techniques (Proceedings of the Eurographics Workshop on Rendering)*. P. M. Hanrahan and W. Purgathofer, editors. Springer-Verlag, 186–195.
- [1703] Nicolas Holzschuch and François X. Sillion. 1995. Accurate computation of the radiosity gradient with constant and linear emitters. In *Rendering Techniques (Proceedings of the Eurographics Workshop on Rendering)*. Patrick M. Hanrahan and Werner Purgathofer, editors. Springer-Verlag, 186–195. doi: [10/gfzqhx](#).
- [1704] Masaaki Honda, Takeo Igarashi, Hidehiko Tanaka, and Shuichi. 1999. Integrated manipulation: context-aware manipulation of 2D diagrams. In *UIST-1999* (Asherville, North Carolina). (November 1999), 159–160.
- [1705] Matthias Hopf and Thomas Ertl. 2003. Hierarchical Splatting of Scattered Data. In *IEEE Visualization, 2003. VIS 2003*. (October 2003), 433–440. doi: [10/c6d9v4](#).
- [1706] Hughes Hoppe, Tony DeRose, Tom Duchamp, and Mark Halstead. 1994. Piecewise smooth surface reconstruction. In *Annual Conference Series (Proceedings of SIGGRAPH)*. (July 1994), 295–302.
- [1707] Hugues Hoppe. 1996. Progressive meshes. In *Annual Conference Series (Proceedings of SIGGRAPH)*. (August 1996), 99–108.
- [1708] Hugues Hoppe. 1997. View-dependent refinement of progressive meshes. In *Annual Conference Series (Proceedings of SIGGRAPH)* (New York, NY, USA). ACM Press/Addison-Wesley Publishing Co., 189–198. doi: [10/bgf6bh](#).
- [1709] Wei Hu, Zhao Dong, Ivo Ihrke, Thorsten Grosch, Guodong Yuan, and Hans-Peter Seidel. 2010. Interactive volume caustics in single-scattering media. In *Proceedings of the Symposium on Interactive 3D Graphics and Games*. ACM Press, Washington, D.C., 109–117. ISBN: 978-1-60558-939-8. doi: [10/dth58p](#).
- [1710] Matthias B. Hullin. 2014. Computational imaging of light in flight. In *SPIE/COS Photonics Asia*.
- [1711] Emmanuel Iarussi, Adrien Bousseau, and Theophanis Tsandilas. 2013. The drawing assistant: automated drawing guidance and feedback from photographs. In *Proceeding of the ACM Symposium on User Interface Software and Technology (UIST)* (UIST '13) (St. Andrews, Scotland, United Kingdom). ACM, New York, NY, USA, 183–192. ISBN: 978-1-4503-2268-3. doi: [10/gfz9fw](#).
- [1712] Takeo Igarashi, Satoshi Matsuoka, and Hidehiko Tanaka. 1999. Teddy: a sketching interface for 3D freeform design. In *Annual Conference Series (Proceedings of SIGGRAPH)*. (August 1999), 409–416.
- [1713] Homan Ighehy. 1999. Tracing ray differentials. In *Annual Conference Series (Proceedings of SIGGRAPH)*. Volume 33. ACM Press, (August 1999), 179–186. ISBN: 978-0-201-48560-8. doi: [10/c2t9t9](#).
- [1714] I. Ihrke, I. Reshetouski, A. Manakov, A. Tevs, M. Wand, and H.-P. Seidel. 2012. A kaleidoscopic approach to surround geometry and reflectance acquisition. In *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*, 29–36. doi: [10/gfz9d7](#).
- [1715] Matthias Innmann, Michael Zollhöfer, Matthias Nießner, Christian Theobalt, and Marc Stamminger. 2016. VolumeDeform: Real-time volumetric non-rigid reconstruction. In *Proceedings of the European Conference on Computer Vision (ECCV)* (Lecture Notes in Computer Science). Bastian Leibe, Jiri Matas, Nicu Sebe, and Max Welling, editors. Springer-Verlag, 362–379. ISBN: 978-3-319-46484-8. doi: [10/gfz54z](#).
- [1716] Kei Iwasaki, Yoshinori Dobashi, and Tomoyuki Nishita. 2001. Efficient rendering of optical effects within water using graphics hardware. In *Proceedings of Pacific Graphics* (Washington, DC, USA). IEEE Computer Society, Tokyo, Japan, 374–383. ISBN: 0-7695-1227-5. doi: [10/b2jkbz](#).
- [1717] Kei Iwasaki, Yoshinori Dobashi, Fujiiichi Yoshimoto, and Tomoyuki Nishita. 2007. Precomputed radiance transfer for dynamic scenes taking into account light interreflection. In *Rendering Techniques (Proceedings of the Eurographics Symposium on Rendering)*. (June 2007), 35–44. doi: [10/gfz2f9](#).
- [1718] Charles E. Jacobs, Adam Finkelstein, and David H. Salesin. 1995. Fast multiresolution image querying. In *Annual Conference Series (Proceedings of SIGGRAPH)*. (August 1995), 277–286.
- [1719] Alec Jacobson, Zhigang Deng, Ladislav Kavan, and JP Lewis. 2014. Skinning: real-time shape deformation. In *ACM SIGGRAPH Course Notes*. doi: [10/gf2ng4](#).
- [1720] Aleks Jakulin. 2000. Interactive vegetation rendering with slicing and blending. In *Proceedings of Eurographics Short Papers*. doi: [10/gfz747](#).
- [1721] Frederik W. Jansen. 1986. Data structures for ray tracing. In *Data Structures for Raster Graphics*. Laurens R. A. Kessener, Frans J. Peters, and Marloes L. P. van Lierop, editors. Springer-Verlag, 57–73. ISBN: 978-3-642-71071-1.
- [1722] Jon Jansen and Louis Bavoil. 2010. Fourier opacity mapping. In *Proceedings of the Symposium on Interactive 3D Graphics and Games* (Washington, D.C.). ACM Press, 165–172. doi: [10/b6tns9](#).
- [1723] Adrian Jarabo, Belen Masia, Andreas Velten, Christopher Barsi, Ramesh Raskar, and Diego Gutierrez. 2013. Rendering relativistic effects in transient imaging. In *Congreso Espanol de Informatica Grafica*.

- [1724] Wojciech Jarosz and Benedikt Bitterli. 2017. Beyond points and beams: higher-dimensional photon samples for volumetric light transport. In *International Conference on Transport Theory*. (October 2017).
- [1725] Wojciech Jarosz, Henrik Wann Jensen, and Craig Donner. 2008. Advanced global illumination using photon mapping. In *ACM SIGGRAPH Course Notes*. doi: [10/fwwxzd](#).
- [1726] Suren Jayasuriya, Adithya Pediredla, Sriram Sivaramakrishnan, Alyosha Molnar, and Ashok Veeraraghavan. 2015. Depth fields: extending light field techniques to time-of-flight imaging. In *International Conference on 3D Vision*. doi: [10/gfz5mg](#).
- [1727] Henrik W. Jensen, Frank Suykens, and Per H. Christensen. 2001. A practical guide to global illumination using photon mapping. In *ACM SIGGRAPH Course Notes*. ACM Press, (August 2001).
- [1728] Henrik Wann Jensen. 1995. Importance driven path tracing using the photon map. In *Rendering Techniques (Proceedings of the Eurographics Workshop on Rendering)*. Patrick M. Hanrahan and Werner Purgathofer, editors. Springer-Verlag, 326–335. ISBN: 978-3-7091-9430-0. doi: [10/gf2hcr](#).
- [1729] Henrik Wann Jensen. 1996. Global illumination using photon maps. In *Rendering Techniques (Proceedings of the Eurographics Workshop on Rendering)*. Xavier Pueyo and Peter Schröder, editors. Redacted by W. Hansmann, W. T. Hewitt, and W. Purgathofer. Springer-Verlag, Vienna, (June 1996), 21–30. ISBN: 978-3-211-82883-0 978-3-7091-7484-5. doi: [10/fzc6t9](#).
- [1730] Henrik Wann Jensen. 2004. A practical guide to global illumination using ray tracing and photon mapping. In *ACM SIGGRAPH Course Notes* (Los Angeles, CA). ACM Press, New York, NY, USA. doi: [10/b4c26m](#).
- [1731] Henrik Wann Jensen and Niels J. Christensen. 1995. Efficiently rendering shadows using the photon map. In *Proceedings of the International Conference on Computational Graphics and Visualization Techniques (Compugraphics)*. Harold P. Santo, editor. (December 1995), 285–291.
- [1732] Henrik Wann Jensen and Per H. Christensen. 1998. Efficient simulation of light transport in scenes with participating media using photon maps. In *Annual Conference Series (Proceedings of SIGGRAPH)*. Volume 32. ACM, (July 1998), 311–320. doi: [10/b64p36](#).
- [1733] Henrik Wann Jensen, Per Christensen, Toshi Kato, and Frank Suykens. 2002. A practical guide to global illumination using photon mapping. In *ACM SIGGRAPH Course Notes*.
- [1734] Henrik Wann Jensen, Justin Legakis, and Julie Dorsey. 1999. Rendering of wet materials. In *Rendering Techniques (Proceedings of the Eurographics Workshop on Rendering)*. D. Lischinski and G. W. Larson, editors. Springer-Verlag. doi: [10/d9g736](#).
- [1735] Henrik Wann Jensen, Stephen R. Marschner, Marc Levoy, and Pat Hanrahan. 2001. A practical model for subsurface light transport. In *Annual Conference Series (Proceedings of SIGGRAPH)* (New York, NY, USA). Volume 35. ACM Press, (August 2001), 511–518. ISBN: 1-58113-374-X. doi: [10/chdv7](#).
- [1736] Stefan Jeschke, Stephan Mantler, and Michael Wimmer. 2007. Interactive smooth and curved shell mapping. In *Rendering Techniques (Proceedings of the Eurographics Symposium on Rendering)*. Jan Kautz and Sumanta Pattanaik, editors. The Eurographics Association, 351–360. ISBN: 978-3-905673-52-4. doi: [10/gfz557](#).
- [1737] David Jevans and Brian Wyville. 1989. Adaptive voxel subdivision for ray tracing. In *Proceedings of Computer Graphics International (CGI)*, 164–172.
- [1738] David Jiménez, Daniel Pizarro, Manuel Mazo, and Sira Palazuelos. 2012. Modeling and correction of multipath interference in time of flight cameras. In *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*.
- [1739] Xiaogang Jin, Y. F. Li, and Qunsheng Peng. 1998. General constrained deformations based on generalized metaballs. In *Proceedings of Pacific Graphics*. [ieeexplore.ieee.org](#), (October 1998), 115–124. doi: [10/fq36tq](#).
- [1740] Daniel J Jobson, Zia-ur Rahman, and Glenn A Woodell. 1995. Retinex image processing: Improved fidelity to direct visual observation. In *Proceedings of the IS&T Fourth Color Imaging Conference: Color Science, Systems, and Applications*. Volume 4. The Society for Imaging Science and Technology, 124–125.
- [1741] Jared M Johnson, Dylan Lacewell, Andrew Selle, and Wojciech Jarosz. 2011. Gaussian quadrature for photon beams in Tangled. In *ACM SIGGRAPH Talks*. ACM Press, 1. ISBN: 978-1-4503-0974-5. doi: [10/b7tx5z](#).
- [1742] Andrew Jones, Andrew Gardner, Mark Bolas, Ian McDowall, and Paul Debevec. 2006. Simulating spatially varying lighting on a live performance. In *Conference on Visual Media Production (CVMP)*. doi: [10/b4fs5t](#).
- [1743] Thouis R. Jones and Ronald N. Perry. 2000. Antialiasing with line samples. In *Rendering Techniques (Proceedings of the Eurographics Workshop on Rendering)*. Bernard Péroche and Holly Rushmeier, editors. Springer-Verlag, 197–205. ISBN: 978-3-7091-6303-0. doi: [10/gfznb9](#).
- [1744] Adrian PP Jongenelen, Dale A Carnegie, Andrew D Payne, and Adrian A Dorrington. 2010. Maximizing precision over extended unambiguous range for TOF range imaging systems. In *Instrumentation and Measurement Technology Conference (I2MTC), 2010 IEEE*. doi: [10/ctzrwj](#).
- [1745] Yvonne Jung, Arjan Kuijper, Michael Kipp, Jan Miksatko, Jonathan Gratch, and Daniel Thalmann. 2011. Believable virtual characters in human-computer dialogs. In *Proceedings of Eurographics State of the Art Reports*.
- [1746] Achuta Kadambi, Ayush Bhandari, Refael Whyte, Adrian Dorrington, and Ramesh Raskar. 2014. Demultiplexing illumination via low cost sensing and nanosecond coding. In *IEEE International Conference on Computational Photography (ICCP)*. doi: [10/gfz5mj](#).
- [1747] Achuta Kadambi, Jamie Schiel, and Ramesh Raskar. 2016. Macroscopic interferometry: rethinking depth estimation with frequency-domain time-of-flight. In *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*. (June 2016).
- [1748] James T. Kajiya. 1990. Radiometry and photometry for computer graphics. In *Advanced Topics in Ray Tracing* (ACM SIGGRAPH Course Notes). Volume 24. (August 1990).
- [1749] Henry Kang, Seungyong Lee, and Charles K. Chui. 2007. Coherent line drawing. In *Proceedings of Non-Photorealistic Animation and Rendering* (San Diego, California). ACM Press, New York, NY, USA, 43–50. ISBN: 978-1-59593-624-0. doi: [10/gfzpz7](#).
- [1750] Tero Karras. 2012. Maximizing parallelism in the construction of BVHs, octrees, and kD-trees. In *Proceedings of High Performance Graphics* (Paris, France). Eurographics Association, 33–37.
- [1751] Tero Karras and Timo Aila. 2013. Fast parallel construction of high-quality bounding volume hierarchies. In *Proceedings of High Performance Graphics* (Anaheim, California). ACM Press, 89–99.
- [1752] Toshiaki Kato. 2002. Photon mapping in Kilauea. In *A Practical Guide to Global Illumination Using Photon Mapping* (ACM SIGGRAPH Course Notes). Henrik Wann Jensen, editor, 159–191.
- [1753] Jan Kautz, Peter-Pike Sloan, and John Snyder. 2002. Fast, arbitrary BRDF shading for low-frequency lighting using spherical harmonics. In *Rendering Techniques (Proceedings of the Eurographics Workshop on Rendering)* (Pisa, Italy). Eurographics Association, Aire-la-Ville, Switzerland, Switzerland, 291–296. ISBN: 978-1-58113-534-3. doi: [10/gfz5v4](#).
- [1754] Tom Kavli, Trine Kirkhus, Jens T Thielemann, and Borys Jagielski. 2008. Modelling and compensating measurement errors caused by scattering in time-of-flight cameras. In *Optical Engineering+ Applications*. doi: [10/c77xfg](#).
- [1755] John K. Kawai, James S. Painter, and Michael F. Cohen. 1993. Radioptimization: goal based rendering. In *Annual Conference Series (Proceedings of SIGGRAPH)* (Anaheim, CA). ACM Press, New York, NY, USA, 147–154. ISBN: 978-0-89791-601-1. doi: [10/bz4s44](#).
- [1756] Michael Kazhdan, Thomas Funkhouser, and Szymon Rusinkiewicz. 2003. Rotation invariant spherical harmonic representation of 3D shape descriptors. In *Proceedings of the Symposium on Geometry Processing*. (June 2003), 156–164.
- [1757] Michael Kazhdan, Thomas Funkhouser, and Szymon Rusinkiewicz. 2004. Symmetry descriptors and 3D shape matching. In *Proceedings of the Symposium on Geometry Processing*. (July 2004), 115–123.
- [1758] Benjamin Keinert, Henry Schäfer, Johann Korndörfer, Urs Ganse, and Marc Stamminger. 2014. Enhanced sphere tracing. In *STAG: Smart Tools & Apps for Graphics*, 8. doi: [10/gfz549](#).
- [1759] Csaba Kelemen and László Szirmay-Kalos. 2001. A microfacet based coupled specular-matte BRDF model with importance sampling. In *Eurographics Short Presentations*, 1–11.
- [1760] Alexander Keller. 1996. Quasi-Monte Carlo radiosity. In *Rendering Techniques (Proceedings of the Eurographics Workshop on Rendering)*. Xavier Pueyo and Peter Schröder, editors. Springer-Verlag, 101–110. ISBN: 978-3-7091-7484-5.
- [1761] Alexander Keller. 1997. Instant radiosity. In *Annual Conference Series (Proceedings of SIGGRAPH)*. ACM Press, (August 1997), 49–56. ISBN: 978-0-89791-896-1. doi: [10/fqch2z](#).
- [1762] Alexander Keller. 2006. Myths of computer graphics. In *Monte Carlo and Quasi-Monte Carlo Methods*. Harald Niederreiter and Denis Talay, editors. Springer-Verlag, 217–243. ISBN: 978-3-540-31186-7.
- [1763] Alexander Keller. 2013. Quasi-Monte Carlo image synthesis in a nutshell. In *Monte Carlo and Quasi-Monte Carlo Methods*. Josef Dick, Frances Y. Kuo, Gareth W. Peters, and Ian H. Sloan, editors. Springer-Verlag, 213–249. ISBN: 978-3-642-41095-6. doi: [10/gfz9gw](#).
- [1764] Alexander Keller, Ken Dahm, and Nikolaus Binder. 2014. Path space filtering. In *ACM SIGGRAPH Talks* (SIGGRAPH '14). ACM, 68:1–68:1. ISBN: 978-1-4503-2960-6. doi: [10/gfz6mr](#).
- [1765] Alexander Keller, Ken Dahm, and Nikolaus Binder. 2014. Path space filtering. In *Recent Advances in Light Transport Simulation: Some Theory and a Lot of Practice* (ACM SIGGRAPH Course Notes). ACM, 68:1–68:1. ISBN: 978-1-4503-2960-6. doi: [10/gfz6mr](#).
- [1766] Alexander Keller, Luca Fascione, Marcos Fajardo, Iliyan Georgiev, Per Christensen, Johannes Hanika, Christian Eisenacher, and Greg Nichols. 2015. The path-tracing revolution in the movie industry. In *ACM SIGGRAPH Course Notes*. ACM Press, New York, NY, USA, 24:1–24:7. ISBN: 978-1-4503-3634-5. doi: [10/gfz5t](#).

- [1767] Alexander Keller and Wolfgang Heidrich. 2001. Interleaved sampling. In *Rendering Techniques (Proceedings of the Eurographics Workshop on Rendering)* (London, UK). Springer-Verlag, 269–276.
- [1768] Alexander Keller, Simon Premoze, and Matthias Raab. 2012. Advanced (quasi) Monte Carlo methods for image synthesis. In *ACM SIGGRAPH Course Notes* (Los Angeles, California). ACM Press, New York, NY, USA, 21:1–21:46. ISBN: 978-1-4503-1678-1. doi: [10/gfzncb](#).
- [1769] Alexander Keller and Ingo Wald. 2000. Efficient importance sampling techniques for the photon map. In *Proceedings of Vision, Modeling and Visualization*. IOS Press, (November 2000), 271–279.
- [1770] Maik Keller, Jens Orthmann, Andreas Kolb, and Valerij Peters. 2007. A simulation framework for time-of-flight sensors. In *International Symposium on Signals, Circuits and Systems 2007*. doi: [10/c9pvm6](#).
- [1771] Ira Kemelmacher-Shlizerman and Steven M. Seitz. 2011. Face reconstruction in the wild. In *Proceedings of the International Conference on Computer Vision (ICCV) (ICCV '11)*, 1746–1753. ISBN: 978-1-4577-1101-5. doi: [10/fwx2vm](#).
- [1772] Doyub Kim and Hyeon-Seok Ko. 2007. Eulerian motion blur. In *Eurographics Workshop on Natural Phenomena*.
- [1773] Sung Ye Kim, Ross Maciejewski, Tobias Isenberger, William M. Andrews, Wei Chen, Mario Costa Sousa, and David S. Ebert. 2009. Stippling by example. In *Proceedings of Non-Photorealistic Animation and Rendering (NPAR '09)* (New Orleans, Louisiana). ACM, New York, NY, USA, 41–50. ISBN: 978-1-60558-604-5. doi: [10/cj8k3](#).
- [1774] Alan King, Christopher Kulla, Alejandro Conty, and Marcos Fajardo. 2013. BSSRDF importance sampling. In *ACM SIGGRAPH Talks*. ISBN: 978-1-4503-2344-4. doi: [10/gfz5nz](#).
- [1775] David Kirk and James Arvo. 1988. The ray tracing kernel. In *Proceedings of Ausgraph '88* (Melbourne, Australia). ARVO-URL. (July 1988), 75–82.
- [1776] David Kirk and James Arvo. 1991. Unbiased variance reduction for global illumination. In *Photorealistic Rendering in Computer Graphics (Proceedings of the Eurographics Workshop on Rendering)* (Barcelona). (May 1991).
- [1777] Ahmed Kirmani, Arrigo Benedetti, and Philip A Chou. 2013. SPUMIC: simultaneous phase unwrapping and multipath interference cancellation in time-of-flight cameras using spectral methods. In *IEEE International Conference on Multimedia and Expo*. doi: [10/gfz5mm](#).
- [1778] Ahmed Kirmani, Tyler Hutchison, James Davis, and Ramesh Raskar. 2009. Looking around the corner using transient imaging. In *Proceedings of the International Conference on Computer Vision (ICCV)*. doi: [10/fnx9jz](#).
- [1779] Oliver Klehm, Ivo Ihrke, Hans-Peter Seidel, and Elmar Eisemann. 2013. Volume stylizer: Tomography-based volume painting. In *Proceedings of the Symposium on Interactive 3D Graphics and Games* (Orlando, Florida). ACM Press, New York, NY, USA, 161–168. ISBN: 978-1-4503-1956-0. doi: [10/gfz5qd](#).
- [1780] A. Knoll, Y. Hijazi, C. Hansen, I. Wald, and H. Hagen. 2007. Interactive ray tracing of arbitrary implicit with SIMD interval arithmetic. In *Proceedings of IEEE Symposium on Interactive Ray Tracing*. (September 2007), 11–18. doi: [10/fkxrdv](#).
- [1781] Leif P. Kobbelt, Mario Botsch, Ulrich Schwanecke, and Hans-Peter Seidel. 2001. Feature sensitive surface extraction from volume data. In *Annual Conference Series (Proceedings of SIGGRAPH)* (SIGGRAPH '01). ACM, New York, NY, USA, 57–66. ISBN: 978-1-58113-374-5. doi: [10/cbh7f9](#).
- [1782] Craig Kolb, Don Mitchell, and Pat Hanrahan. 1995. A realistic camera model for computer graphics. In *Annual Conference Series (Proceedings of SIGGRAPH)*. Volume 29. ACM Press, New York, NY, USA, 317–324. ISBN: 978-0-89791-701-8. doi: [10/dkghpb](#).
- [1783] Thomas Kollig and Alexander Keller. 2003. Efficient illumination by high dynamic range images. In *Rendering Techniques (Proceedings of the Eurographics Symposium on Rendering)*. Philip Dutre, Frank Suykens, Per H. Christensen, and Daniel Cohen-Or, editors. Eurographics Association, 45–50. ISBN: 3-905673-03-7. doi: [10/gfz8f8](#).
- [1784] Thomas Kollig and Alexander Keller. 2006. Illumination in the presence of weak singularities. In *Monte Carlo and Quasi-Monte Carlo Methods*. Harald Niederreiter and Denis Talay, editors. Springer-Verlag, Berlin/Heidelberg, 245–257. ISBN: 978-3-540-25541-3. doi: [10/d42nk6](#).
- [1785] Jonathan Konieczny and Gary Meyer. 2009. Airbrush simulation for artwork and computer modeling. In *Proceedings of Non-Photorealistic Animation and Rendering (NPAR '09)* (New Orleans, Louisiana). ACM, New York, NY, USA, 61–69. ISBN: 978-1-60558-604-5. doi: [10/cj522d](#).
- [1786] Dan Koschier, Crispin Deul, and Jan Bender. 2016. Hierarchical hp-adaptive signed distance fields. In *Proceedings of the Eurographics/ACM SIGGRAPH Symposium on Computer Animation* (Zurich, Switzerland). Eurographics Association, Goslar Germany, 189–198. ISBN: 978-3-905674-61-3.
- [1787] Martin Kraus and Kai Bürger. 2008. Interpolating and downsampling RGBA volume data. In *Proceedings of Vision, Modeling and Visualization*.
- [1788] Jaroslav Krivánek, Kadi Bouatouch, Sumanta N. Pattanaik, and Jiří Žára. 2006. Making radiance and irradiance caching practical: adaptive caching and neighbor clamping. In *Rendering Techniques (Proceedings of the Eurographics Symposium on Rendering)* (Nicosia, Cyprus). Tomas Akenine-Möller and Wolfgang Heidrich, editors. Eurographics Association, 127–138. ISBN: 3-905673-35-5. doi: [10/gfzqhz](#).
- [1789] Jaroslav Krivánek and Eugene d'Eon. 2014. A zero-variance-based sampling scheme for monte carlo subsurface scattering. In *ACM SIGGRAPH Talks* (Vancouver, Canada). ACM Press, New York, NY, USA, 66:1–66:1. ISBN: 978-1-4503-2960-6. doi: [10/gfzq7n](#).
- [1790] Jaroslav Krivánek, Marcos Fajardo, Per H Christensen, Eric Tabellion, Michael Bunnell, David Larsson, and Anton Kaplanyan. 2010. Global illumination across industries. In *ACM SIGGRAPH Course Notes* (New York, USA). ACM Press. ISBN: 978-1-4503-0395-8.
- [1791] Jaroslav Krivánek, Pascal Gautron, Kadi Bouatouch, and Sumanta Pattanaik. 2005. Improved radiance gradient computation. In *Proceedings of the Spring Conference on Computer Graphics (SCCG)* (Budmerice, Slovakia). ACM Press, New York, NY, USA, 155–159. ISBN: 978-1-59593-204-4. doi: [10/c8pb3t](#).
- [1792] Jaroslav Krivánek, Pascal Gautron, Greg Ward, Henrik Wann Jensen, Eric Tabellion, and Per Christensen. 2008. Practical global illumination with irradiance caching. In *ACM SIGGRAPH Course Notes*. doi: [10/bhnsjz](#).
- [1793] Jaroslav Krivánek, Iliyan Georgiev, Anton S. Kaplanyan, and Juan Cañada. 2013. Recent advances in light transport simulation: theory & practice. In *ACM SIGGRAPH Course Notes*. ACM. ISBN: 978-1-4503-1678-1.
- [1794] Jaroslav Krivánek, Miloš Hašan, Adam Arbree, Carsten Dachsbacher, Alexander Keller, and Bruce Walter. 2012. Optimizing realistic rendering with many-light methods. In *ACM SIGGRAPH Course Notes*. ISBN: 978-1-4503-1678-1. doi: [10/gfz8s5](#).
- [1795] Jaroslav Krivánek, Jaakko Konttinen, Kadi Bouatouch, Sumanta Pattanaik, and Jiří Žára. 2005. Fast approximation to spherical harmonic rotation. In *Proceedings of the Spring Conference on Computer Graphics (SCCG)* (Častá-Papierníčka, Slovakia). ACM Press. ISBN: 978-1-4503-2829-6. doi: [10/gfzq4r](#).
- [1796] Joel Kronander, Thomas B. Schön, and Jonas Unger. 2015. Pseudo-marginal Metropolis Light Transport. In *ACM SIGGRAPH Asia Technical Briefs*. doi: [10/f3nd42](#).
- [1797] Jens Krüger, Kai Bürger, and Rüdiger Westermann. 2006. Interactive screen-space accurate photon tracing on GPUs. In *Rendering Techniques (Proceedings of the Eurographics Symposium on Rendering)*. (June 2006), 319–330.
- [1798] Christopher Kulla. 2011. Decoupled ray-marching of heterogeneous participating media. In *ACM SIGGRAPH Talks*. ACM Press, Vancouver, British Columbia, Canada, 1. ISBN: 978-1-4503-0974-5. doi: [10/fjx6f](#).
- [1799] Christopher Kulla and Marcos Fajardo. 2011. Importance sampling of area lights in participating media. In *ACM SIGGRAPH Talks*. ACM Press, Vancouver, British Columbia, Canada, 1. ISBN: 978-1-4503-0974-5. doi: [10/ccbw9x](#).
- [1800] Yair Kurzton and Roni Yagel. 1995. Space deformation using ray deflectors. In *Rendering Techniques (Proceedings of the Eurographics Workshop on Rendering)*. Patrick M. Hanrahan and Werner Purgathofer, editors. Springer-Verlag, 21–30. ISBN: 978-3-7091-9430-0. doi: [10/gfz54w](#).
- [1801] Dylan Lacey. 2008. Raytracing prefiltered occlusion for aggregate geometry. In *Proceedings of IEEE Symposium on Interactive Ray Tracing*, 19–26. doi: [10/cxx3wd](#).
- [1802] Eric P. F. LaFortune, Sing-Choong Foo, Kenneth E. Torrance, and Donald P. Greenberg. 1997. Non-linear approximation of reflectance functions. In *Annual Conference Series (Proceedings of SIGGRAPH)*. Volume 31. ACM Press/Addison-Wesley Publishing Co., New York, NY, USA, 117–126. ISBN: 978-0-89791-896-1. doi: [10/d5fzft](#).
- [1803] Eric P. LaFortune and Yves D. Willems. 1993. Bi-directional path tracing. In *Proceedings of the International Conference on Computational Graphics and Visualization Techniques (Compugraphics)* (Alvor, Portugal). H. P. Santo, editor. Volume 93. Alvor, Portugal, (December 1993), 145–153.
- [1804] Eric P. LaFortune and Yves D. Willems. 1994. The ambient term as a variance reducing technique for Monte Carlo ray tracing. In *Photorealistic Rendering Techniques (Proceedings of the Eurographics Workshop on Rendering)*. (June 1994), 163–171.
- [1805] Eric P. LaFortune and Yves D. Willems. 1995. A 5D tree to reduce the variance of Monte Carlo ray tracing. In *Rendering Techniques (Proceedings of the Eurographics Workshop on Rendering)*. Patrick M. Hanrahan and Werner Purgathofer, editors. Springer-Verlag, NY, (June 1995), 11–20. ISBN: 978-3-7091-9430-0. doi: [10/gfz5ns](#).
- [1806] Eric P. LaFortune and Yves D. Willems. 1996. Rendering participating media with bidirectional path tracing. In *Rendering Techniques (Proceedings of the Eurographics Workshop on Rendering)*. Xavier Pueyo and Peter Schröder, editors. Redacted by W. Hansmann, W. T. Hewitt, and W. Purgathofer. Springer-Verlag, Vienna, (June 1996), 91–100. ISBN: 978-3-211-82883-0 978-3-7091-7484-5. doi: [10/fzth2c](#).

- [1807] Samuli Laine and Tero Karras. 2010. Efficient sparse voxel octrees. In *Proceedings of the Symposium on Interactive 3D Graphics and Games* (Washington, D.C.). ACM Press, 55–63. doi: [10/c6n3hz](#).
- [1808] Samuli Laine, Tero Karras, and Timo Aila. 2013. Megakernels considered harmful: wavefront path tracing on GPUs. In *Proceedings of High Performance Graphics* (Anaheim, California). ACM Press, New York, NY, USA, 137–143. ISBN: 978-1-4503-2135-8. doi: [10/gfz4kf](#).
- [1809] Samuli Laine, Hannu Saransaari, Janne Kontkanen, Jaakko Lehtinen, and Timo Aila. 2007. Incremental instant radiosity for real-time indirect illumination. In *Rendering Techniques (Proceedings of the Eurographics Symposium on Rendering)* (Grenoble, France). Eurographics Association, (June 2007), 277–286.
- [1810] Bruce Lamond, Pieter Peers, Abhijeet Ghosh, and Paul Debevec. 2009. Image-based separation of diffuse and specular reflections using environmental structured illumination. In *IEEE International Conference on Computational Photography (ICCP)*, 1–8. doi: [10/c2vbwv](#).
- [1811] Hayden Landis. 2002. Production-ready global illumination. In *RenderMan in Production* (ACM SIGGRAPH Course Notes), 87–102.
- [1812] Robert Lange, Peter Seitz, Alice Biber, and Stefan C Lauthermann. 2000. Demodulation pixels in CCD and CMOS technologies for time-of-flight ranging. In *Electronic Imaging*.
- [1813] Anders Langlands and Tom Mertens. 2007. Noise-free BSSRDF rendering on the cheap. In *SIGGRAPH 2007 Posters Article 182* (San Diego, California). ACM. ISBN: 978-1-4503-1828-0.
- [1814] M Lastra, Carlos Ureña, Montes Revelles, and Rosana Montes. 2002. A particle-path based method for Monte Carlo density estimation. In *Rendering Techniques (Proceedings of the Eurographics Workshop on Rendering)*. Eurographics Association, (January 2002), 7–14.
- [1815] Fabien Lavignotte and Mathias Paulin. 2003. Scalable photon splatting for global illumination. In *Proceedings of GRAPHITE*. ACM SIGGRAPH. (February 2003). doi: [10/frcj8j](#).
- [1816] Jeremy Laviole and Martin Hachet. 2012. Spatial augmented reality to enhance physical artistic creation. In *Adjunct Proc. UIST (UIST Adjunct Proceedings '12)* (Cambridge, Massachusetts, USA). ACM, New York, NY, USA, 43–46. ISBN: 978-1-4503-1582-1. doi: [10/gfz9fx](#).
- [1817] P. Lécocq, A. Kémeny, S. Michélin, and D. Arquès. 2000. Mathematical approximation for real-time lighting rendering through participating media. In *Proceedings of Pacific Graphics* (Washington, DC, USA). IEEE Computer Society. doi: [10/cfj84x](#).
- [1818] Pascal Lécocq, Arthur Dufay, Gaël Sourimant, and Jean-Eudes Marvie. 2016. Accurate analytic approximations for real-time specular area lighting. In *Proceedings of the Symposium on Interactive 3D Graphics and Games* (Redmond, Washington). ACM Press, New York, NY, USA, 113–120. ISBN: 978-1-4503-4043-4. doi: [10/gfz5nt](#).
- [1819] Richard T. Lee and Carol O'Sullivan. 2007. Accelerated light propagation through participating media. In *Proc. Eurographics / IEEE VGTC Conference on Volume Graphics*. The Eurographics Association, 17–23. ISBN: 978-3-905674-03-3. doi: [10/gfzq7x](#).
- [1820] Sangwon Lee, Sven C. Olsen, and Bruce Gooch. 2006. Interactive 3D fluid jet painting. In *Proceedings of Non-Photorealistic Animation and Rendering*.
- [1821] Seung-Yong Lee, Kyung-Yong Chwa, Sung Yong Shin, and George Wolberg. 1995. Image metamorphosis using snakes and free-form deformations. In *Annual Conference Series (Proceedings of SIGGRAPH)*. (August 1995), 439–448.
- [1822] Sylvain Lefebvre and Carsten Dachsbacher. 2007. TileTrees. In *Proceedings of the Symposium on Interactive 3D Graphics and Games* (Seattle, Washington). ACM Press, 25–31.
- [1823] Jerome Lengyel, Emil Praun, Adam Finkelstein, and Hugues Hoppe. 2001. Real-time fur over arbitrary surfaces. In *Proceedings of the Symposium on Interactive 3D Graphics and Games*. ACM Press, New York, NY, USA, 227–232. ISBN: 978-1-58113-292-2. doi: [10/dfzrw2](#).
- [1824] Marc Levoy and Pat Hanrahan. 1996. Light field rendering. In *Annual Conference Series (Proceedings of SIGGRAPH)*. ACM Press, 31–42. ISBN: 0-89791-746-4. doi: [10/c528qk](#).
- [1825] Marc Levoy, Kari Pulli, Brian Curless, Szymon Rusinkiewicz, David Koller, Lucas Pereira, Matt Ginzton, Sean Anderson, James Davis, Jeremy Ginsberg, Jonathan Shade, and Duane Fulk. 2000. The digital Michelangelo project: 3D scanning of large statues. In *Annual Conference Series (Proceedings of SIGGRAPH)*. ACM Press/Addison-Wesley Publishing Co., New York, NY, USA, 131–144. ISBN: 978-1-58113-208-3. doi: [10/bxh89s](#).
- [1826] J. P. Lewis, Matt Corder, and Nickson Fong. 2000. Pose space deformation: a unified approach to shape interpolation and skeleton-driven deformation. In *Annual Conference Series (Proceedings of SIGGRAPH)*. ACM Press/Addison-Wesley Publishing Co., New York, NY, USA, 165–172. ISBN: 978-1-58113-208-3. doi: [10/djfs8q](#).
- [1827] Jason E. Lewis and Alex Weyers. 1999. ActiveText: a method for creating dynamic and interactive texts. In *UIST-1999* (Asherville, North Carolina). (November 1999), 131–140.
- [1828] Robert R. Lewis and Alain Fournier. 1996. Light-driven global illumination with a wavelet representation of light transport. In *Rendering Techniques (Proceedings of the Eurographics Workshop on Rendering)*. Xavier Pueyo and Peter Schröder, editors. Eurographics. Springer-Verlag, (June 1996), 11–20.
- [1829] Hongsong Li, Fabio Pellacini, and Kenneth E. Torrance. 2005. A hybrid Monte Carlo method for accurate and efficient subsurface scattering. In *Rendering Techniques (Proceedings of the Eurographics Symposium on Rendering)*. The Eurographics Association, (June 2005), 8 pages. ISBN: 978-3-905673-23-4. doi: [10/gfz987](#).
- [1830] Hongwei Li, Diego Nehab, Li-Yi Wei, Pedro V. Sander, and Chi-Wing Fu. 2010. Fast capacity constrained Voronoi tessellation. In *I3D (I3D '10)*. ACM, 13:1–13:1. ISBN: 978-1-60558-939-8. doi: [10/gfz9g3](#).
- [1831] Yue-Min Li, Jie Chen, Lai-Yun Qing, Bao-Cai Yin, and Wen Gao. 2004. Face detection under variable lighting based on resample by face relighting. In *Conference on Machine Learning and Cybernetics*. Volume 6. (August 2004), 3775–3780. doi: [10/cn6g2b](#).
- [1832] Yiyi Liao, Simon Donne, and Andreas Geiger. 2018. Deep marching cubes: Learning explicit surface representations. In *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)* (Salt Lake City, UT). IEEE Computer Society, (June 2018), 2916–2925. doi: [10/gfz547](#).
- [1833] Gábor Liptor and Carsten Dachsbacher. 2011. Real-time volume caustics with adaptive beam tracing. In *Proceedings of the Symposium on Interactive 3D Graphics and Games*. ACM Press, San Francisco, California, 47. ISBN: 978-1-4503-0565-5. doi: [10/dwkvsv](#).
- [1834] Jingyu Lin, Yebin Liu, Matthias B. Hullin, and Qionghai Dai. 2014. Fourier analysis on transient imaging with a multifrequency time-of-flight camera. In *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*. doi: [10/gfz5mv](#).
- [1835] Dani Lischinski and Ari Rappoport. 1998. Image-based rendering for non-diffuse synthetic scenes. In *Rendering Techniques (Proceedings of the Eurographics Workshop on Rendering)* (Vienna, Austria). (June 1998).
- [1836] Dani Lischinski, Brian Smits, and Donald P. Greenberg. 1994. Bounds and error estimates for radiosity. In *Annual Conference Series (Proceedings of SIGGRAPH)*. (July 1994), 67–74.
- [1837] Daniel Lischinski, Filippo Tampieri, and Donald P. Greenberg. 1993. Combining hierarchical radiosity and discontinuity meshing. In *Annual Conference Series (Proceedings of SIGGRAPH)*. (August 1993), 199–208.
- [1838] Xinguo Liu, Peter-Pike Sloan, Heung-Yeung Shum, and John Snyder. 2004. All-frequency precomputed radiance transfer for glossy objects. In *Rendering Techniques (Proceedings of the Eurographics Symposium on Rendering)*. A. Keller and H. W. Jensen, editors. (June 2004), 337–344. doi: [10/gfz729](#).
- [1839] Tom Lokovic and Eric Veach. 2000. Deep shadow maps. In *Annual Conference Series (Proceedings of SIGGRAPH)*. ACM Press, 385–392. ISBN: 1-58113-208-5. doi: [10/cz2sdj](#).
- [1840] Charles Loop. 1994. Smooth spline surfaces over irregular meshes. In *Annual Conference Series (Proceedings of SIGGRAPH)*. (July 1994), 303–310.
- [1841] B. Loos, L. Antani, K. Mitchell, D. Nowrouzezahrai, W. Jarosz, and P.-P. Sloan. 2011. Runtime implementation of modular radiance transfer. In *ACM SIGGRAPH Talks*. ISBN: 978-1-4503-0974-5. doi: [10/cbvrr8m](#).
- [1842] Bradford James Loos, Derek Nowrouzezahrai, Wojciech Jarosz, and Peter-Pike Sloan. 2012. Delta radiance transfer. In *Proceedings of the Symposium on Interactive 3D Graphics and Games*. ACM Press, (March 2012), 191. ISBN: 978-1-4503-1194-6. doi: [10/gfzndh](#).
- [1843] David G. Lowe. 1999. Object recognition from local scale-invariant features. In *Proceedings of the International Conference on Computer Vision (ICCV)*. Volume 2. IEEE Computer Society, Kerkyra, Greece, 1150–1157. ISBN: 978-0-7695-0164-2. doi: [10/dqfs59](#).
- [1844] Wan-Chun Ma, Tim Hawkins, Pieter Peers, Charles-Felix Chabert, Malte Weiss, and Paul Debevec. 2007. Rapid acquisition of specular and diffuse normal maps from polarized spherical gradient illumination. In *Rendering Techniques (Proceedings of the Eurographics Symposium on Rendering)*, 183–194. ISBN: 978-3-905673-52-4. doi: [10/gfz9d9](#).
- [1845] Paulo W. C. Maciel and Peter Shirley. 1995. Visual navigation of large environments using textured clusters. In *Proceedings of the Symposium on Interactive 3D Graphics and Games*. Pat Hanrahan and Jim Winget, editors. ACM SIGGRAPH. (April 1995), 95–102.
- [1846] I. Scott MacKenzie. 1992. Movement time prediction in human-computer interfaces. In *Proceedings of Computer Graphics International (CGI)* (Vancouver, Canada), 140–150.
- [1847] I. Scott MacKenzie and Shawn X. Zhang. 1997. The immediate usability of graffiti. In *Proceedings of Computer Graphics International (CGI)* (Kelowna, B.C.). (May 1997), 129–137.
- [1848] Marco Manzi, Markus Kettunen, Miika Aittala, Jaakko Lehtinen, Frédo Durand, and Matthias Zwicker. 2015. Gradient-domain bidirectional path tracing. In *Proceedings of EGSR (Experimental Ideas & Implementations)*. doi: [10/gf2hchw](#).

- [1849] Michael Mara, Morgan McGuire, Benedikt Bitterli, and Wojciech Jarosz. 2017. An efficient denoising algorithm for global illumination. In *Proceedings of High Performance Graphics*. ACM Press, (July 28, 2017), 3. ISBN: 978-1-4503-5101-0. DOI: [10/gfzndq](#).
- [1850] Julio Marco, Wojciech Jarosz, Diego Gutierrez, and Adrian Jarabo. 2017. Transient photon beams. In *Congreso Espanol de Informatica Grafica*. Eurographics Association, (June 2017). ISBN: 978-3-03868-046-8. DOI: [10/gfzncc](#).
- [1851] Michael R Marner. 2010. Digital airbrushing with spatial augmented reality. In *Proc. ICAT, Demos*.
- [1852] Stephen R. Marschner, Brian K. Guenter, and Sashi Raghupathy. 2000. Modeling and rendering for realistic facial animation. In *Rendering Techniques (Proceedings of the Eurographics Workshop on Rendering)*, 231–242. DOI: [10/gfz9fb](#).
- [1853] Stephen R. Marschner, Stephen H. Westin, Eric P. F. Lafortune, Kenneth E. Torrance, and Donald P. Greenberg. 1999. Image-based BRDF measurement including human skin. In *Rendering Techniques (Proceedings of the Eurographics Workshop on Rendering)* (Granada, Spain), 131–144. ISBN: 3-211-83382-X. DOI: [10/gfz9fc](#).
- [1854] D. Mason and G. Wyvill. 2001. Blendeforming: Ray traceable localized foldover-free space deformation. In *Proceedings of Computer Graphics International (CGI)*, (July 2001), 183–190. DOI: [10/cg6286](#).
- [1855] Masatoshi Matsumiya, Haruo Takemura, and Naokazu Yokoya. 2000. An immersive modeling system for 3D free-form design using implicit surfaces. In *Proceedings of the ACM Symposium on Virtual Reality Software and Technology (VRST '00)* (Seoul, Korea). ACM Press, New York, NY, USA, 67–74. ISBN: 978-1-58113-316-5. DOI: [10/drcg8f](#).
- [1856] Nelson Max. 1994. Efficient light propagation for multiple anisotropic volume scattering. In *Photorealistic Rendering Techniques (Proceedings of the Eurographics Workshop on Rendering)*. Georgios Sakas, Peter Shirley, and Stefan Müller, editors. Springer-Verlag, 87–104.
- [1857] Nelson Max, Curtis Mobley, Brett Keating, and En-Hua Wu. 1997. Plane-parallel radiance transport for global illumination in vegetation. In *Rendering Techniques (Proceedings of the Eurographics Workshop on Rendering)*. Julie Dorsey and Philipp Slusallek, editors. ISBN 3-211-83001-4. Springer-Verlag, 239–250.
- [1858] Nelson Max and Keiichi Ohsaki. 1995. Rendering trees from precomputed z-buffer views. In *Rendering Techniques (Proceedings of the Eurographics Workshop on Rendering)*, 45–54.
- [1859] Stephen McAuley, Stephen Hill, Adam Martinez, Ryusuke Villemin, Matt Pettineo, Dimitar Lazarov, David Neubelt, Brian Karis, Christophe Hery, Naty Hoffman, and Hakan Zap Andersson. 2013. Physically based shading in theory and practice. In *ACM SIGGRAPH Course Notes* (Anaheim, California). ACM Press, 22:1–22:8.
- [1860] Michael McCool and Eugene Fiume. 1992. Hierarchical Poisson disk sampling distributions. In *Proceedings of Graphics Interface*. Morgan Kaufmann, 94–105. ISBN: 0-9695338-1-0.
- [1861] Morgan McGuire and David Luebke. 2009. Hardware-accelerated global illumination by image space photon mapping. In *Proceedings of High Performance Graphics*. ACM Press, New Orleans, Louisiana, (August 2009), 77. ISBN: 978-1-60558-603-8. DOI: [10/b5pjjmm](#).
- [1862] Leonard McMillan and Gary Bishop. 1995. Plenoptic modeling: an image-based rendering system. In *Annual Conference Series (Proceedings of SIGGRAPH)*. Robert Cook, editor. Addison-Wesley, (August 1995), 39–46.
- [1863] Stephan Meister, Rahul Nair, and Daniel Kondermann. 2013. Simulation of time-of-flight sensors using global illumination. In *Proceedings of Vision, Modeling and Visualization*.
- [1864] Alexandre Meyer and Fabrice Neyret. 1998. Interactive volumetric textures. In *Rendering Techniques (Proceedings of the Eurographics Workshop on Rendering)*. George Drettakis and Nelson Max, editors. Springer-Verlag, 157–168. ISBN: 978-3-7091-6453-2. DOI: [10/fbgxqj](#).
- [1865] Gavin Miller and Marc Mondesir. 1998. Rendering hyper-sprites in real time. In *Rendering Techniques (Proceedings of the Eurographics Workshop on Rendering)*. George Drettakis and Nelson Max, editors. Eurographics, (June 1998), 193–198.
- [1866] Don Mitchell. 1990. Robust ray intersection with interval arithmetic. In *Proceedings of Graphics Interface*. In collaboration with Colin Ware. Volume Halifax, 68–74. DOI: [10/gfz56m](#).
- [1867] Don P. Mitchell. 1992. Ray tracing and irregularities of distribution. In *CE_EGWR93*, 61–69.
- [1868] Don P. Mitchell. 1996. Consequences of stratified sampling in graphics. In *Annual Conference Series (Proceedings of SIGGRAPH)*. Holly Rushmeier, editor. Addison-Wesley, (August 1996), 277–280. ISBN: 978-0-89791-746-9. DOI: [10/dkw86x](#).
- [1869] Joseph S. B. Mitchell. 1988. On maximal flows in polyhedral domains. In *Proceedings of the Fourth Annual Symposium on Computational Geometry* (Urbana-Champaign, Illinois). (June 1988), 341–351.
- [1870] T. Mitsunaga and S.K. Nayar. 1999. Radiometric self calibration. In *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*. Volume 1. (June 1999), 374–380. DOI: [10/d5frcb](#).
- [1871] Michal Mojzík, Tomáš Skřivan, Alexander Wilkie, and Jaroslav Krivánek. 2016. Bi-directional polarised light transport. In *Proceedings of EGSR (Experimental Ideas & Implementations)*. Elmar Eisemann and Eugene Fiume, editors. The Eurographics Association. ISBN: 978-3-03868-019-2. DOI: [10/gfzsmx](#).
- [1872] Jonathan T. Moon, Bruce Walter, and Stephen R. Marschner. 2007. Rendering discrete random media using precomputed scattering solutions. In *Rendering Techniques (Proceedings of the Eurographics Symposium on Rendering)* (Grenoble, France). Eurographics Association, Aire-la-Ville, Switzerland, Switzerland, (June 2007), 231–242. ISBN: 978-3-905673-52-4. DOI: [10/gfzfp5n](#).
- [1873] R. Keith Morley, Solomon Boulos, Jared Johnson, David Edwards, Peter Shirley, Michael Ashikhmin, and Simon Premoze. 2006. Image synthesis using adjoint photons. In *Proceedings of Graphics Interface* (Quebec, Canada). Canadian Information Processing Society, Toronto, Ont., Canada, Canada, (June 2006), 179–186. ISBN: 978-1-56881-308-0.
- [1874] Eric N. Mortensen and William A. Barrett. 1995. Intelligent scissors for image composition. In *Annual Conference Series (Proceedings of SIGGRAPH)*. (August 1995), 191–198.
- [1875] Stefan Muller, Wolfram Kresse, Neil Gatenby, and Frank Schöffel. 1995. A radiosity approach for the simulation of daylight. In *Rendering Techniques (Proceedings of the Eurographics Workshop on Rendering)*. P. M. Hanrahan and W. Purgathofer, editors. Springer-Verlag, NY, 137–146.
- [1876] Shigeru Muraki. 1992. Approximation and rendering of volume data using wavelet transforms. In *Proceedings of Visualization '92* (Boston). (October 1992), 19–23.
- [1877] F. Kenton Musgrave. 1989. Prisms and rainbows: a dispersion model for computer graphics. In *Proceedings of Graphics Interface*. Morgan Kaufmann, (June 1989), 227–234.
- [1878] Karol Myszkowski. 1997. Lighting reconstruction using fast and adaptive density estimation techniques. In *Rendering Techniques (Proceedings of the Eurographics Workshop on Rendering)*. Springer-Verlag, Berlin, Heidelberg, 251–262. ISBN: 978-3-211-83001-7.
- [1879] Nikhil Naik, Achuta Kadambi, Christoph Rhemann, Shahram Izadi, Ramesh Raskar, and Sing Bing Kang. 2015. A light transport model for mitigating multipath interference in time-of-flight sensors. In *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*. DOI: [10/gfz5mx](#).
- [1880] Koji Nakamaru and Yoshio Ohno. 2002. Ray tracing for curves primitive. In *Journal of the World Society for Computer Graphics (WSCG)*. Volume 10, 311–316.
- [1881] Moni Naor and Adi Shamir. 1995. Visual cryptography. In *EUROCRYPT*. Alfredo De Santis, editor. Redacted by Gerhard Goos, Juris Hartmanis, and Jan van Leeuwen. Volume 950. Springer-Verlag, Berlin, Heidelberg, 1–12. ISBN: 978-3-540-60176-0 978-3-540-44717-7. DOI: [10/dzkvzt](#).
- [1882] Srinivasa G. Narasimhan and Shree K. Nayar. 2003. Shedding light on the weather. In *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*. (June 2003), 665–672. DOI: [10/b46thc](#).
- [1883] S.K. Nayar, X.S. Fang, and T. Boult. 1993. Removal of specularities using color and polarization. In *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*. (June 1993), 583–590.
- [1884] Radford M. Neal and Geoffrey E. Hinton. 1998. A view of the EM algorithm that justifies incremental, sparse, and other variants. In *Learning in Graphical Models* (NATO ASI Series). Michael I. Jordan, editor. Volume 89. Springer-Verlag, Dordrecht, 355–368. ISBN: 978-94-011-5014-9. DOI: [10/gfzndk](#).
- [1885] Andreas Neubauer. 1994. The iterative solution of a nonlinear inverse problem from industry: design of reflectors. In *Proceedings of the International Conference on Curves and Surfaces in Geometric Design*. AK Peters, Ltd., Natick, MA, USA, 335–342. ISBN: 978-1-56881-039-3.
- [1886] Eric Neufeld, Anthony J. Kusalik, and Michael Dobrohoczi. 1997. Visual metaphors for understanding logic program execution. In *Proceedings of Computer Graphics International (CGI)* (Kelowna, B.C.). (May 1997), 114–120.
- [1887] Ivan Neulander. 2009. Smoother subsurface scattering. In *ACM SIGGRAPH Talks Article 23* (New Orleans, Louisiana). ACM, 23. ISBN: 978-1-60558-834-6. DOI: [10/b4szms](#).
- [1888] Attila Neumann, László Neumann, Philippe Bekaert, Yves D. Willems, and Werner Purgathofer. 1996. Importance-driven stochastic ray radiosity. In *Rendering Techniques (Proceedings of the Eurographics Workshop on Rendering)*. Springer-Verlag, 111–122.
- [1889] Laszlo Neumann, Martin Feda, Manfred Kopp, and Werner Purgathofer. 1994. A new stochastic radiosity method for highly complex scenes. In *Photorealistic Rendering Techniques (Proceedings of the Eurographics Workshop on Rendering)*. (June 1994), 195–206.
- [1890] Laszlo Neumann, Werner Purgathofer, Robert F. Tobler, Attila Neumann, Pavol Elias, Martin Feda, and Xavier Pueyo. 1995. The stochastic ray method for radiosity. In *Rendering Techniques (Proceedings of the Eurographics Workshop on Rendering)*. P. M. Hanrahan and W. Purgathofer, editors. Springer-Verlag, 206–218.

- [1891] Fabrice Neyret. 1995. A general and multiscale model for volumetric textures. In *Proceedings of Graphics Interface*. Wayne A. Davis and Przemyslaw Prusinkiewicz, editors. Canadian Human-Computer Communications Society, (May 1995), 83–91.
- [1892] Addy Ngan, Frédo Durand, and Wojciech Matusik. 2005. Experimental analysis of BRDF models. In *Rendering Techniques (Proceedings of the Eurographics Symposium on Rendering)* (Konstanz, Germany), 117–126. ISBN: 3-905673-23-1. doi: [10/gfz9ff](#).
- [1893] Greg Nichols and Chris Wyman. 2009. Multiresolution splatting for indirect illumination. In *Proceedings of the Symposium on Interactive 3D Graphics and Games* (Boston, Massachusetts). ACM Press, New York, NY, USA, 83–90. ISBN: 978-1-60558-429-4. doi: [10/fbs59q](#).
- [1894] Harald Niederreiter. 1995. New developments in uniform pseudorandom number and vector generation. In *Monte Carlo and Quasi-Monte Carlo Methods in Scientific Computing*. Harald Niederreiter and Peter Jau-Shyong Shiue, editors. Springer-Verlag, 87–120. ISBN: 978-1-4612-2552-2.
- [1895] Jeffrey S. Nimeroff, Eero Simoncelli, and Julie Dorsey. 1994. Efficient re-rendering of naturally illuminated environments. In *Photorealistic Rendering Techniques (Proceedings of the Eurographics Workshop on Rendering)*. Georgios Sakas, Stefan Müller, and Peter Shirley, editors. Springer-Verlag, (June 1994), 359–373. ISBN: 978-3-642-87825-1.
- [1896] Tomoyuki Nishita, Yoshinori Dobashi, and Eihachiro Nakamae. 1996. Display of clouds taking into account multiple anisotropic scattering and sky light. In *Annual Conference Series (Proceedings of SIGGRAPH)* (New York, NY, USA). ACM Press, 379–386. ISBN: 0-89791-746-4. doi: [10/dw4xr9](#).
- [1897] Tomoyuki Nishita and Eihachiro Nakamae. 1983. Half-tone representation of 3-D objects illuminated by area sources or polyhedron sources. In *Proceedings of the IEEE Computer Software and Applications Conference* (Chicago). (November 1983), 237–242.
- [1898] Tomoyuki Nishita and Eihachiro Nakamae. 1994. Method of displaying optical effects within water using accumulation buffer. In *Annual Conference Series (Proceedings of SIGGRAPH)* (New York, New York, USA). ACM New York, NY, USA, (July 1994), 373–379. ISBN: 0-89791-667-0. doi: [10/fjxgf5](#).
- [1899] Jan Novák, Thomas Engelhardt, and Carsten Dachsbacher. 2011. Screen-space bias compensation for interactive high-quality global illumination with virtual point lights. In *Proceedings of the Symposium on Interactive 3D Graphics and Games* (San Francisco, California). ACM Press, New York, NY, USA, 119–124. ISBN: 978-1-4503-0565-5. doi: [10/ftsbmp](#).
- [1900] Jan Novák, Iliyan Georgiev, Johannes Hanika, Jaroslav Krivánek, and Wojciech Jarosz. 2018. Monte Carlo methods for physically based volume rendering. In *ACM SIGGRAPH Course Notes*. (August 2018). ISBN: 978-1-4503-5809-5. doi: [10/c5fj](#).
- [1901] Jan Novák, Vlastimil Havran, and Carsten Dachsbacher. 2010. Path regeneration for interactive path tracing. In *Proceedings of Eurographics Short Papers*. Eurographics Association, 61–64.
- [1902] Jan Novák, Vlastimil Havran, and Carsten Dachsbacher. 2011. Path regeneration for random walks. In *GPU Computing Gems*. Wen-mei W. Hwu, editor. Morgan Kaufmann, (February 2011), 401–411.
- [1903] Kevin Novins and James Arvo. 1992. Controlled precision volume integration. In *1992 Workshop on Volume Visualization* (Boston). (October 1992), 83–89.
- [1904] Derek Nowrouzezahrai, Stefan Geiger, Kenny Mitchell, Robert Sumner, Wojciech Jarosz, and Markus Gross. 2011. Light factorization for mixed-frequency shadows in augmented reality. In *IEEE International Symposium on Mixed and Augmented Reality (ISMAR)*. IEEE Computer Society, (October 2011), 173–179. ISBN: 978-1-4577-2185-4. doi: [10/ccdrz4](#).
- [1905] Scott Nykl, Chad Mourning, and David Chelberg. 2013. Interactive mesostructures. In *Proceedings of the Symposium on Interactive 3D Graphics and Games* (Orlando, Florida). ACM Press, New York, NY, USA, 37–44. ISBN: 978-1-4503-1956-0. doi: [10/gfz556](#).
- [1906] Upul Obeysekare, Chas Williams, Jim Durbin, and Larry Rosenblum. 1996. Virtual workbench – a non-immersive virtual environment for visualizing and interacting with 3D objects for scientific visualization. In *Proceedings of Visualization '96* (SanFran). (October 1996), 345–349.
- [1907] Eyal Ofek and Ari Rappoport. 1998. Interactive reflections on curved objects. In *Annual Conference Series (Proceedings of SIGGRAPH)*. (July 1998), 333–342.
- [1908] Makoto Okabe, Yasuyuki Matsushita, Li Shen, and Takeo Igarashi. 2007. Illumination brush: Interactive design of all-frequency lighting. In *Proceedings of Pacific Graphics*. IEEE Computer Society, (October 2007), 171–180. doi: [10/bdkf26](#).
- [1909] Marc Olano and Dan Baker. 2010. LEAN mapping. In *Proceedings of the Symposium on Interactive 3D Graphics and Games*, 181–188. ISBN: 978-1-60558-939-8. doi: [10/fkbvnp](#).
- [1910] Ola Olsson, Markus Billeter, and Ulf Assarsson. 2012. Clustered deferred and forward shading. In *Proceedings of High Performance Graphics* (Paris, France). Eurographics Association, 87–96.
- [1911] Michael Oren and Shree K. Nayar. 1994. Generalization of Lambert's reflectance model. In *Annual Conference Series (Proceedings of SIGGRAPH)*. ACM Press, New York, NY, USA, 239–246. ISBN: 978-0-89791-667-7. doi: [10/dxrtcv](#).
- [1912] Victor Ostromoukhov. 1993. Pseudo-Random Halftone Screening for Color and Black&White Printing. In *Proceedings of the 9th Congress on Advances in Non-Impact Printing Technologies* (Yokohama), 579–581.
- [1913] Hisanari Otsu, Shinichi Kinuwaki, and Toshiya Hachisuka. 2017. Supervised learning of how to blend light transport simulations. In *The Proceedings of the MCQMC*.
- [1914] Cengiz Öztireli and Gurprit Singh. 2018. Sampling analysis using correlations for Monte Carlo rendering. In *ACM SIGGRAPH Asia Course Notes*. ACM Press, (November 2018). ISBN: 978-1-4503-6026-5. doi: [10/gfzncg](#).
- [1915] Rohit Pandharkar, Andreas Velten, Andrew Bardagjy, Everett Lawson, Mouni Bawendi, and Ramesh Raskar. 2011. Estimating motion and size of moving non-line-of-sight objects in cluttered environments. In *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*. doi: [10/dcqhtj](#).
- [1916] J. Pantaleoni and D. Luebke. 2010. HLBVH: hierarchical LBVH construction for real-time ray tracing of dynamic geometry. In *Proceedings of High Performance Graphics* (Saarbrücken, Germany). Eurographics Association, 87–95.
- [1917] Hyosub Park, Bochang Moon, Soomin Kim, and Sung-Eui Yoon. 2013. P-RPF: pixel-based random parameter filtering for Monte Carlo rendering. In *International Conference on Computer-Aided Design and Computer Graphics*. (November 2013), 123–130. doi: [10/gfz6mt](#).
- [1918] Jong-Il Park, Moon-Hyun Lee, Michael D. Grossberg, and Shree K. Nayar. 2007. Multispectral imaging using multiplexed illumination. In *Proceedings of the International Conference on Computer Vision (ICCV)*. (October 2007), 1–8.
- [1919] Julius Parulek and Ivan Viola. 2012. Implicit representation of molecular surfaces. In *2012 IEEE Pacific Visualization Symposium*. [ieeexplore.ieee.org / IEEE](#), 217–224. doi: [10/gfz54v](#).
- [1920] Sumanta N. Pattanaik. 1993. The mathematical framework of adjoint equations for illumination computations. In *Graphics, Design and Visualization (Proceedings of the International Conference on Computer Graphics, ICCG93)* (Amsterdam, The Netherlands). S. P. Mudur and Sumanta N. Pattanaik, editors. North Holland, 123–137.
- [1921] Sumanta N. Pattanaik and Kadi Bouatouch. 1994. Harr wavelet: a solution to global illumination with general surface properties. In *Photorealistic Rendering Techniques (Proceedings of the Eurographics Workshop on Rendering)*, 273–286.
- [1922] Sumanta N. Pattanaik and Kadi Bouatouch. 1995. Interactive walk-through using particle tracing. In *Proceedings of Computer Graphics International (CGI)*. Academic Press. doi: [10/gfzv54](#).
- [1923] Mark Pauly, Thomas Kollig, and Alexander Keller. 2000. Metropolis light transport for participating media. In *Rendering Techniques (Proceedings of the Eurographics Workshop on Rendering)*. Springer-Verlag, Vienna, 11–22. ISBN: 3-211-83535-0. doi: [10/gfzm93](#).
- [1924] Hans K hling Pedersen. 1995. Decorating implicit surfaces. In *Annual Conference Series (Proceedings of SIGGRAPH)*. ACM, New York, NY, USA, 291–300. ISBN: 978-0-89791-701-8. doi: [10/bqwprw](#).
- [1925] Hans K hling Pedersen. 1996. A framework for interactive texturing on curved surfaces. In *Annual Conference Series (Proceedings of SIGGRAPH)*. ACM, New York, NY, USA, 295–302. ISBN: 978-0-89791-746-9. doi: [10/bwvxcn](#).
- [1926] Vincent Pegoraro, Mathias Schott, and Steven G. Parker. 2009. An analytical approach to single scattering for anisotropic media and light distributions. In *Proceedings of Graphics Interface*. Canadian Information Processing Society, 71–77. ISBN: 978-1-56881-470-4.
- [1927] Vincent Pegoraro, Mathias Schott, and Philipp Slusallek. 2011. A mathematical framework for efficient closed-form single scattering. In *Proceedings of Graphics Interface*. Graphics Interface, 151–158. ISBN: 978-1-4503-0693-5.
- [1928] M. Pellegrini. 1990. Stabbing and ray shooting in 3-dimensional space. In *Proceedings of the Sixth Annual Symposium on Computational Geometry* (Berkeley, California). (June 1990), 177–186.
- [1929] Frederic P rez, Xavier Pueyo, and Fran ois X. Sillion. 1997. Global illumination techniques for the simulation of participating media. In *Rendering Techniques (Proceedings of the Eurographics Workshop on Rendering)*. Julie Dorsey and Philipp Slusallek, editors. Springer-Verlag, 309–320. doi: [10/fmz8m6](#).
- [1930] Ken Perlin and David Fox. 1993. Pad, an alternative approach to the computer interface. In *Annual Conference Series (Proceedings of SIGGRAPH)*. (August 1993), 57–64.
- [1931] D. Perrone and P. Favaro. 2014. Total variation blind deconvolution: the devil is in the details. In *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*. (June 2014), 2909–2916.
- [1932] Ingmar Peter and Georg Pietrek. 1998. Importance driven construction of photon maps. In *Rendering Techniques (Proceedings of the Eurographics Workshop on Rendering)*. G. Drettakis and N. Max, editors. Springer-Verlag, 269–280.
- [1933] Christoph Peters and Reinhard Klein. 2015. Moment shadow mapping. In *Proceedings of the Symposium on Interactive 3D Graphics and Games* (San Francisco,

- California). ACM Press, New York, NY, USA, 7–14. ISBN: 978-1-4503-3392-4. doi: [10/gfzqhv](#).
- [1934] Matt Pharr and Pat Hanrahan. 1996. Geometry caching for ray-tracing displacement maps. In *Rendering Techniques (Proceedings of the Eurographics Workshop on Rendering)* (Porto, Portugal). Springer-Verlag, London, UK, 31–40. ISBN: 978-3-211-82883-0.
- [1935] Matt Pharr and Pat Hanrahan. 2000. Monte Carlo evaluation of non-linear scattering equations for subsurface reflection. In *Annual Conference Series (Proceedings of SIGGRAPH)*. ACM Press/Addison-Wesley Publishing Co., New York, NY, USA, (July 2000), 75–84. ISBN: 978-1-58113-208-3. doi: [10/c475r2](#).
- [1936] Matt Pharr, Craig Kolb, Reid Gershbein, and Pat Hanrahan. 1997. Rendering complex scenes with memory-coherent ray tracing. In *Annual Conference Series (Proceedings of SIGGRAPH)*. ACM, (August 1997), 101–108.
- [1937] G. C. Pomraning. 1969. The description of scattering in the equation of radiative transfer. In *Proceedings of Neutron Transport Theory Conference*. United States Atomic Energy Commission, 434.
- [1938] Stefan Popov, Iliyan Georgiev, Rossen Dimov, and Philipp Slusallek. 2009. Object partitioning considered harmful: space subdivision for BVHs. In *Proceedings of High Performance Graphics* (New Orleans, Louisiana). ACM Press, 15–22.
- [1939] Pierre Poulin and Alain Fournier. 1992. Lights from highlights and shadows. In *Proceedings of the Symposium on Interactive 3D Graphics and Games* (Cambridge, Massachusetts, USA). ACM Press, New York, NY, USA, 31–38. ISBN: 978-0-89791-467-3. doi: [10/brhkn2](#).
- [1940] Pierre Poulin, Karim Ratib, and Marco Jacques. 1997. Sketching shadows and highlights to position lights. In *Proceedings of Computer Graphics International (CGI)* (Washington, DC, USA). (June 1997), 56–63. doi: [10/crsn5h](#).
- [1941] Simon Premože, Michael Ashikhmin, and Peter Shirley. 2003. Path integration for light transport in volumes. In *Rendering Techniques (Proceedings of the Eurographics Symposium on Rendering)* (Leuven, Belgium). Eurographics Association, (June 2003), 52–63.
- [1942] Simon Premože, Michael Ashikhmin, Jerry Tessendorf, Ravi Ramamoorthi, and Shree Nayar. 2004. Practical rendering of multiple scattering effects in participating media. In *Rendering Techniques (Proceedings of the Eurographics Symposium on Rendering)* (Norrköping, Sweden). Eurographics Association, 363–374. ISBN: 3-905673-12-6. doi: [10/gfzfnfj](#).
- [1943] Romain Prévost, Moritz Bächer, Wojciech Jarosz, and Olga Sorkine-Hornung. 2016. Balancing 3D models with movable masses. In *Proceedings of Vision, Modeling and Visualization*. The Eurographics Association. ISBN: 978-3-03868-025-3. doi: [10/gfznds](#).
- [1944] Jan Prikryl, Philippe Bekaert, and Werner Purgathofer. 2000. Importance-driven hierarchical stochastic ray radiosity. In *Journal of the World Society for Computer Graphics (WSCG)*. (January 2000).
- [1945] Roman Prutkin, Anton Kaplanyan, and Carsten Dachsbacher. 2012. Reflective shadow map clustering for real-time global illumination. In *Proceedings of Eurographics Short Papers* (Cagliari, Italy). Eurographics Association.
- [1946] W. Purgathofer. 1986. A statistical method for adaptive stochastic sampling. In *Proceedings of Eurographics*. A.A.G. Requicha, editor. Elsevier, North-Holland, 145–152.
- [1947] Ravi Ramamoorthi and James Arvo. 1999. Creating generative models from range images. In *Annual Conference Series (Proceedings of SIGGRAPH)*. (August 1999), 195–204.
- [1948] Ravi Ramamoorthi and Pat Hanrahan. 2001. An efficient representation for irradiance environment maps. In *Annual Conference Series (Proceedings of SIGGRAPH)*. ACM Press, New York, NY, USA, 497–500. ISBN: 978-1-58113-374-5. doi: [10/bj3n3b](#).
- [1949] Mahesh Ramasubramanian, Sumanta N. Pattanaik, and Donald P. Greenberg. 1999. A perceptually based physical error metric for realistic image synthesis. In *Annual Conference Series (Proceedings of SIGGRAPH)*. ACM Press/Addison-Wesley Publishing Co., New York, NY, USA, (August 1999), 73–82. ISBN: 978-0-201-48560-8. doi: [10/dwn79k](#).
- [1950] Michael Reed, Brent Burley, Marcos Fajardo, Alexander Keller, Philippe Leprieux, Maurice van Swaaij, and Eric Tabellion. 2016. What makes a production renderer in 2016. In *SIGGRAPH Panels*.
- [1951] T. Riklin-Raviv and A. Shashua. 1999. The quotient image: class based recognition and synthesis under varying illumination conditions. In *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*. Volume 2, 566–571. doi: [10/fqngvg](#).
- [1952] Kirk Riley, David S. Ebert, Martin Kraus, Jerry Tessendorf, and Charles Hansen. 2004. Efficient rendering of atmospheric phenomena. In *Rendering Techniques (Proceedings of the Eurographics Symposium on Rendering)* (Norrköping, Sweden). Eurographics Association, Aire-la-Ville, Switzerland, Switzerland, 375–386. ISBN: 978-3-905673-12-8. doi: [10/gfz2gc](#).
- [1953] Tobias Ritschel, Thorsten Grosch, and Hans-Peter Seidel. 2009. Approximating dynamic global illumination in image space. In *Proceedings of the Symposium on Interactive 3D Graphics and Games* (Boston, Massachusetts). ACM Press, 75–82. doi: [10/bhv9rj](#).
- [1954] J. Rovira, P. Wonka, F. Castro, and M. Sbert. 2005. Point sampling with uniformly distributed lines. In *Point-Based Graphics, 2005 - Eurographics/IEEE VGTC Symposium Proceedings*, 109–118. ISBN: 3-905673-20-7.
- [1955] Dean Rubine. 1992. Combining gestures and direct manipulation. In *Proceedings of CHI '92* (Monterey, CA), 659–660. doi: [10/dzmpx4](#).
- [1956] Holly Rushmeier. 1995. Rendering participating media: problems and solutions from application areas. In *Rendering Techniques (Proceedings of the Eurographics Workshop on Rendering)*. Springer-Verlag, 37–59.
- [1957] Holly E. Rushmeier, Charles W. Patterson, and Aravindan Veerasamy. 1993. Geometric simplification for indirect illumination calculations. In *Proceedings of Graphics Interface*. Morgan Kaufmann, (May 1993), 227–236.
- [1958] Holly E. Rushmeier and Gregory J. Ward. 1994. Energy preserving non-linear filters. In *Annual Conference Series (Proceedings of SIGGRAPH)*. ACM, New York, NY, USA, 131–138. ISBN: 978-0-89791-667-7. doi: [10/c76tjx](#).
- [1959] Szymon Rusinkiewicz. 1998. A new change of variables for efficient BRDF representation. In *Rendering Techniques (Proceedings of the Eurographics Workshop on Rendering)*. G. Drettakis and N. Max, editors. Springer-Verlag, 11–22.
- [1960] Szymon Rusinkiewicz and Marc Levoy. 2000. QSplat: a multiresolution point rendering system for large meshes. In *Annual Conference Series (Proceedings of SIGGRAPH)*. ACM Press/Addison-Wesley Publishing Co., New York, NY, USA, (July 2000), 343–352. ISBN: 978-1-58113-208-3. doi: [10/dr5wwk](#).
- [1961] Kathy Ryall, Joe Marks, and Stuart Shieber. 1997. An interactive constraint-based system for drawing graphs. In *UIST-1997* (Banff, Alberta). (October 1997), 97–104.
- [1962] Bertrand Le Saec and Christopher Schlick. 1990. A progressive ray-tracing based radiosity with general reflectance functions. In *Photorealism in Computer Graphics (Proceedings of the Eurographics Workshop on Photosimulation, Realism and Physics in Computer Graphics)* (Rennes, France). (June 1990).
- [1963] David Salesin, Daniel Lischinski, and Tony DeRose. 1992. Reconstructing illumination functions with selected discontinuities. In *CE_EGWR93* (Bristol, UK). (May 1992), 99–112.
- [1964] Guy Satat, Barmak Heshmat, Nikhil Naik, Albert Redo-Sanchez, and Ramesh Raskar. 2016. Advances in ultrafast optics and imaging applications. In *SPIE Defense+ Security*.
- [1965] Guy Satat, Dan Raviv, Barmak Heshmat, and Ramesh Raskar. 2015. Imaging through thick turbid medium using time-resolved measurement. In *Imaging and Applied Optics 2015*. doi: [10/gfz5m6](#).
- [1966] Tetsu R. Satoh. 2003. Symplectic ray tracing: A new approach to non-linear ray tracing by using Hamiltonian dynamics. In *Visualization and Data Analysis*. Volume 5009. International Society for Optics and Photonics, (June 9, 2003), 277–286. doi: [10/fr5tg6](#).
- [1967] Mateu Sbert, Jaume Rigau, Miquel Feixas, and Laszlo Neumann. 2006. Systematic sampling in image-synthesis. In *Proceedings of the 6th International Conference on Computational Science and Its Applications - Volume Part I*. Springer-Verlag, 449–458. ISBN: 3-540-34070-X 978-3-540-34070-6. doi: [10/cqvzbv](#).
- [1968] Gernot Schaefer and Henrik Wann Jensen. 2000. Ray tracing point sampled geometry. In *Rendering Techniques (Proceedings of the Eurographics Workshop on Rendering)*. B. Péroche and H. Rushmeier, editors. Springer-Verlag. doi: [10/gfzajc](#).
- [1969] Kristina Scherbaum, James Petterson, Rogerio S. Feris, Volker Blanz, and Hans-Peter Seidel. 2013. Fast face detector training using tailored views. In *Proceedings of the International Conference on Computer Vision (ICCV)*, 2848–2855. doi: [10/gfz9fh](#).
- [1970] Lars Schjøth, Jeppe Revall Frisvad, Kenny Erleben, and Jon Sporring. 2007. Photon differentials. In *Proceedings of GRAPHITE*. Volume 1. ACM Press, Perth, Australia, 179. ISBN: 978-1-59593-912-8. doi: [10/fsqfv6](#).
- [1971] Lars Schjøth, Ole Fogh Olsen, and Jon Sporring. 2006. Diffusion based photon mapping. In *Proceedings of the International Conference on Computer Graphics Theory and Applications (GRAPP)*, 168–175.
- [1972] Christophe Schlick. 1993. A customizable reflectance model for everyday rendering. In *Photorealistic Rendering Techniques (Proceedings of the Eurographics Workshop on Rendering)*. Michael F. Cohen, Claude Puech, and François X. Sillion, editors. held in Paris, France, 14–16 June 1993. Eurographics. (June 1993), 73–84.
- [1973] Thomas Schlömer, Daniel Heck, and Oliver Deussen. 2011. Farthest-point optimized point sets with maximized minimum distance. In *Proceedings of High Performance Graphics*. ACM Press, 135–142. ISBN: 978-1-4503-0896-0. doi: [10/bpmnsh](#).
- [1974] R. Schmidt, B. Wyvill, M. C. Sousa, and J. A. Jorge. 2006. ShapeShop: sketch-based solid modeling with blobtrees. In *ACM SIGGRAPH Course Notes* (Boston, Massachusetts). ACM, New York, NY, USA. ISBN: 978-1-59593-364-5. doi: [10/bgf4bh](#).
- [1975] Tanner Schmidt, Richard Newcombe, and Dieter Fox. 2014. DART: dense articulated real-time tracking. In *Robotics: Science and Systems*. Robotics: Science and Systems 2014. Volume 2. Robotics: Science and Systems Foundation, (July 12, 2014). ISBN: 978-0-9923747-0-9. doi: [10/gf2dr2](#).

- [1976] Thorsten-Walther Schmidt, Fabio Pellacini, Derek Nowrouzezahrai, Wojciech Jarosz, and Carsten Dachsbacher. 2014. State of the art in artistic editing of appearance, lighting, and material. In *Proceedings of Eurographics State of the Art Reports*.
- [1977] Chris Schoeneman, Julie Dorsey, Brian Smits, James Arvo, and Donald Greenberg. 1993. Painting with light. In *Annual Conference Series (Proceedings of SIGGRAPH)* (Anaheim, CA). ACM Press, New York, NY, USA, (August 1993), 143–146. ISBN: 978-0-89791-601-1. doi: [10/dg66z3](#).
- [1978] Peter Schröder and Pat Hanrahan. 1993. On the form factor between two polygons. In *Annual Conference Series (Proceedings of SIGGRAPH)*. ACM, (August 1993), 163–164. ISBN: 978-0-89791-601-8. doi: [10/bn7jbg](#).
- [1979] Peter Schröder and Pat Hanrahan. 1994. Wavelet methods for radiance computations. In *Photorealistic Rendering Techniques (Proceedings of the Eurographics Workshop on Rendering)*. Eurographics, (June 1994), 303–311.
- [1980] Peter Schröder and Wim Sweldens. 1995. Spherical wavelets: efficiently representing functions on the sphere. In *Annual Conference Series (Proceedings of SIGGRAPH)*. ACM Press, New York, NY, USA, 161–172. ISBN: 978-0-89791-701-8. doi: [10/cssmxh](#).
- [1981] Rudolf Schwarte, Zhanping Xu, Horst-Guenther Heinol, Joachim Olk, Ruediger Klein, Bernd Buxbaum, Helmut Fischer, and Juergen Schulte. 1997. New electro-optical mixing and correlating sensor: facilities and applications of the photonic mixer device (PMD). In *Lasers and Optics in Manufacturing III*. doi: [10/fwdj78](#).
- [1982] Christopher Schwartz, Ralf Sallette, Michael Weinmann, and Reinhard Klein. 2013. DOME II: A Parallelized BTF Acquisition System. In *Eurographics Workshop on Material Appearance Modeling: Issues and Acquisition* (Zaragoza, Spain), 25–31. ISBN: 978-3-905674-48-4. doi: [10/gfz9fj](#).
- [1983] Thomas W. Sederberg and Falai Chen. 1995. Implicitization using moving curves and surfaces. In *Annual Conference Series (Proceedings of SIGGRAPH)*. (August 1995), 301–308.
- [1984] Thomas W. Sederberg, Peisheng Gao, Guojin Wang, and Hong Mu. 1993. 2-D shape blending: an intrinsic solution to the vertex path problem. In *Annual Conference Series (Proceedings of SIGGRAPH)*. (August 1993), 15–18.
- [1985] B. Segovia, J. C. Iehl, R. Mitanchey, and B. Péroche. 2006. Non-interleaved deferred shading of interleaved sample patterns. In *Proc. of the 21st Symposium on Graphics Hardware* (Vienna, Austria). ACM Press, 53–60. doi: [10/gfzq7z](#).
- [1986] Benjamin Segovia, Jean Claude Iehl, Richard Mitanchey, and Bernard Péroche. 2006. Bidirectional instant radiosity. In *Rendering Techniques (Proceedings of the Eurographics Symposium on Rendering)*, 389–397.
- [1987] Steven M. Seitz and Charles R. Dyer. 1996. View morphing. In *Annual Conference Series (Proceedings of SIGGRAPH)*. (August 1996), 21–30.
- [1988] F. J. Seron, D. Gutierrez, G. Gutierrez, and E. Cerezo. 2004. Visualizing sunsets through inhomogeneous atmospheres. In *Proceedings of Computer Graphics International (CGI)*. (June 2004), 349–356. doi: [10/fg79hz](#).
- [1989] Jonathan Shade, Dani Lischinski, David Salesin, Tony DeRose, and John Snyder. 1996. Hierarchical image caching for accelerated walkthroughs of complex environments. In *Annual Conference Series (Proceedings of SIGGRAPH)*. Holly Rushmeier, editor. ACM SIGGRAPH. Addison-Wesley, (August 1996), 75–82.
- [1990] Roy Shilkrot, Pattie Maes, and Amit Zoran. 2014. Physical painting with a digital airbrush. In *SIGGRAPH Emerging Technologies*.
- [1991] Mikio Shinya. 1993. Spatial anti-aliasing for animation sequences with spatio-temporal filtering. In *Annual Conference Series (Proceedings of SIGGRAPH)* (Anaheim, CA). ACM, New York, NY, USA, 289–296. ISBN: 978-0-89791-601-1. doi: [10/bgtscs](#).
- [1992] Mikio Shinya, T. Saito, and T. Takahashi. 1989. Rendering techniques for transparent objects. In *Proceedings of Graphics Interface*. Volume 89, 173–182.
- [1993] Peter Shirley. 1990. A ray tracing method for illumination calculation in diffuse-specular scenes. In *Proceedings of Graphics Interface*. Canadian Man-Computer Communications Society, (May 1990), 205–212. doi: [10/gfzq4n](#).
- [1994] Peter Shirley. 1991. Discrepancy as a quality measure for sample distributions. In *Proceedings of Eurographics*. Eurographics Association, Amsterdam, North-Holland, 183–194. doi: [10/gfzchn](#).
- [1995] Peter Shirley, Bretton Wade, Philip M. Hubbard, David Zareski, Bruce Walter, and Donald P. Greenberg. 1995. Global illumination via density-estimation. In *Photorealistic Rendering Techniques (Proceedings of the Eurographics Workshop on Rendering)*. Patrick M. Hanrahan and Werner Purgathofer, editors. Springer-Verlag, 219–230.
- [1996] Peter Shirley and Changyao Wang. 1992. Distribution ray tracing: theory and practice. In *CE_EGWR93* (Bristol, UK). (May 1992), 33–43.
- [1997] Ken Shoemake. 1992. Arcball: a user interface for specifying three-dimensional orientation using a mouse. In *Proceedings of Computer Graphics International (CGI)* (Vancouver, Canada), 151–156.
- [1998] François X. Sillion and George Drettakis. 1995. Feature-based control of visibility error: a multi-resolution clustering algorithm for global illumination. In *Annual Conference Series (Proceedings of SIGGRAPH)*. Addison-Wesley, (August 1995), 145–152.
- [1999] François X. Sillion, George Drettakis, and Cyril Soler. 1995. A clustering algorithm for radiance calculation in general environments. In *Rendering Techniques (Proceedings of the Eurographics Workshop on Rendering)*. P. M. Hanrahan and W. Purgathofer, editors. Springer-Verlag, NY, (June 1995), 196–205. ISBN: 978-3-7091-9430-0.
- [2000] Eero P. Simoncelli and William T. Freeman. 1995. The steerable pyramid: A flexible architecture for multi-scale derivative computation. In *Image Processing, International Conf. On*. Volume 3. IEEE Computer Society, 3444–3444.
- [2001] Jag Mohan Singh, Pankaj Wasnik, and Raghavendra Ramachandra. 2018. Hessian-based robust ray-tracing of implicit surfaces on GPU. In *ACM SIGGRAPH Asia Technical Briefs* (Tokyo, Japan). ACM Press, New York, NY, USA, 16:1–16:4. ISBN: 978-1-4503-6062-3. doi: [10/gfz54t](#).
- [2002] Sever Slavco. 1991. The error of interior lighting calculations. In *Illumination Engineering Society of North America, Annual Conference Technical Papers* (Montreal), 521–527.
- [2003] Peter-Pike Sloan. 2008. Stupid spherical harmonics (SH) tricks. In *Game Developers Conference*. (February 2008).
- [2004] J. Sloup. 2003. Visual simulation of refraction phenomena in the Earth's atmosphere. In *Proceedings on Seventh International Conference on Information Visualization (IV)*. (July 2003), 452–457. doi: [10/czt7cs](#).
- [2005] Steve Smithies, Kevin Novins, and James Arvo. 1999. A handwriting-based equation editor. In *Proceedings of Computer Graphics International (CGI)* (Kingston, Ontario). (June 1999), 84–91.
- [2006] Brian Smits, James Arvo, and Donald Greenberg. 1994. A clustering algorithm for radiosity in complex environments. In *Annual Conference Series (Proceedings of SIGGRAPH)*. ACM Press, New York, NY, USA, (July 1994), 435–442. ISBN: 978-0-89791-667-7. doi: [10/cgn8h6](#).
- [2007] Brian Smits and Gary W. Meyer. 1990. Newton's colors: simulating interference phenomena in realistic image synthesis. In *Photorealism in Computer Graphics (Proceedings of the Eurographics Workshop on Photosimulation, Realism and Physics in Computer Graphics)* (Rennes, France). (June 1990), 185–194.
- [2008] Miloslaw Smyk and Karol Myszkowski. 2002. Quality improvement for indirect illumination interpolation. In *Proceedings of the International Conference on Computer Vision and Graphics (IVCG 2002)*. Volume 2. (September 2002), 685–692.
- [2009] Ben Snow. 2010. Terminators and Iron Men. In *Physically Based Shading Models in Film and Game Production* (ACM SIGGRAPH Course Notes).
- [2010] John M. Snyder, Adam R. Woodbury, Kurt Fleischer, Bena Currin, and Alan H. Barr. 1993. Interval methods for multi-point collisions between time-dependent curved surfaces. In *Annual Conference Series (Proceedings of SIGGRAPH)*. (August 1993), 321–334.
- [2011] Cyril Soler and François X. Sillion. 2000. Hierarchical Instantiation for Radiosity. In *Rendering Techniques (Proceedings of the Eurographics Workshop on Rendering)*. B. Péroche and H. Rushmeier, editors. Springer-Verlag, (June 2000), 173–184.
- [2012] O. Sorkine, D. Cohen-Or, Y. Lipman, M. Alexa, C. Rössl, and H.-P. Seidel. 2004. Laplacian surface editing. In *Proceedings of the Symposium on Geometry Processing* (Nice, France). ACM, New York, NY, USA, 175–184. ISBN: 978-3-905673-13-5. doi: [10/dbjj2z](#).
- [2013] L. Richard Speer, Tony D. DeRose, and Brian A. Barsky. 1985. A theoretical and empirical analysis of coherent ray-tracing. In *Proceedings of Graphics Interface*, 1–8.
- [2014] Jos Stam. 1995. Multiple scattering as a diffusion process. In *Rendering Techniques (Proceedings of the Eurographics Workshop on Rendering)*. Patrick M. Hanrahan and Werner Purgathofer, editors. Springer-Verlag, 41–50. doi: [10/gfzqh2](#).
- [2015] Jos Stam. 1999. Diffraction shaders. In *Annual Conference Series (Proceedings of SIGGRAPH)*. Alyn Rockwood, editor. Addison Wesley Longman, (August 1999), 101–110.
- [2016] Jos Stam. 2001. An illumination model for a skin layer bounded by rough surfaces. In *Rendering Techniques (Proceedings of the Eurographics Workshop on Rendering)*, 39–52. ISBN: 978-3-211-83709-4. doi: [10/dkzj45](#).
- [2017] Jos Stam and Eric Languénou. 1996. Ray tracing in non-constant media. In *Rendering Techniques (Proceedings of the Eurographics Workshop on Rendering)*. Xavier Pueyo and Peter Schröder, editors. Springer-Verlag, 225–234. ISBN: 978-3-7091-7484-5.
- [2018] Marc Stamminger, Philipp Slusallek, and Hans-Peter Seidel. 1998. Three point clustering for radiance computations. In *Rendering Techniques (Proceedings of the Eurographics Workshop on Rendering)*. George Drettakis and Nelson Max, editors. Springer-Verlag, 211–222. ISBN: 978-3-7091-6453-2. doi: [10/c25zb7](#).
- [2019] Barton T. Stander and John C. Hart. 1994. A Lipschitz method for accelerated volume rendering. In *Proceedings of the 1994 Symposium on Volume Visualization (VVS '94)* (Tysons Corner, Virginia, USA). ACM, New York, NY, USA, 107–114. ISBN: 978-0-89791-741-4. doi: [10/dxj3vz](#).
- [2020] Michael M. Stark, Elaine Cohen, Tom Lyche, and Richard F. Riesenfeld. 1999. Computing exact shadow irradiance using splines. In *Annual Conference Series*

- (*Proceedings of SIGGRAPH*) (New York, NY, USA). ACM Press/Addison-Wesley Publishing Co., (August 1999), 155–164. ISBN: 0-201-48560-5. DOI: [10/crk4rk](#).
- [2021] Jay E. Steele and Robert Geist. 2009. Relighting forest ecosystems. In *Advances in Visual Computing* (Lecture Notes in Computer Science). George Bebis, Richard Boyle, Bahram Parvin, Darko Koracin, Yoshinori Kuno, Junxian Wang, Junxuan Wang, Junxian Wang, Renato Pajarola, Peter Lindstrom, André Hinkenjann, Miguel L. Encarnação, Cláudio T. Silva, and Daniel Comino, editors. Redacted by David Hutchison, Takeo Kanade, Josef Kittler, Jon M. Kleinberg, Friedemann Mattern, John C. Mitchell, Moni Naor, Oscar Nierstrasz, C. Pandu Rangan, Bernhard Steffen, Madhu Sudan, Demetri Terzopoulos, Doug Tygar, Moshe Y. Vardi, and Gerhard Weikum. Volume 5875. Springer Berlin Heidelberg, Berlin, Heidelberg, 55–66. ISBN: 978-3-642-10330-8 978-3-642-10331-5. DOI: [10/cpqh5m](#).
- [2022] A. James Stewart and Sherif Ghali. 1994. Fast computation of shadow boundaries using spatial coherence and backprojections. In *Annual Conference Series (Proceedings of SIGGRAPH)* (July 1994), 231–238.
- [2023] Martin Stich, Heiko Friedrich, and Andreas Dietrich. 2009. Spatial splits in bounding volume hierarchies. In *Proceedings of High Performance Graphics* (New Orleans, Louisiana). ACM Press, 7–13.
- [2024] Shuo Chen Su, Felix Heide, Robin Swanson, Jonathan Klein, Clara Callenberg, Matthias Hullin, and Wolfgang Heidrich. 2016. Material classification using raw time-of-flight measurements. In *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*. (June 2016).
- [2025] Kartic Subr and James Richard Arvo. 2007. Steerable importance sampling. In *Proceedings of IEEE Symposium on Interactive Ray Tracing*. IEEE Computer Society, (September 2007), 133–140. ISBN: 978-1-4244-1629-5. DOI: [10/ctd36t](#).
- [2026] Kartic Subr, Gurprit Singh, and Wojciech Jarosz. 2016. Fourier analysis of numerical integration in Monte Carlo rendering: theory and practice. In *ACM SIGGRAPH Course Notes* (Anaheim, California). ACM, (July 2016). ISBN: 978-1-4503-4289-6. DOI: [10/gfzncn](#).
- [2027] Kartic Subr, Gurprit Singh, and Wojciech Jarosz. 2016. Fourier analysis of numerical integration in Monte Carlo rendering: theory and practice: understanding estimation error in Monte Carlo image synthesis. In *ACM SIGGRAPH Course Notes*. ACM Press, (July 24, 2016), 10. ISBN: 978-1-4503-4289-6. DOI: [10/gfzncn](#).
- [2028] Kevin G. Suffern and Edward D. Fackrell. 1990. Interval methods in computer graphics. In *Proceedings of Ausgraph '90* (Melbourne, Australia), 35–44.
- [2029] Frank Suykens and Yves D. Willems. 2000. Adaptive filtering for progressive Monte Carlo image rendering. In *Vis. and Interactive Digital Media*. (February 2000).
- [2030] Frank Suykens and Yves D. Willems. 2000. Density control for photon maps. In *Rendering Techniques (Proceedings of the Eurographics Workshop on Rendering)*. Bernard Péroche and Holly Rushmeier, editors. Redacted by W. Hansmann, W. Purgathofer, and François X. Sillion. Springer-Verlag, Vienna, 23–34. ISBN: 978-3-211-83535-7 978-3-7091-6303-0. DOI: [10/gfz9g5](#).
- [2031] Frank Suykens and Yves D. Willems. 2001. Path differentials and applications. In *Rendering Techniques (Proceedings of the Eurographics Workshop on Rendering)*. Steven J. Gortler and Karol Myszkowski, editors. Redacted by W. Hansmann, W. Purgathofer, and François X. Sillion. Springer-Verlag, Vienna, 257–268. ISBN: 978-3-211-83709-2 978-3-7091-6242-2. DOI: [10/bq6pdj](#).
- [2032] Laszlo Szirmay-Kalos and Werner Purgathofer. 1998. Global ray-bundle tracing with hardware acceleration. In *Rendering Techniques (Proceedings of the Eurographics Workshop on Rendering)*. G. Drettakis and N. Max, editors. Springer-Verlag, 247–258.
- [2033] László Szirmay-Kalos, Mateu Sbert, and Tamás Ummenhofer. 2005. Real-time multiple scattering in participating media with illumination networks. In *Rendering Techniques (Proceedings of the Eurographics Symposium on Rendering)* (Aire-la-Ville, Switzerland). Eurographics Association, (June 2005), 277–282. DOI: [10/gfzq72](#).
- [2034] Justin F. Talbot, David Cline, and Parris Egbert. 2005. Importance Resampling for Global Illumination. In *Rendering Techniques (Proceedings of the Eurographics Symposium on Rendering)* (Konstanz, Germany). Eurographics Association, (June 2005), 139–146. ISBN: 3-905673-23-1. DOI: [10/gfzsm2](#).
- [2035] Filippo Tampieri and Dani Lischinski. 1991. The constant radiosity assumption syndrome. In *Photorealistic Rendering in Computer Graphics (Proceedings of the Eurographics Workshop on Rendering)* (Barcelona). (May 1991).
- [2036] Rasmus Tamstorf and Henrik Wann Jensen. 1997. Adaptive sampling and bias estimation in path tracing. In *Rendering Techniques (Proceedings of the Eurographics Workshop on Rendering)*. Julie Dorsey and Philipp Slusallek, editors. Springer-Verlag, (June 1997), 285–295. ISBN: 978-3-7091-6858-5.
- [2037] Ping Tan, Stephen Lin, Long Quan, Baining Guo, and Heung-Yeung Shum. 2005. Multiresolution reflectance filtering. In *Rendering Techniques (Proceedings of the Eurographics Symposium on Rendering)*, 111–116.
- [2038] Kenichiro Tanaka, Yasuhiro Mukaigawa, Hiroyuki Kubo, Yasuyuki Matsushita, and Yasushi Yagi. 2016. Recovering transparent shape from time-of-flight distortion. In *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*. (June 2016).
- [2039] David C. Tannenbaum, Peter Tannenbaum, and Michael J. Wozny. 1994. Polarization and birefringency considerations in rendering. In *Annual Conference Series (Proceedings of SIGGRAPH)*. ACM Press, New York, NY, USA, 221–222. ISBN: 978-0-89791-667-7. DOI: [10/dvmtkn](#).
- [2040] Sarah Tariq, Andrew Gardner, Ignacio Llamas, Andrew Jones, Paul Debevec, and Greg Turk. 2006. Efficient estimation of spatially varying subsurface scattering parameters. In *Proceedings of Vision, Modeling and Visualization*.
- [2041] Takehiro Tawara, Karol Myszkowski, Kirill Dmitriev, Vlastimil Havran, Cyrille Domez, and Hans-Peter Seidel. 2004. Exploiting temporal coherence in global illumination. In *Proceedings of the Spring Conference on Computer Graphics (SCCG)* (Budmerice, Slovakia). ACM Press, 23–33. ISBN: 1-58113-967-5. DOI: [10/c7qpf3](#).
- [2042] Takehiro Tawara, Karol Myszkowski, and Hans-Peter Seidel. 2002. Localizing the final gathering for dynamic scenes using the photon map. In *Proceedings of Vision, Modeling and Visualization*. Günther Greiner, editor. Aka GmbH, 69–46. ISBN: 3-89838-034-3.
- [2043] Seth Teller, Kavita Bala, and Julie Dorsey. 1996. Conservative radiance interpolants for ray tracing. In *Rendering Techniques (Proceedings of the Eurographics Workshop on Rendering)*. Springer-Verlag, (June 1996), 257–268.
- [2044] Seth Teller and Pat Hanrahan. 1993. Global visibility for illumination computations. In *Annual Conference Series (Proceedings of SIGGRAPH)*. (August 1993), 239–246.
- [2045] Jerry Tessenendorf. 2009. Numerical integration of the Feynman path integral for radiative transport. In *International Conference on Mathematics, Computational Methods & Reactor Physics*. American Nuclear Society, Saratoga Springs, New York.
- [2046] Osama Tolba, Julie Dorsey, and Leonard McMillan. 1999. Sketching with projective 2D strokes. In *UIST-1999* (Ashville, North Carolina). (November 1999), 149–157.
- [2047] C. Tomasi and R. Manduchi. 1998. Bilateral filtering for gray and color images. In *Proceedings of the International Conference on Computer Vision (ICCV)*. (January 1998), 839–846. DOI: [10/dwsr88](#).
- [2048] P. A. Tresset and F. Fol Leymarie. 2012. Sketches by Paul the robot. In *Proceeding of the Symposium on Computational Aesthetics in Graphics, Visualization, and Imaging (CAe)* (CAe '12) (Annecy, France). Eurographics Association, Goslar Germany, Germany, 17–24. ISBN: 978-1-4503-1584-5.
- [2049] Roy Troutman and Nelson L. Max. 1993. Radiosity algorithms using higher-order finite element methods. In *Annual Conference Series (Proceedings of SIGGRAPH)*. (August 1993), 209–212.
- [2050] Grigorios Tsagakatakis, Arnaud Woiselle, George Tzagkarakis, Marc Bousquet, Jean Luc Starck, and Panagiotis Tsakalides. 2013. Compressed gated range sensing. In *SPIE Optical Engineering+ Applications*.
- [2051] Grigorios Tsagakatakis, Arnaud Woiselle, George Tzagkarakis, Marc Bousquet, Jean-Luc Starck, and Panagiotis Tsakalides. 2012. Active range imaging via random gating. In *SPIE Security+ Defence*.
- [2052] Chia-Yin Tsai, Ashok Veeraraghavan, and Aswin C Sankaranarayanan. 2016. Shape and reflectance from two-bounce light transients. In *IEEE International Conference on Computational Photography (ICCP)*. DOI: [10/gfz5nc](#).
- [2053] Shubham Tulsiani, Hao Su, Leonidas J Guibas, Alexei A Efros, and Jitendra Malik. 2017. Learning shape abstractions by assembling volumetric primitives. In *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)* (Honolulu, HI). IEEE Computer Society, (July 2017), 1466–1474. DOI: [10/gfz56d](#).
- [2054] Borom Tunwattanapong, Abhijeet Ghosh, and Paul Debevec. 2011. Practical image-based relighting and editing with spherical-harmonics and local lights. In *Conference on Visual Media Production (CVMP)*, 138–147. DOI: [10/fzbq72](#).
- [2055] Greg Turk and Marc Levoy. 1994. Zipped polygon meshes from range images. In *Annual Conference Series (Proceedings of SIGGRAPH)*. (July 1994), 311–318.
- [2056] Christopher W. Tyler and Maureen B. Clarke. 1990. Autostereogram. In *Stereoscopic Displays and Applications*. Stereoscopic Displays and Applications. Volume 1256. International Society for Optics and Photonics, (September 1, 1990), 182–198. DOI: [10/c8sf8r](#).
- [2057] Stanley Tzeng, Anjul Patney, Andrew Davidson, Mohamed S. Ebeida, Scott A. Mitchell, and John D. Owens. 2012. High-quality parallel depth-of-field using line samples. In *Proceedings of High Performance Graphics*. Eurographics Association, 23–31. ISBN: 978-3-905674-41-5. DOI: [10/gfzncq](#).
- [2058] Justus Ulbrich, Jan Novák, Hauke Rehfeld, and Carsten Dachsbacher. 2013. Progressive visibility caching for fast indirect illumination. In *Proceedings of Vision, Modeling and Visualization* (Lugano, Switzerland). Eurographics Association, 203–210.
- [2059] Jonas Unger, Andreas Wenger, Tim Hawkins, Andrew Gardner, and Paul Debevec. 2003. Capturing and rendering with incident light fields. In *Rendering Techniques (Proceedings of the Eurographics Symposium on Rendering)* (Leuven, Belgium), 141–149. ISBN: 3-905673-03-7.
- [2060] Jeroen van Baar, Steven Poulakos, Wojciech Jarosz, Derek Nowrouzezahrai, Rasmus Tamstorf, and Markus Gross. 2011. Perceptually-based compensation

- of light pollution in display systems. In *Proceedings of the ACM SIGGRAPH Symposium on Applied Perception in Graphics and Visualization* (Toulouse, France). ACM Press, New York, NY, USA, 45–52. ISBN: 978-1-4503-0889-2. DOI: [10/b9z7b2](#).
- [2061] Gokul Varadhan, Shankar Krishnan, Young J. Kim, Suhas Diggavi, and Dinesh Manocha. 2003. Efficient max-norm distance computation and reliable voxelization. In *Proceedings of the Symposium on Geometry Processing* (Aachen, Germany). Eurographics Association, Aire-la-Ville, Switzerland, Switzerland, 116–126. ISBN: 978-1-58113-687-6. DOI: [10/gfz548](#).
- [2062] Eric Veach. 1996. Non-symmetric scattering in light transport algorithms. In *Rendering Techniques (Proceedings of the Eurographics Workshop on Rendering)*. Xavier Pueyo and Peter Schröder, editors. Springer-Verlag, (August 1996), 81–90. ISBN: 978-3-7091-7484-5.
- [2063] Eric Veach and Leonidas J. Guibas. 1994. Bidirectional estimators for light transport. In *Photorealistic Rendering Techniques (Proceedings of the Eurographics Workshop on Rendering)*. Georgios Sakas, Peter Shirley, and Stefan Müller, editors. Springer-Verlag, (June 1994), 145–167. ISBN: 978-3-642-87825-1. DOI: [10/gfznbb](#).
- [2064] Eric Veach and Leonidas J. Guibas. 1995. Optimally combining sampling techniques for Monte Carlo rendering. In *Annual Conference Series (Proceedings of SIGGRAPH)*. Volume 29. ACM Press, (August 1995), 419–428. ISBN: 978-0-89791-701-8. DOI: [10/d7b6n4](#).
- [2065] Eric Veach and Leonidas J. Guibas. 1997. Metropolis light transport. In *Annual Conference Series (Proceedings of SIGGRAPH)*. Volume 31. ACM Press, (August 1997), 65–76. ISBN: 978-0-89791-896-1. DOI: [10/bkjqj4](#).
- [2066] Christophe Vedel. 1992. Improved storage and reconstruction of light intensities on surfaces. In *CE_EGWR93* (Bristol, UK). (May 1992), 113–121.
- [2067] Christophe Vedel. 1993. Computing illumination from area light sources by approximate contour integration. In *Proceedings of Graphics Interface* (San Francisco, CA). Morgan Kaufmann, (May 1993), 237–244.
- [2068] Andreas Velten, Everett Lawson, Andrew Bardagjy, Mouni Bawendi, and Ramesh Raskar. 2011. Slow art with a trillion frames per second camera. In *ACM SIGGRAPH Talks*.
- [2069] Andreas Velten, Di Wu, Adrian Jarabo, Belen Masia, Christopher Barsi, Everett Lawson, Chinmaya Joshi, Diego Gutierrez, Mouni G. Bawendi, and Ramesh Raskar. 2012. Relativistic ultrafast rendering using time-of-flight imaging. In *ACM SIGGRAPH Talks*. DOI: [10/gfz5nd](#).
- [2070] Javier von der Pahlen, Jorge Jimenez, Etienne Danvoye, Paul Debevec, Graham Fyfe, and Oleg Alexander. 2014. Digital Ira and Beyond: Creating Real-time Photoreal Digital Actors. In *ACM SIGGRAPH Course Notes Article 1* (Vancouver, Canada), 1:1–1:384. ISBN: 978-1-4503-2962-0. DOI: [10/gfz9fg](#).
- [2071] Ingo Wald, Thomas Kollig, Carsten Benthin, Alexander Keller, and Philipp Slusallek. 2002. Interactive global illumination using fast ray tracing. In *Rendering Techniques (Proceedings of the Eurographics Workshop on Rendering)*. Eurographics Association, 15–24.
- [2072] Ingo Wald, William R. Mark, Johannes Günther, Solomon Boulos, Thiago Ize, Warren Hunt, Steven G. Parker, and Peter Shirley. 2007. State of the art in ray tracing animated scenes. In *Proceedings of Eurographics State of the Art Reports* (Prague, Czech Republic). The Eurographics Association, (September 2007), 89–116.
- [2073] Ingo Wald, Philipp Slusallek, Carsten Benthin, and Markus Wagner. 2001. Interactive distributed ray tracing of highly complex models. In *Rendering Techniques (Proceedings of the Eurographics Workshop on Rendering)*. Springer-Verlag, London, UK, UK, 277–288. ISBN: 978-3-211-83709-2.
- [2074] Bruce Walter, Kavita Bala, Milind Kulkarni, and Keshav Pingali. 2008. Fast agglomerative clustering for rendering. In *Proceedings of IEEE Symposium on Interactive Ray Tracing*. (August 2008), 81–86.
- [2075] Bruce Walter, Stephen R. Marschner, Hongsong Li, and Kenneth E. Torrance. 2007. Microfacet models for refraction through rough surfaces. In *Rendering Techniques (Proceedings of the Eurographics Symposium on Rendering)* (Grenoble, France). Eurographics Association, (June 2007), 195–206. ISBN: 978-3-905673-52-4. DOI: [10/gfz4kg](#).
- [2076] Beibei Wang, Jean-Dominique Gascuel, and Nicolas Holzschuch. 2016. Point-based light transport for participating media with refractive boundaries. In *Proceedings of EGSR (Experimental Ideas & Implementations)* (Dublin, Ireland). (June 2016).
- [2077] Jiachun Wang, Jiaming Shi, Jiayin Wang, and Yongshun Ling. 2006. Optical properties of large fogdrops in the geometrical optics approximation. In *International Symposium on Antennas, Propagation EM Theory (ISAPE)*. (October 2006), 1–4. DOI: [10/cmzhf3](#).
- [2078] Lifeng Wang, Wenle Wang, Julie Dorsey, Xu Yang, Baining Guo, and Heung-Yeung Shum. 2006. Real-time rendering of plant leaves. In *ACM SIGGRAPH Course Notes*. DOI: [10/dk9cf2](#).
- [2079] Peng Wang, Ge Li, Xibao Wang, and Dongling Liu. 2016. An external rendering algorithm for IR imaging simulation of complex infrared scene. In *Theory, Methodology, Tools and Applications for Modeling and Simulation of Complex Systems* (Singapore). Lin Zhang, Xiao Song, and Yunjie Wu, editors. Springer-Verlag, 158–166. ISBN: 978-981-10-2666-9.
- [2080] Rui Wang, Ren Ng, David Luebke, and Greg Humphreys. 2006. Efficient wavelet rotation for environment map rendering. In *Rendering Techniques (Proceedings of the Eurographics Symposium on Rendering)*, 173–182. ISBN: 3-905673-35-5. DOI: [10/gfz8fh](#).
- [2081] Rui Wang, John Tran, and David Luebke. 2004. All-frequency relighting of non-diffuse objects using separable BRDF approximation. In *Rendering Techniques (Proceedings of the Eurographics Symposium on Rendering)* (Norrköping, Sweden). Eurographics Association, Aire-la-Ville, Switzerland, Switzerland, 345–354. ISBN: 978-3-905673-12-8. DOI: [10/gfz5vq](#).
- [2082] Rui Wang, Jiajun Zhu, and Greg Humphreys. 2007. Precomputed radiance transfer for real-time indirect lighting using a spectral mesh basis. In *Rendering Techniques (Proceedings of the Eurographics Symposium on Rendering)*. (June 2007), 13–21. DOI: [10/gfz73b](#).
- [2083] Xi Wang, Xin Tong, Stephen Lin, Shimin Hu, Baining Guo, and Heung-Yeung Shum. 2004. Generalized displacement maps. In *Rendering Techniques (Proceedings of the Eurographics Symposium on Rendering)* (Norrköping, Sweden). Eurographics Association, Aire-la-Ville, Switzerland, Switzerland, 227–233. ISBN: 978-3-905673-12-8. DOI: [10/gfz552](#).
- [2084] Gregory J. Ward. 1994. Adaptive shadow testing for ray tracing. In *Photorealistic Rendering in Computer Graphics (Proceedings of the Eurographics Workshop on Rendering)* (Focus on Computer Graphics). P. Brunet and F. W. Jansen, editors. Springer-Verlag, 11–20. ISBN: 978-3-642-57963-9. DOI: [10/b7zrhbm](#).
- [2085] Gregory J. Ward. 1994. The RADIANCE lighting simulation and rendering system. In *Annual Conference Series (Proceedings of SIGGRAPH)*. ACM Press, New York, NY, USA, (July 1994), 459–472. ISBN: 978-0-89791-667-7. DOI: [10/dsfsr8](#).
- [2086] Gregory J. Ward and Paul S. Heckbert. 1992. Irradiance gradients. In *CE_EGWR93* (Bristol, UK). Alan Chalmers, Derek Paddon, and François X. Sillion, editors. Consolidation Express Bristol, (May 1992), 85–98.
- [2087] Thibaut Weise, Hao Li, Luc Van Gool, and Mark Pauly. 2009. Face/off: live facial puppetry. In *Proceedings of the Eurographics/ACM SIGGRAPH Symposium on Computer Animation* (New Orleans, Louisiana), 7–16. ISBN: 978-1-60558-610-6. DOI: [10/cf8mqr](#).
- [2088] Lee Westover. 1989. Interactive volume rendering. In *Proceedings of the Chapel Hill Workshop on Volume Visualization*. (May 1989).
- [2089] Alexander Wilkie, Robert F. Tobler, and Werner Purgathofer. 2001. Combined rendering of polarization and fluorescence effects. In *Rendering Techniques (Proceedings of the Eurographics Workshop on Rendering)*. Springer-Verlag, 197–204. ISBN: 3-211-83709-4. DOI: [10/db37tg](#).
- [2090] Alexander Wilkie and Andrea Weidlich. 2012. Polarised light in computer graphics. In *SIGGRAPH Asia 2012 Courses*. DOI: [10/gfz5nn](#).
- [2091] Andrew P. Witkin and Paul S. Heckbert. 1994. Using particles to sample and control implicit surfaces. In *Annual Conference Series (Proceedings of SIGGRAPH)*. ACM, New York, NY, USA, 269–277. ISBN: 978-0-89791-667-7. DOI: [10/bv24kc](#).
- [2092] E. R. Woodcock, T. Murphy, P. J. Hemmings, and T. C. Longworth. 1965. Techniques used in the GEM code for Monte Carlo neutronics calculations in reactors and other systems of complex geometry. In *Applications of Computing Methods to Reactor Problems*. Argonne National Laboratory.
- [2093] Sven Woop, Carsten Benthin, Ingo Wald, Gregory Johnson, and Eric Tabellion. 2014. Exploiting local orientation similarity for efficient ray traversal of hair and fur. In *Proceedings of High Performance Graphics*.
- [2094] Sven Woop, Louis Feng, Ingo Wald, and Carsten Benthin. 2013. Embree ray tracing kernels for CPUs and the Xeon Phi architecture. In *ACM SIGGRAPH Talks* (Anaheim, California), 44:1–44:1. ISBN: 978-1-4503-2344-4. DOI: [10/gfz728](#).
- [2095] Magnus Wrenninge, Chris Kulla, and Viktor Lundqvist. 2013. Oz: the great and volumetric. In *ACM SIGGRAPH Talks Article 46* (Anaheim, California). ACM Press, (July 21, 2013), 46:1–46:1. ISBN: 978-1-4503-2344-4. DOI: [10/gfz5p5q](#).
- [2096] Magnus Wrenninge, Nafees Bin Zafar, Jeff Clifford, Gavin Graham, Devon Penney, Janne Kontkanen, Jerry Tessendorf, and Andrew Clinton. 2010. Volumetric methods in visual effects. In *ACM SIGGRAPH Course Notes*. (July 2010).
- [2097] Magnus Wrenninge, Nafees Bin Zafar, Ollie Harding, Gavin Graham, Jerry Tessendorf, Victor Grant, Andrew Clinton, and Antoine Bouthors. 2011. Production volume rendering 2: systems. In *ACM SIGGRAPH Course Notes* (New York, NY, USA). ACM Press.
- [2098] Chenglei Wu, Bennett Wilburn, Yasuyuki Matsushita, and Christian Theobalt. 2011. High-quality shape from multi-view stereo and shading under general illumination. In *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*. IEEE, 969–976.
- [2099] D. Wu, M. O'Toole, A. Velten, A. Agrawal, and R. Raskar. 2012. Decomposing global light transport using time of flight imaging. In *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*. (June 2012), 366–373. DOI: [10/gfz5rk](#).
- [2100] Di Wu, Gordon Wetzstein, Christopher Barsi, Thomas Willwacher, Matthew O'Toole, Nikhil Naik, Qionghai Dai, Kyros Kutulakos, and Ramesh Raskar. 2012.

- Frequency analysis of transient light transport with applications in bare sensor imaging. In *Proceedings of the European Conference on Computer Vision (ECCV)*. doi: [10/gfz5ng](#).
- [2101] Chris Wyman and Shaun Ramsey. 2008. Interactive volumetric shadows in participating media with single-scattering. In *Proceedings of IEEE Symposium on Interactive Ray Tracing*. IEEE Computer Society, (August 2008), 87–92. ISBN: 978-1-4244-2741-3. doi: [10/bvtpwp](#).
- [2102] Geoff Wyvill, Craig McPheeters, and Brian Wyvill. 1986. Soft objects. In *Advanced Computer Graphics*. Tosiya L. Kunii, editor. Springer Japan, 113–128. ISBN: 978-4-431-68036-9.
- [2103] Geoff Wyvill and Andrew Trotman. 1990. Ray-tracing soft objects. In *Proceedings of Computer Graphics International (CGI)*. Tat-Seng Chua and Tosiya L. Kunii, editors. Springer Japan, 469–476. ISBN: 978-4-431-68123-6.
- [2104] Lei Xiao, Felix Heide, Matthew O’Toole, Andreas Kolb, Matthias B Hullin, Kyros Kutulakos, and Wolfgang Heidrich. 2015. Defocus deblurring and superresolution for time-of-flight depth cameras. In *IEEE Conference on Computer Vision and Pattern Recognition (CVPR)*.
- [2105] Feng Xie, Eric Tabellion, and Andrew Pearce. 2007. Soft shadows by ray tracing multilayer transparent shadow maps. In *Rendering Techniques (Proceedings of the Eurographics Symposium on Rendering)* (Grenoble, France). Eurographics Association, Aire-la-Ville, Switzerland, Switzerland, 265–276. ISBN: 978-3-905673-52-4. doi: [10/gfz5tj](#).
- [2106] Q. Xu, J. Sun, Z. Wei, Y. Shu, S. Messelodi, and J. Cai. 2001. Zero variance importance sampling driven potential tracing for global illumination. In *Journal of the World Society for Computer Graphics (WSCG)*. (February 2001).
- [2107] Fenghui Yao and Guifeng Shao. 2005. Painting brush control techniques in Chinese painting robot. In *Proc. IEEE International Workshop on Robot and Human Interactive Communication*, 462–467. doi: [10/ch7zmd](#).
- [2108] Q. Ye. 2006. Using dynamic mesh models to simulate electrostatic spray-painting. In *High Performance Computing in Science and Engineering*. Wolfgang E. Nagel, Michael Resch, and Willi Jäger, editors. Springer Berlin Heidelberg, 173–183. ISBN: 978-3-540-29064-3.
- [2109] Q. Ye, J. Domnick, A. Scheibe, and K. Pulli. 2005. Numerical simulation of electrostatic spray-painting processes in the automotive industry. In *High Performance Computing in Science and Engineering*. Egon Krause, Willi Jäger, and Michael Resch, editors. Springer Berlin Heidelberg, 261–275. ISBN: 978-3-540-26589-4.
- [2110] Richard Zanibbi, Kevin Novins, James Arvo, and Katherine Zanibbi. 2001. Aiding manipulation of handwritten mathematical expressions through style-preserving morphs. In *Proceedings of Graphics Interface* (Ottawa, Ontario). (June 2001), 127–134.
- [2111] David Zareski, Bretton Wade, Philip Hubbard, and Peter Shirley. 1995. Efficient parallel global illumination using density estimation. In *Proceedings of the IEEE Symposium on Parallel Rendering (PRS ’95)* (Atlanta, Georgia, USA). ACM Press, New York, NY, USA, 47–54. ISBN: 978-0-89791-774-2. doi: [10/cvzqcq](#).
- [2112] Harold R. Zatz. 1993. Galerkin radiosity: a higher order solution method for global illumination. In *Annual Conference Series (Proceedings of SIGGRAPH)*. (August 1993), 213–220.
- [2113] Robert C. Zeleznik, Kenneth P. Herndon, and John F. Hughes. 1996. SKETCH: An interface for gestural modeling. In *Annual Conference Series (Proceedings of SIGGRAPH)*. (August 1996), 163–170.
- [2114] Kun Zhou, Qiming Hou, Minmin Gong, John Snyder, Baining Guo, and Heung-Yeung Shum. 2007. Fogshop: Real-time design and rendering of inhomogeneous, single-scattering media. In *Proceedings of Pacific Graphics*, 116–125. doi: [10/bmg7hw](#).
- [2115] Kurt Zimmerman and Peter Shirley. 1995. A two-pass realistic image synthesis method for complex scenes. In *Rendering Techniques (Proceedings of the Eurographics Workshop on Rendering)*. P. M. Hanrahan and W. Purgathofer, editors. Springer-Verlag, 284–295.
- [2116] Arno Zinke and Andreas Weber. 2006. Efficient ray based global illumination using photon maps. In *Proceedings of Vision, Modeling and Visualization*. Akademische Verlagsgesellschaft Aka GmbH, Berlin, (November 2006), 113–120. ISBN: 3-89838-081-5.
- [2117] Arno Zinke and Andreas Weber. 2006. Global illumination for fiber based geometries. In *Proc. Ibero-American Symposium in Computer Graphics (SIACG)*.
- [2118] Douglas E. Zongker, Dawn M. Werner, Brian Curless, and David H. Salesin. 1999. Environment matting and compositing. In *Annual Conference Series (Proceedings of SIGGRAPH)*. Addison-Wesley, (August 1999), 205–214.
- [2119] Amit Zoran, Roy Shilkrot, and Joseph Paradiso. 2013. Human-computer interaction for hybrid carving. In *Proceeding of the ACM Symposium on User Interface Software and Technology (UIST ’13)* (St. Andrews, Scotland, United Kingdom). ACM, New York, NY, USA, 433–440. ISBN: 978-1-4503-2268-3. doi: [10/gfz9f4](#).
- [2120] Károly Zsolnai and László Szirmay-Kalos. 2013. Automatic parameter control for Metropolis light transport. In *Proceedings of Eurographics Short Papers*. M.- A. Otaduy and O. Sorkine, editors. The Eurographics Association. doi: [10/gf2r3s](#).
- [2121] Matthias Zwicker, Wojciech Matusik, Frédo Durand, and Hanspeter Pfister. 2006. Antialiasing for Automultiscopic 3D Displays. In *Rendering Techniques (Proceedings of the Eurographics Symposium on Rendering)*. The Eurographics Association, 73–82. ISBN: 978-3-905673-35-7. doi: [10/gfz99q](#).
- [2122] Mattias Zwicker, Hanspeter Pfister, Jeroen van Baar, and Markus Gross. 2001. EWA volume splatting. In *IEEE Visualization 2001*. (October 2001), 29–36.

BOOKS

- [2123] Tomas Akenine-Möller, Eric Haines, and Natty Hoffman. 2008. *Real-Time Rendering*. (3rd edition). AK Peters, Ltd., Natick, MA, USA. 1045 pages. ISBN: 987-1-56881-424-7.
- [2124] Anthony A. Apodaca and Larry Gritz. 1999. *Advanced RenderMan: Creating CGI for Motion Pictures*. Brian A. Barsky, editor. Morgan Kaufmann, San Francisco, CA, USA. ISBN: 1-55860-618-1.
- [2125] Michael Bailey and Steve Cunningham. 2012. *Graphics Shaders: Theory and Practice*. (2nd ed edition). CRC Press, Boca Raton. 490 pages. ISBN: 978-1-56881-434-6.
- [2126] Chandrajit Bajaj, Jim Blinn, Brian Wyvill, Marie-Paule Cani, Alyn Rockwood, and Geoff Wyvill. 1997. *Introduction to Implicit Surfaces*. Jules Bloomenthal, editor. *The Morgan Kaufmann Series in Computer Graphics*. Morgan Kaufmann, (August 15, 1997). 360 pages. ISBN: 978-1-55860-233-5.
- [2127] Gladimir Valerio Guimarães Baranoski and Aravind Krishnaswamy. 2010. *Light & Skin Interactions: Simulations for Computer Graphics Applications*. OCLC: ocn491935104. Morgan Kaufmann, Burlington, MA. 169 pages. ISBN: 978-0-12-375093-8.
- [2128] Michael F. Barnsley, Robert L. Devaney, Benoit B. Mandelbrot, Heinz-Otto Peitgen, Dietmar Saupe, Richard F. Voss, Yuval Fisher, and Michael McGuire. 1988. *The Science of Fractal Images*. (1st edition). Springer-Verlag. ISBN: 978-1-4612-8349-2. doi: [frdznz](#).
- [2129] Michael F. Barnsley and Lyman P. Hurd. 1993. *Fractal Image Compression*. AKP, Wellesley.
- [2130] Petr Beckmann. 1987. *The Scattering of Electromagnetic Waves from Rough Surfaces*. Artech House, Norwood, MA. ISBN: 978-0-89006-238-8.
- [2131] Petr Beckmann and André Spizzichino. 1963. *The Scattering of Electromagnetic Waves from Rough Surfaces*. Pergamon Press, NY.
- [2132] Joseph L. F. Bertrand. 1889. *Calcul des probabilités*. Gauthier-Villars. 4-5.
- [2133] R. Byron Bird, Warren E. Stewart, and Edwin N. Lightfoot. 1960. *Transport Phenomena*. John Wiley & Sons, NY.
- [2134] Hans I. Bjelkhagen and David Brotherton-Ratcliffe. 2013. *Ultra-Realistic Imaging: Advanced Techniques in Analogue and Digital Colour Holography*. OCLC: 858043925. CRC Press, Boca Raton, Fla. 638 pages. ISBN: 978-1-4398-2799-4.
- [2135] Jim Blinn. 2003. *Jim Blinn’s Corner: Notation, Notation, Notation*. *Morgan Kaufmann Series in Computer Graphics and Geometric Modeling*. Morgan Kaufmann, Amsterdam ; Boston. 327 pages. ISBN: 978-1-55860-860-3.
- [2136] W. B. Boast. 1942. *Illumination Engineering*. McGraw-Hill, NY.
- [2137] Craigh Bohren and Donald Huffman. 1983. *Absorption and Scattering of Light by Small Particles*. John Wiley & Sons.
- [2138] Ludwig Boltzmann. 1896. *Vorlesungen über Gastheorie*. (See Boltzmann-1964 for English translation). Vieweg & Sohn Braunschweig, Wiesbaden.
- [2139] Ludwig Boltzmann. 1964. *Lectures on Gas Theory*. Translated by S. G. Brush. University of California Press, Berkeley.
- [2140] Cristian Borcea, Manoop Talasila, and Reza Curtmola. 2017. *Mobile Crowdsensing*. CRC Press, Boca Raton. 165 pages. ISBN: 978-1-4987-3844-6.
- [2141] Max Born and Emil Wolf. 1999. *Principles of Optics: Electromagnetic Theory of Propagation, Interference and Diffraction of Light*. (7th expanded ed edition). Cambridge University Press, Cambridge ; New York. 952 pages. ISBN: 978-0-521-64222-4 978-0-521-63921-7.
- [2142] R.N. Bracewell. 2000. *The Fourier Transform and Its Applications*. *Electrical Engineering Series*. McGraw-Hill.
- [2143] Ronald N. Bracewell. 1995. *Two-Dimensional Imaging*. PH, EngCliffs.
- [2144] Robert Bridson. 2015. *Fluid Simulation for Computer Graphics*. (2nd edition). AK Peters, Ltd., Boca Raton, (September 25, 2015). 276 pages. ISBN: 978-1-4822-3283-7.
- [2145] Z. Bubnik, P. Kadlec, D. Urban, and M. Bruhns. 1998. *Sugar Technologists Manual*. Verlag Dr. Albert Bartens.
- [2146] Jed Z. Buchwald. 1989. *The Rise of the Wave Theory of Light*. The University of Chicago Press.
- [2147] I. W. Busbridge. 1960. *The Mathematics of Radiative Transfer*. Cambridge University Press, Bristol, UK.
- [2148] John Charles Butcher and Nicolette Goodwin. 2016. *Numerical Methods for Ordinary Differential Equations*. (3rd edition). Volume 2. Wiley Online Library, (August 2016). ISBN: 978-1-119-12150-3.
- [2149] Kenneth M. Case, F. de Hoffmann, and G. Placzek. 1953. *Introduction to the Theory of Neutron Diffusion*. Volume 1. Los Alamos Scientific Laboratory, Los Alamos, New Mexico.

- [2150] Kenneth M. Case and Paul F. Zweifel. 1967. *Linear Transport Theory*. Addison-Wesley, NY.
- [2151] Carlo Cercignani. 1988. *The Boltzman Equation and Its Applications*. Springer-Verlag, NY.
- [2152] Subrahmanyam Chandrasekhar. 1960. *Radiative Transfer*. Dover Books on Advanced Mathematics. Dover Publications, NY. ISBN: 0-486-60590-6.
- [2153] S. Chapman and T. G. Cowling. 1960. *The Mathematical Theory of Non-Uniform Gases*. Cambridge University Press, NY.
- [2154] Soon K. Cho. 1990. *Electromagnetic Scattering*. Springer-Verlag, NY.
- [2155] CIE. 1987. *CIE International Lighting Vocabulary: IEC International Electrotechnical Vocabulary*. (4th edition). Commission Internationale de l'Eclairage.
- [2156] Melville Clark Jr. and Kent F. Hanson. 1964. *Numerical Methods of Reactor Analysis*. Academic Press, NY.
- [2157] William G. Cochran. 1963. *Sampling Techniques*. (2nd edition). John Wiley & Sons.
- [2158] Michael F. Cohen and John R. Wallace. 1993. *Radiosity and Realistic Image Synthesis*. Academic Press, NY. 381 pages. ISBN: 978-0-12-178270-2.
- [2159] Edward Uhler Condon and George Shortley. 1951. *The Theory of Atomic Spectra*. Cambridge University Press.
- [2160] Patrick Cozzi and Kevin Ring. 2011. *3D Engine Design for Virtual Globes. An A K Peters Book*. OCLC: ocn676726981. CRC Press, Boca Raton, FL. 499 pages. ISBN: 978-1-56881-711-8.
- [2161] K. Cuffey and WSB Paterson. 2010. *The Physics of Glaciers*. Academic Press.
- [2162] Eugene d'Eon. 2016. *A Hitchhiker's Guide to Multiple Scattering*. Self-published.
- [2163] Leonardo Da Vinci. 1651. *A Treatise on Painting*.
- [2164] B. Davison. 1957. *Neutron Transport Theory*. Oxford, NY.
- [2165] C. V. M. Van der Mee. 1981. *Semigroup and Factorization Methods in Transport Theory*. Mathematisch Centrum, Amsterdam.
- [2166] Josef Dick and Friedrich Pillichshammer. 2010. *Digital Nets and Sequences: Discrepancy Theory and Quasi-Monte Carlo Integration*. Cambridge University Press. ISBN: 0-521-19159-9 978-0-521-19159-3.
- [2167] Julie Dorsey, Holly Rushmeier, and François Sillion. 2008. *Digital Modeling of Material Appearance*. Morgan Kaufmann, San Francisco, CA, USA. ISBN: 0-12-221181-2 978-0-08-055671-0 978-0-12-221181-2.
- [2168] Edward R. Dougherty. 1992. *An Introduction to Morphological Image Processing*. SPIE Optical Engineering Press, Bellingham, Washington.
- [2169] James J. Duderstadt and William R. Martin. 1979. *Transport Theory*. John Wiley & Sons, NY.
- [2170] F. A. L. Dullien. 1991. *Porous Media: Fluid Transport and Pore Structure*. (2nd edition). Academic Press Inc. ISBN: 978-0-12-223651-8.
- [2171] Fletcher Dunn and Ian Parberry. 2011. *3D Math Primer for Graphics and Game Development*. (2. ed edition). *An A K Peters Book*. OCLC: 767909906. CRC Press, Boca Raton, Fla. 824 pages. ISBN: 978-1-56881-723-1.
- [2172] Philip Dutré, Philippe Bekaert, and Kavita Bala. 2003. *Advanced Global Illumination*. AK Peters, Ltd.
- [2173] Philip Dutré, Philippe Bekaert, and Kavita Bala. 2006. *Advanced Global Illumination*. (2nd edition). AK Peters, Ltd. ISBN: 1-56881-307-4.
- [2174] David H. Eberly. 2015. *GPU Programming for Games and Science*. CRC Press, Boca Raton, Florida. 441 pages. ISBN: 978-1-4665-9535-4.
- [2175] David S. Ebert, F. Kenton Musgrave, Darwyn Peachey, Kenneth Perlin, and Steven Worley. 2003. *Texturing and modeling: a procedural approach*. In collaboration with William R. Mark and John C. Hart. (3rd edition). Morgan Kaufmann, San Francisco, CA, USA. ISBN: 978-1-55860-848-1.
- [2176] G. E. Farin. 1990. *Curves and Surfaces for Computer Aided Geometric Design: A Practical Guide*. (3rd edition). Academic Press, NY.
- [2177] Joel H. Ferziger and Hans G. Kaper. 1972. *Mathematical Theory of Transport Processes in Gases*. North Holland, Amst.
- [2178] R.P. Feynman and A.R. Hibbs. 1965. *Quantum Mechanics and Path Integrals*. *International Series in Pure and Applied Physics*. McGraw-Hill.
- [2179] R.A. Fisher. 1925. *Statistical Methods for Research Workers*. Oliver & Boyd, Edinburgh, Scotland, UK.
- [2180] Eugene L. Fiume. 1986. *The Mathematical Structure of Raster Graphics*. Academic Press, New York.
- [2181] James D. Foley, Andries van Dam, Steven K. Feiner, and John F. Hughes. 1990. *Computer Graphics Principles and Practice*. Addison-Wesley, NY.
- [2182] David H. Fremlin. 2010. *Measure Theory*. Volume 4.1. 5 volumes. Torres Fremlin. ISBN: 978-0-9566071-2-6.
- [2183] Nicholas Ganz. 2009. *Graffiti World: Street Art from Five Continents*. Harry N. Abrams.
- [2184] K. F. Gauss. 1816. *Methodus Nova Integralium Valores per Approximationem Inveniendi*. Dieterich.
- [2185] Christie J. Geankoplis. 1983. *Transport Processes: Momentum, Heat, and Mass*. Allyn and Bacon, Inc., Boston.
- [2186] Douglas C. Giancoli. 1989. *Physics for Scientists and Engineers*. Prentice-Hall.
- [2187] Wolfgang K. Giloi. 1978. *Interactive Computer Graphics: Data Structures, Algorithms, Languages*. PH, EngCliffs.
- [2188] Robert T. Glassey. 1996. *The Cauchy Problem in Kinetic Theory*. SIAM, Phil.
- [2189] Andrew S Glassner. 1995. *Principles of Digital Image Synthesis*. Volume 1. Morgan Kaufmann, NY. ISBN: 978-0-08-051475-8.
- [2190] Andrew S. Glassner. 1989. *An Introduction to Ray Tracing*. Academic Press.
- [2191] Samuel Glasstone and Alexander Sesonske. 1955. *Nuclear Reactor Engineering*. Van Nostrand Company.
- [2192] Samuel Glasstone and Alexander Sesonske. 1967. *Nuclear Reactor Engineering*. VN, Princeton.
- [2193] Bruce Gooch and Amy Gooch. 2001. *Non-Photorealistic Rendering*. AK Peters, Ltd., LOC_AK.
- [2194] R. M. Goody. 1964. *Atmospheric Radiation*. Oxford, NY.
- [2195] I. S. Gradshteyn and I. M. Ryzhik. 1994. *Table of Integrals, Series, and Products*. Fifth Edition. Academic Press.
- [2196] I. S. Gradshteyn and I. M. Ryzhik. 2007. *Table of Integrals, Series, and Products*. (7th edition). Academic Press.
- [2197] R. Greenler. 1990. *Rainbows, Halos, and Glories*. Cambridge University Press.
- [2198] G. Gripenberg, Stig-Olof Londen, and Olof J. Staffans. 1990. *Volterra Integral and Functional Equations*. Cambridge University Press. ISBN: 0-521-37289-5.
- [2199] Markus Gross and Hanspeter Pfister. 2007. *Point-Based Graphics*. Morgan Kaufmann, San Francisco, CA, USA. ISBN: 978-0-12-370604-1 978-0-08-054882-1.
- [2200] Thomas Hales. 2012. *Dense Sphere Packings: A Blueprint for Formal Proofs*. Number 400 in *London Mathematical Society Lecture Note Series*. Cambridge University Press.
- [2201] Roy Hall. 1989. *Illumination and Color in Computer Generated Imagery*. includes C code for radiosity algorithms. Springer-Verlag, New York.
- [2202] John Michael Hammersley and David Christopher Handscorn. 1964. *Monte Carlo Methods. Monographs on Statistics and Applied Probability*. Chapman and Hall, London, New York.
- [2203] Miles Hansard, Seungkyu Lee, Ouk Choi, and Radu Patrice Horaud. 2012. *Time-of-Flight Cameras: Principles, Methods and Applications*. Springer-Verlag.
- [2204] A Samad Hedayat, Neil James Alexander Sloane, and John Stufken. 1999. *Orthogonal Arrays: Theory and Applications*. Springer-Verlag. ISBN: 978-1-4612-7158-1. doi: [bqh3jj](#).
- [2205] Henry H. Higbie. 1934. *Lighting Calculations*. John Wiley & Sons, NY.
- [2206] Richard P. Hodges. 2010. *Underwater Acoustics: Analysis, Design and Performance of Sonar*. John Wiley & Sons. ISBN: 978-0-470-68875-5.
- [2207] Tom Høholdt, Helge Elbrønd Jensen, and Frank Nielsen. 1988. *Lineære Differentieller Ligninger*. Matematisk Institut, DTH.
- [2208] Eberhard Hopf. 1934. *Mathematical Problems of Radiative Equilibrium*. Cambridge University Press, NY.
- [2209] Ellis Horowitz, Sartaj Sahni, and Susan Anderson-Freed. 1993. *Fundamentals of Data Structures in C*. Computer Science Press.
- [2210] Hoyt C. Hottel and Adel F. Sarofim. 1967. *Radiative Transfer*. McGraw-Hill, NY.
- [2211] John R. Howell. 1982. *A Catalog of Radiation Configuration Factors*. McGraw-Hill, NY.
- [2212] John R. Howell, Robert Siegel, and M. Pinar Menguc. 2010. *Thermal Radiation Heat Transfer*. (5th edition). CRC Press.
- [2213] I. M. Sobol. 1975. *The Monte Carlo Method*. In collaboration with Mirtitles. *Little Mathematics Library*. Mir Publishers.
- [2214] American National Standard Institute. 1986. *Nomenclature and Definitions for Illumination Engineering*. ANSI report, ANSI/IES RP-16-1986.
- [2215] Akira Ishimaru. 1978. *Wave Propagation and Scattering in Random Media*. Oxford University Press.
- [2216] Max Jakob. 1957. *Heat Transfer*. John Wiley & Sons, NY.
- [2217] Yogesh Jaluria and Kenneth E. Torrance. 1986. *Computational Heat Transfer*. Hemisphere Publishing Corporation, NY.
- [2218] Henrik Wann Jensen. 2001. *Realistic Image Synthesis Using Photon Mapping*. AK Peters, Ltd., Natick, MA, USA. ISBN: 1-56881-147-0.
- [2219] Harriet H. Kagiwada, Robert E. Kalaba, and Sueo Ueno. 1975. *Multiple Scattering Processes, Inverse and Direct*. Addison-Wesley, Reading.
- [2220] Malvin H. Kalos and Paula A. Whitlock. 1986. *Monte Carlo Methods. Vol. 1: Basics*. Wiley-Interscience, New York, NY, USA.
- [2221] Malvin Kalos and Paula Whitlock. 1986. *Monte Carlo Methods*. John Wiley & Sons.
- [2222] Hans G. Kaper, C. G. Lekkerkerker, and J. Hejtmanek. 1982. *Spectral Methods in Linear Transport Theory. Operator Theory: Advances and Applications*. Volume 5. BV, Boston.
- [2223] Donald E. Knuth. 1998. *The Art of Computer Programming*. (3rd edition). Volume 2. Addison-Wesley.
- [2224] K. Ya. Kondrat'yev. 1965. *Radiative Heat Exchange in the Atmosphere*. Pergamon Press, NY.
- [2225] Kongelige Danske videnskabernes selskab, Kongelige Danske videnskabernes selskab. Skifter, and Kongelige Danske videnskabernes selskab. Afhandlinger. 1824. *Det Kongelige Danske videnskabernes selskabs skrifter*. In collaboration with MBL.WHOI Library. København. 576 pages.

- [2226] V. Kourganoff. 1952. *Basic Methods in Transfer Problems: Radiative Equilibrium and Neutron Diffusion*. Oxford, NY.
- [2227] V. Kourganoff. 1969. *Introduction to the General Theory of Particle Transfer*. Gordon and Breach, NY.
- [2228] Vladimir Kourganoff. 1952. *Basic Methods in Transfer Problems*. Oxford University Press, London.
- [2229] Jaroslav Krivánek and Pascal Gautron. 2009. *Practical Global Illumination with Irradiance Caching. Synthesis Lectures in Computer Graphics and Animation*. Volume 4. Morgan & Claypool. ISBN: 978-1-59829-644-0.
- [2230] Lauwerens Kuipers and Harald Niederreiter. 1974. *Uniform Distribution of Sequences*. John Wiley & Sons, New York, USA.
- [2231] Johann Heinrich Lambert. 1760. *Photometria: Sive de Mensura et Gradibus Luminis, Colorum et Umbrae*.
- [2232] Johann Heinrich Lambert. 1892. *Photometria, sive De mensura et gradibus luminis, colorum et umbrae*. Number 31–33 in *Ostwald's Klassiker der exakten Wissenschaften*. W. Engelmann, Leipzig.
- [2233] Greg Ward Larson and Rob Shakespeare. 1998. *Rendering with Radiance: The Art and Science of Lighting Visualization*. Morgan Kaufmann, San Francisco, CA, USA. ISBN: 978-1-55860-499-5.
- [2234] H.D.P. Lee. 1975. *Aristotle: Meteorologica*. Loeb Classical Library. ISBN: 0-674-99436-1.
- [2235] Raymond L. Lee and Alistair B. Fraser. 2001. *The Rainbow Bridge: Rainbows in Art, Myth, and Science*. Pennsylvania State University Press. ISBN: 0-271-01977-8.
- [2236] Jeffery Lewins. 1965. *Importance, the Adjoint Function: The Physical Basis of Variational and Perturbation Theory in Transport and Diffusion Problems*. Pergamon Press, NY.
- [2237] E. E. Lewis and Jr. W. F. Miller. 1984. *Computational Methods of Neutron Transport*. John Wiley & Sons, NY.
- [2238] Richard L. Liboff. 1969. *Introduction to the Theory of Kinetic Equations*. John Wiley & Sons, NY.
- [2239] Allan J. Lichtenberg. 1969. *Phase-Space Dynamics of Particles*. John Wiley & Sons, NY.
- [2240] S.G. Lipson, H. Lipson, and D.S. Tanhauser. 1995. *Optical Physics*. (3rd edition). Cambridge.
- [2241] David Luebke, Benjamin Watson, Jonathan D. Cohen, Martin Reddy, and Amitabh Varshney. 2002. *Level of Detail for 3D Graphics*. Elsevier Science Inc. ISBN: 1-55860-838-9.
- [2242] I. Lux and L. Koblinger. 1991. *Monte Carlo Particle Transport Methods: Neutron and Photon Calculations*. CRC Press.
- [2243] D. Lynch and W. Livingston. 2001. *Color and Light in Nature*. (2nd edition). Cambridge University Press.
- [2244] J. A. Lynes. 1968. *Principles of Natural Lighting*. Elsevier, NY.
- [2245] Thomas Murray MacRobert and Ian Naismith Sneddon. 1967. *Spherical Harmonics: An Elementary Treatise on Harmonic Functions, with Applications*. (3rd edition). Pergamon Press, Oxford, England.
- [2246] Stéphane Mallat. 1998. *A Wavelet Tour of Signal Processing*. Academic Press.
- [2247] William H. McAdams. 1954. *Heat Transmission*. McGraw-Hill, NY.
- [2248] G.J. McLachlan and T. Krishnan. 2008. *The EM Algorithm and Extensions*. (Second edition). Wiley-Interscience. ISBN: 0-471-20170-7.
- [2249] David B. McWhorter and Daniel K. Sunada. 1977. *Ground-Water Hydrology and Hydraulics*. Water Resources Publications, LLC.
- [2250] Robert V. Meghreblan and David K. Holmes. 1960. *Reactor Analysis*. McGraw-Hill, NY.
- [2251] Dimitri Mihalas and Barbara Weibel Mihalas. 1984. *Foundations of Radiation Hydrodynamics*. Oxford, NY.
- [2252] Marcel Minnaert. 1993. *Light and Color in the Outdoors*. Springer-Verlag, New York. ISBN: 978-0-387-97935-9.
- [2253] M. I. Mishchenko, J. W. Hovenier, and L. D. Travis. 2000. *Light Scattering by Nonspherical Particles: Theory, Measurements, and Applications*. Mishchenko, M. I., Hovenier, J. W., & Travis, L. D., editor. (January 2000).
- [2254] Michael F. Modest. 1993. *Radiative Heat Transfer*. McGraw-Hill, NY.
- [2255] Jesper Møller and Rasmus Plenge Waagepetersen. 2004. *Statistical Inference and Simulation for Spatial Point Processes*. Chapman & Hall/CRC. ISBN: 1-58488-265-4.
- [2256] George S. Monk. 1937. *Light: Principles and Experiments*. McGraw-Hill, NY.
- [2257] Parry Moon. 1936. *The Scientific Basis of Illuminating Engineering*. McGraw-Hill, NY.
- [2258] Parry Moon and Domina E. Spencer. 1948. *Lighting Design*. Addison-Wesley, CambMass.
- [2259] Parry Moon and Domina Eberle Spencer. 1981. *The Photoc Field*. MIT Press, Cambridge, MA.
- [2260] Fred E. Nicodemus, J. C. Richmond, J. J. Hsia, I. W. Ginsberg, and T. Limperis. 1977. *Geometrical Considerations and Nomenclature for Reflectance*. Number 161 in *Monograph*. National Bureau of Standards (US), WashDC.
- [2261] Harald Niederreiter. 1992. *Quasi-Monte Carlo Methods*. Wiley Online Library.
- [2262] Harald Niederreiter. 1992. *Random Number Generation and Quasi-Monte Carlo Methods*. SIAM, (January 1, 1992). 244 pages. ISBN: 978-1-61197-008-1.
- [2263] Harald Niederreiter. 2006. *Monte Carlo and Quasi-Monte Carlo Methods 2004*. OCLC: 636180032. Springer-Verlag, Berlin. ISBN: 978-3-540-25541-3 978-3-540-31186-7.
- [2264] Rob O'Neill. 2016. *Digital Character Development Theory and Practice*. OCLC: 949228749. CRC Press, Boca Raton, FL. ISBN: 978-1-4822-5078-7.
- [2265] J. A. Ogilvy. 1991. *Theory of Wave Scattering from Random Rough Surfaces*. Adam Hilger, NY.
- [2266] Alan V. Oppenheim and Ronald W. Schaffer. 2009. *Discrete-Time Signal Processing*. (3rd edition). Prentice Hall.
- [2267] Francisco R. Ortega, Fatemeh Abyarjoo, Armando Barreto, Naphtali Rishe, and Malek Adjouadi. 2016. *Interaction Design for 3D User Interfaces: The World of Modern Input Devices for Research, Applications, and Game Development*. OCLC: ocn912377220. CRC Press, Boca Raton, FL. 763 pages. ISBN: 978-1-4822-1694-3.
- [2268] Richard K. Osborn and Sidney Yip. 1966. *The Foundations of Neutron Transport*. Gordon and Breach, NY.
- [2269] Art B. Owen. 2013. *Monte Carlo Theory, Methods and Examples*. To be published.
- [2270] M. Necati Özisik. 1973. *Radiative Transfer and Interactions with Conduction and Convection*. John Wiley & Sons, NY.
- [2271] Shih-i Pai. 1966. *Radiation Gas Dynamics*. Springer-Verlag, NY.
- [2272] G. W. Paltridge and C. M. R. Platt. 1979. *Radiative Processes in Meteorology and Climatology*. Elsevier, NY.
- [2273] Frederic I. Parke and Keith Waters. 1996. *Computer Facial Animation*. AK Peters, Ltd.
- [2274] Leno Pedrotti and Frank Pedrotti. 1998. *Optics and Vision*. Prentice-Hall.
- [2275] V. Pegoraro. 2016. *Handbook of Digital Image Synthesis: Scientific Foundations of Rendering*. CRC Press. ISBN: 978-1-315-39521-0.
- [2276] Matt Pharr and Greg Humphreys. 2004. *Physically Based Rendering: From Theory to Implementation*. (1st edition). *The Morgan Kaufmann Series in Interactive 3D Technology*. OCLC: ocm56323052. Morgan Kaufmann, Amsterdam ; Boston. 1019 pages. ISBN: 978-0-12-553180-1.
- [2277] Matt Pharr and Greg Humphreys. 2010. *Physically Based Rendering: From Theory to Implementation*. (2nd edition). Morgan Kaufmann, San Francisco, USA. 1167 pages. ISBN: 978-0-12-375079-2.
- [2278] Matt Pharr, Wenzel Jakob, and Greg Humphreys. 2017. *Physically Based Rendering: From Theory to Implementation*. (3rd edition). Morgan Kaufmann, Cambridge, MA. 1233 pages. ISBN: 978-0-12-800645-0.
- [2279] Max Planck. 1988. *The Theory of Heat Radiation*. Dover Publications, NY.
- [2280] G. C. Pomraning. 1973. *The Equations of Radiation Hydrodynamics*. Pergamon Press, NY.
- [2281] Rudolph W. Preisendorfer. 1965. *Radiative Transfer on Discrete Spaces*. Pergamon Press, NY.
- [2282] Rudolph W. Preisendorfer. 1976. *Hydrologic Optics*. Volume I–VI. NOAA, Honolulu.
- [2283] Rudolph W. Preisendorfer. 1976. *Hydrologic Optics*. Volume VI, Surfaces. NOAA, Honolulu.
- [2284] Rudolph W. Preisendorfer. 1976. *Hydrologic Optics*. Volume V, Properties. NOAA, Honolulu.
- [2285] Rudolph W. Preisendorfer. 1976. *Hydrologic Optics*. Volume IV, Imbeddings. NOAA, Honolulu.
- [2286] Rudolph W. Preisendorfer. 1976. *Hydrologic Optics*. Volume III, Solutions. NOAA, Honolulu.
- [2287] Rudolph W. Preisendorfer. 1976. *Hydrologic Optics*. Volume II, Foundations. NOAA, Honolulu.
- [2288] Rudolph W. Preisendorfer. 1976. *Hydrologic Optics*. Volume I, Introduction. NOAA, Honolulu.
- [2289] Franco P. Preparata and Michael Ian Shamos. 1985. *Computational Geometry an Introduction*. Springer-Verlag.
- [2290] William Press, Saul Teukolsky, William Vetterling, and Brian Flannery. 1992. *Numerical Recipes in C*. (2nd edition). Cambridge University Press, Cambridge, UK.
- [2291] Roger Pressman. 2010. *Software Engineering: A Practitioner's Approach*. (7th edition). McGraw-Hill, New York, NY, USA. ISBN: 0-07-337597-7.
- [2292] Prusinkiewicz Prusinkiewicz and Aristid Lindenmayer. 1990. *The Algorithmic Beauty of Plants*. Springer-Verlag, New York, NY, USA. 1-240. ISBN: 0-387-97297-8.
- [2293] Mark S. Rea. 1993. *Lighting Handbook*. (Eighth edition). Illuminating Engineering Society of North America, NY.
- [2294] Erik Reinhard, Greg Ward, Sumanta Pattanaik, and Paul Debevec. 2006. *High Dynamic Range Imaging: Acquisition, Display, and Image-Based Lighting*. Elsevier. 1-497. ISBN: 978-0-12-585263-0.
- [2295] Fabio Remondino and David Stoppa. 2013. *TOF Range-Imaging Cameras*. Springer-Verlag. ISBN: 978-3-642-27523-4.
- [2296] Rudolf L. Renesse. 2004. *Optical Document Security*. (3rd edition). Artech House, Boston, Mass., (December 31, 2004). 386 pages. ISBN: 978-1-58053-258-7.

- [2297] Juhan Ross. 1981. *The Radiation Regime and Architecture of Plant Stands*. Dr W. Junk Publishers, Boston.
- [2298] Reuven Y. Rubinstein. 1981. *Simulation and the Monte Carlo Method*. John Wiley & Sons.
- [2299] George B. Rybicki and Alan P. Lightman. 1979. *Radiative Processes in Astrophysics*. John Wiley & Sons, NY.
- [2300] Bahaa E. A. Saleh and Malvin Carl Teich. 2007. *Fundamentals of Photonics*. (2nd edition). Wiley Series in Pure and Applied Optics. Wiley-Interscience, (March 2007).
- [2301] Hanan Samet. 1990. *Applications of Spatial Data Structures*. Addison-Wesley, Reading.
- [2302] Hanan Samet. 1990. *The Design and Analysis of Spatial Data Structures*. Addison-Wesley, Reading.
- [2303] Douglas H. Sampson. 1965. *Radiative Contributions to Energy and Momentum Transport in a Gas*. John Wiley & Sons, NY.
- [2304] Fabien Sanglard. 2018. *Game Engine Black Book: Doom*. CreateSpace Independent Publishing Platform, (December 5, 2018). 427 pages. ISBN: 978-1-987418-43-9.
- [2305] Fabien Sanglard. 2018. *Game Engine Black Book: Wolfenstein 3D*. CreateSpace Independent Publishing Platform, (December 2, 2018). 317 pages. ISBN: 978-1-72764-670-2.
- [2306] L.A. Santaló. 1953. *Introduction to Integral Geometry*. Actualités Scientifiques et Industrielles. Hermann.
- [2307] Philip Schneider and David H Eberly. 2002. *Geometric Tools for Computer Graphics*. Morgan Kaufmann. 1056 pages. ISBN: 978-0-08-047802-9.
- [2308] David W. Scott. 1992. *Multivariate Density Estimation: Theory, Practice, and Visualization*. (1st edition). Wiley Series in Probability and Statistics. Wiley-Interscience, (September 1992). ISBN: 0-471-54770-0.
- [2309] David W. Scott. 2015. *Multivariate Density Estimation: Theory, Practice, and Visualization*. (2nd edition). Wiley Series in Probability and Statistics. John Wiley & Sons, Hoboken, New Jersey, (March 27, 2015). 350 pages. ISBN: 978-0-471-69755-8.
- [2310] Robert Sedgewick. 1992. *Algorithms in C++*. Addison-Wesley.
- [2311] J. A. Sethian. 1999. *Level Set Methods and Fast Marching Methods: Evolving Interfaces in Computational Geometry, Fluid Mechanics, Computer Vision, and Materials Science*. (2nd edition). Cambridge University Press, Cambridge, U.K. ; New York, (June 13, 1999). 404 pages. ISBN: 978-0-521-64557-7.
- [2312] Peter Shirley. 2000. *Realistic Ray Tracing*. AK Peters, Ltd.
- [2313] Peter Shirley and R. Keith Morley. 2003. *Realistic Ray Tracing*. (2nd edition). AK Peters, Ltd., Natick, MA, USA. ISBN: 978-1-56881-198-7.
- [2314] Robert Siegel and John R. Howell. 1981. *Thermal Radiation Heat Transfer*. (2nd edition). Hemisphere Publishing Corp., NY.
- [2315] Robert Siegel and John R. Howell. 2002. *Thermal Radiation Heat Transfer*. (4th edition). Taylor & Francis, New York, NY. ISBN: 1-56032-839-8.
- [2316] François X. Sillion and Claude Puech. 1994. *Radiosity and Global Illumination*. Morgan Kaufmann, San Francisco, CA.
- [2317] Bernard W. Silverman. 1986. *Density Estimation for Statistics and Data Analysis. Monographs on Statistics and Applied Probability*. Volume 26. Chapman and Hall, New York, NY.
- [2318] Jeffrey S. Simonoff. 1996. *Smoothing Methods in Statistics*. Springer-Verlag.
- [2319] Merrill Skolnik. 2002. *Introduction to Radar Systems*. (3rd edition). McGraw-Hill. ISBN: 978-0-07-288138-7.
- [2320] V. V. Sobolev. 1963. *A Treatise on Radiative Transfer*. Translated from the Russian by S. I. Gaposchkin. D. Van Nostrand Company, Princeton.
- [2321] Justin Solomon. 2015. *Numerical Algorithms: Methods for Computer Vision, Machine Learning, and Graphics*. CRC Press, Boca Raton. 379 pages. ISBN: 978-1-4822-5188-3.
- [2322] Jerome Spanier and Ely Meyer Gelbard. 1969. *Monte Carlo Principles and Neutron Transport Problems*. Addison-Wesley Series in Computer Science and Information Processing. Addison-Wesley, Reading.
- [2323] Ephraim M. Sparrow and R. D. Cess. 1966. *Radiation Heat Transfer*. Brooks Publishing Company, Belmont, CA.
- [2324] Weston M. Stacey Jr. 1974. *Variational Methods in Nuclear Reactor Physics*. Academic Press, NY.
- [2325] Jos Stam. 2016. *The Art of Fluid Animation*. OCLC: ocn940599235. CRC Press, Boca Raton, Florida. 257 pages. ISBN: 978-1-4987-0020-7.
- [2326] Eric J. Stollnitz, Tony D. DeRose, and David H. Salesin. 1996. *Wavelets for Computer Graphics*. Morgan Kaufmann.
- [2327] Eric J. Stollnitz, Tony D. DeRose, and David H. Salesin. 1996. *Wavelets for Computer Graphics: Theory and Applications*. Morgan Kaufmann, San Francisco, CA.
- [2328] Dietrich Stoyan and Helga Stoyan. 1994. *Fractals, Random Shapes, and Point Fields : Methods of Geometrical Statistics*. Wiley Series in Probability and Mathematical Statistics. John Wiley & Sons, Chichester, New York. ISBN: 0-471-93757-6.
- [2329] Kevin G. Suffer. 2007. *Ray Tracing from the Ground Up*. OCLC: ocn137222832. AK Peters, Ltd., Wellesley, Mass. 762 pages. ISBN: 978-1-56881-272-4.
- [2330] Richard Szeliski. 2011. *Computer Vision: Algorithms and Applications*. Texts in Computer Science. OCLC: 845585642. Springer-Verlag, London. 812 pages. ISBN: 978-1-84882-935-0 978-1-84882-934-3.
- [2331] Allen Taflove. 1998. *Advances in Computational Electrodynamics: The Finite-Difference Time-Domain Method*. Artech House Inc.
- [2332] Jeremy Tanner. 2006. *The Invention of Art History in Ancient Greece: Religion, Society and Artistic Rationalisation*. Cambridge University Press. ISBN: 0-521-84614-5.
- [2333] The CGAL Project. 2016. *CGAL User and Reference Manual*. <http://www.cgal.org/>. CGAL Editorial Board.
- [2334] The Subcommittee on Photometry of the IESNA Computer Committee. 1991. *IES Standard File Format for Electronic Transfer of Photometric Data and Related Information*.
- [2335] Richard N. Thomas. 1965. *Some Aspects of Non-Equilibrium Thermodynamics in the Presence of a Radiation Field*. University of Colorado Press, Boulder, Colorado.
- [2336] Colin J. Thompson. 1971. *Mathematical Statistical Mechanics*. Macmillan Publishing Company, NY.
- [2337] Michael Tinkham. 2003. *Group Theory and Quantum Mechanics*. Dover Publications.
- [2338] Angela Tinwell. 2015. *The Uncanny Valley in Games & Animation*. CRC Press, Boca Raton. 211 pages. ISBN: 978-1-4665-8694-9.
- [2339] Paul Allen Tipler and Gene Mosca. 2004. *Physics for Scientists and Engineers*. (5th extended edition). W. H. Freeman, New York.
- [2340] S. Torquato. 2009. *Random Heterogeneous Materials: Microstructure and Macroscopic Properties*. The Sciences Po Series in International Relations and Political Economy. Volume 10. John Wiley & Sons. 1-6. ISBN: 978-0-387-95167-6.
- [2341] Lloyd N. Trefethen and David Bau. 1997. *Numerical Linear Algebra*. SIAM: Society for Industrial and Applied Mathematics. ISBN: 0-89871-361-7.
- [2342] Alexander P. Trotter. 1911. *Illumination: Its Distribution and Measurement*. Macmillan Publishing Company, London.
- [2343] V. Tuchin. 2000. *Tissue Optics: Light Scattering Methods and Instruments for Medical Diagnosis*. Spie Press Series. ISBN: 978-0-8194-3459-3.
- [2344] Robert Ulichney. 1987. *Digital Halftoning*. MIT Press, Cambridge, MA, USA. ISBN: 0-262-21009-6.
- [2345] H. C. van de Hulst. 1981. *Light Scattering by Small Particles*. Dover Publications, NY. ISBN: 0-486-64228-3.
- [2346] Luiz Velho, Jonas Gomes, and Luiz H de Figueiredo. 2007. *Implicit Objects in Computer Graphics*. Springer-Verlag, (May 2007).
- [2347] Walter G. Vincenti and Charles H. Kruger Jr. 1965. *Introduction to Physical Gas Dynamics*. John Wiley & Sons, NY.
- [2348] H. von Helmholtz and J.P.C. Southall. 1924. *Helmholtz's Treatise on Physiological Optics*. The Optical Society of America.
- [2349] Joseph D. Warren and Henrik Weimer. 2001. *Subdivision Methods for Geometric Design: A Constructive Approach*. Morgan Kaufmann Series in Computer Graphics and Geometric Modeling. Morgan Kaufmann, San Francisco. 299 pages. ISBN: 978-1-55860-446-9.
- [2350] Martin Watt, Erwin Coumans, George ElKoura, Ronald Henderson, Manuel Kraemer, Jeff Lait, and James Reinders. 2014. *Multithreading for Visual Effects*. CRC Press, Boca Raton, (July 29, 2014). 255 pages. ISBN: 978-1-4822-4356-7.
- [2351] Hans-Jürgen Weber and George Brown Arfken. 2004. *Essential Mathematical Methods for Physicists*. Academic Press.
- [2352] Alvin M. Weinberg. 1951. *Theory of Neutron Chain Reactions*. Technical Information Service, Oak Ridge, Tennessee.
- [2353] Alvin M. Weinberg and Eugene P. Wigner. 1958. *The Physical Theory of Neutron Chain Reactors*. University of Chicago Press.
- [2354] R.M. Welch, S.K. Cox, J.M. Davis, and J.M. Davis. 1980. *Solar Radiation and Clouds*. Number no. 39, v. 17 in *American Meteorological Society - Meteorological Monographs*. American Meteorological Society. ISBN: 978-0-933876-49-1.
- [2355] C.W White and P.S. Peercy. 1980. *Laser and Electron Beam Processing of Materials*. Academic Press.
- [2356] John A. Wiebelt. 1966. *Engineering Radiation Heat Transfer*. Holt, Rinehart and Winston, NY.
- [2357] G. Milton Wing. 1962. *An Introduction to Transport Theory*. John Wiley & Sons, NY.
- [2358] Magnus Wrenninge. 2012. *Production Volume Rendering: Design and Implementation*. CRC Press. 355 pages. ISBN: 978-1-56881-724-8.
- [2359] G. Wyszecki and W. S. Stiles. 1982. *Color Science: Concepts and Methods, Quantitative Data and Formulae*. John Wiley & Sons.
- [2360] S.K. Zaremba. 1972. *Applications de la théorie des nombres à l'analyse numérique*. Academic Press. ISBN: 978-0-12-775950-0.
- [2361] Nicholas Bernhardt Zeman. 2016. *Essential Skills in Character Rigging*. OCLC: ocn931998662. CRC Press, Boca Raton, Florida. 208 pages. ISBN: 978-1-4822-3523-4.

THESES

- [2362] James Richard Arvo. 1995. *Analytic Methods for Simulated Light Transport*. Ph.D. Thesis. Yale University, New Haven, Connecticut, (December 1995). 216 pages.
- [2363] Larry Aupperle. 1993. *Hierarchical Algorithms for Illumination*. Ph.D. Thesis. Department of Computer Science, Princeton University, Princeton, New Jersey, (November 1993).
- [2364] Connelly Barnes. 2011. *PatchMatch: A Fast Randomized Matching Algorithm with Application to Image and Video*. Princeton University, (May 2011).
- [2365] Philippe Bekaert. 1999. *Hierarchical and Stochastic Algorithms for Radiosity*. Ph.D. Thesis. Katholieke Universiteit, Leuven, Belgium, (December 1999).
- [2366] Carlos F. Borges. 1990. *Numerical Methods for Illumination Models in Realistic Image Synthesis*. Ph.D. Thesis. University of California, Davis.
- [2367] Antoine Bouthors. 2008. *Realistic Rendering of Clouds in Real-Time / Rendu Réaliste de Nuages En Temps-Réel*. Ph.D. Thesis. Université Joseph Fourier, Grenoble, France, (June 2008).
- [2368] Michael Brannon Carter. 1993. *Parallel Hierarchical Radiosity Rendering*. Ph.D. Thesis. Iowa State University, Ames, Iowa.
- [2369] Edwin E. Catmull. 1974. *A Subdivision Algorithm for Computer Display of Curved Surfaces*. Ph.D. Thesis. Dept. of CS, U. of Utah, (December 1974).
- [2370] Min Chen. 1999. *Perturbation Methods for Image Synthesis*. Ph.D. Thesis. California Institute of Technology, Pasadena, California, (May 1999). CS-TR-99-05.
- [2371] Min Chen. 2001. *Mathematical Methods for Image Synthesis*. Ph.D. Thesis. California Institute of Technology, Pasadena, California, (July 2001).
- [2372] Per H. Christensen. 1995. *Hierarchical Techniques for Glossy Global Illumination*. Ph.D. Thesis. Department of Computer Science and Engineering, University of Washington, Seattle, Washington, (July 1995).
- [2373] Mark Christopher Colbert. 2008. *Appearance-Driven Material Design*. Ph.D. Thesis. School of Electrical Engineering and Computer Science, University of Central Florida.
- [2374] Steven Collins. 1996. *Wavefront Tracking for Global Illumination Solutions*. Ph.D. Thesis. Trinity College, Dublin, Ireland, (November 1996).
- [2375] Cyril Crassin. 2011. *GigaVoxels: A Voxel-Based Rendering Pipeline for Efficient Exploration of Large and Detailed Scenes*. Ph.D. Thesis. Université de Grenoble, (July 12, 2011).
- [2376] Paul J. Diefenbach. 1996. *Pipeline Rendering: Interaction and Realism through Hardware-Based Multi-Pass Rendering*. Ph.D. Thesis. University of Pennsylvania, (June 1996).
- [2377] Julie O'B. Dorsey. 1993. *Computer Graphics Techniques for Opera Lighting Design and Simulation*. Ph.D. Thesis. Cornell University, Ithaca, NY, (January 1993).
- [2378] Philip Dutré. 1996. *Mathematical Frameworks and Monte Carlo Algorithms for Global Illumination in Compute Graphics*. Ph.D. Thesis. University of Leuven, Leuven, Belgium, (September 1996).
- [2379] Bruce H. Fetz. 1970. *The Linearized Boltzman Operator as the Generator of a Semi-Group*. Ph.D. Thesis. Cornell University.
- [2380] Patrick A. Fitzhorn. 1982. *Realistic Image Synthesis: A Time Complexity Analysis of Ray Tracing*. Ph.D. Thesis. Colorado State University, Fort Collins, Colorado.
- [2381] Abhijeet Ghosh. 2007. *Realistic Materials and Illumination Environments*. The University of British Columbia, (June 2007).
- [2382] Vlastimil Havran. 2000. *Heuristic Ray Shooting Algorithms*. Ph.D. Thesis. Czech Technical University, Praha, Czech Republic, (November 2000).
- [2383] Xiao D. He. 1993. *Physically-Based Models for the Reflection, Transmission and Subsurface Scattering of Light by Smooth and Rough Surfaces, with Applications to Realistic Image Synthesis*. Ph.D. Thesis. Cornell University, (January 1993).
- [2384] Paul Heckbert. 1986. *Fundamentals of Texture Mapping and Image Warping*. UC Berkeley, (June 1986).
- [2385] Paul S. Heckbert. 1991. *Simulating Global Illumination Using Adaptive Meshing*. Ph.D. Thesis. University of California, Berkeley, (June 1991).
- [2386] Alan Heirich. 1998. *Analysis of Scalable Algorithms for Dynamic Load Balancing and Mapping with Application to Photo-Realistic Rendering*. Ph.D. Thesis. California Institute of Technology, Pasadena, California, (June 1998). CS-TR-98-10.
- [2387] Nicolas Holzschuch. 1996. *Le Contrôle de l'Erreur Dans La Méthode de Radiosité Hiérarchique*. Université Joseph Fourier (Grenoble I), (March 1996).
- [2388] Wenzel Alban Jakob. 2013. *Light Transport on Path-Space Manifolds*. Ph.D. Thesis. Cornell University, United States – New York. 154 pages.
- [2389] Safa Jamali. 2015. *Rheology of Colloidal Suspensions: A Computational Study*. Ph.D. Thesis. Case Western Reserve University, (August 2015).
- [2390] Adrian Jarabo. 2012. *Femto-Photography: Visualizing Light in Motion*. M.Sc. Thesis. Universidad de Zaragoza.
- [2391] Wojciech Jarosz. 2008. *Efficient Monte Carlo Methods for Light Transport in Scattering Media*. Ph.D. Thesis. University of California, San Diego, United States – California, (September 2008). 220 pages.
- [2392] Henrik Wann Jensen. 1993. *Global Illumination via Bidirektional Monte Carlo Ray Tracing*. M.Sc. Thesis. Technical University of Denmark.
- [2393] Henrik Wann Jensen. 1996. *The Photon Map in Global Illumination*. Ph.D. Thesis. Technical University of Denmark, (September 1996).
- [2394] Jonathan Joseph. 1996. *Direct Volume Rendering of Irregularly Sampled Data Using Voronoi Decomposition*. Ph.D. Thesis. Cornell University, Ithaca, New York, (January 1996).
- [2395] James T. Kajiya. 1979. *Toward a Mathematical Theory of Perception*. Ph.D. Thesis. University of Utah.
- [2396] Daniel Kartch. 2000. *Efficient Rendering and Compression for Full-Parallax Computer-Generated Holographic Stereograms*. Cornell University.
- [2397] Timothy L. Kay. 1992. *From Geometry to Texture: Experiments towards Realism in Computer Graphics*. Ph.D. Thesis. California Institute of Technology, (May 1992).
- [2398] Alexander Keller. 1997. *Quasi-Monte Carlo Methods for Photorealistic Image Synthesis*. Ph.D. Thesis. Shaker Verlag Aachen, Kaiserslautern, Germany, (June 1997).
- [2399] Boz Kempfski. 1995. *Extension of the Whittaker-Shannon Sampling Series Aided by Symbolic Computation*. Ph.D. Thesis. Anglia Polytechnic.
- [2400] Jonathan Konieczny. 2009. *Application, Rendering and Display of Automotive Paint*. University of Minnesota.
- [2401] Jaroslav Krivánek. 2005. *Radiance Caching for Global Illumination Computation on Glossy Surfaces*. Ph.D. Thesis. Université de Rennes 1 and Czech Technical University in Prague, (December 2005).
- [2402] Eric P. LaFortune. 1996. *Mathematical Models and Monte Carlo Algorithms for Physically Based Rendering*. Ph.D. Thesis. Katholieke Universiteit Leuven, Leuven, Belgium, (February 1996).
- [2403] Paul Lalonde. 1997. *Representations and Uses of Light Distribution Functions*. Department of Computer Science, University of British Columbia, Vancouver, British Columbia.
- [2404] Clarence E. Lee. 1962. *The Discrete S_n Approximation to Transport Theory*. Ph.D. Thesis. Cornell University.
- [2405] Dani Lischinski. 1994. *Accurate and Reliable Algorithms for Global Illumination*. Ph.D. Thesis. Cornell University, Ithaca, NY, (August 1994).
- [2406] Julio Marco. 2013. *Transient Light Transport in Participating Media*. Ph.D. Thesis. Universidad de Zaragoza.
- [2407] Wojciech Matusik. 2003. *A Data-Driven Reflectance Model*. MIT.
- [2408] Kevin L. Novins. 1994. *Towards Accurate and Efficient Volume Rendering*. Ph.D. Thesis. Cornell University, (January 1994).
- [2409] Juraj Obert. 2010. *Real-Time Cinematic Design of Visual Aspects in Computer Generated Images*. Ph.D. Thesis. School of Electrical Engineering and Computer Science, University of Central Florida.
- [2410] Rohit Pandharkar. 2011. *Hidden Object Doppler: Estimating Motion, Size and Material Properties of Moving Non-Line-of-Sight Objects in Cluttered Environments*. Ph.D. Thesis. Massachusetts Institute of Technology.
- [2411] E. S. Panduranga. 1987. *Reflections in Curved Surfaces*. Ph.D. Thesis. Princeton University, (October 1987). Technical Report CS-TR-122-87.
- [2412] Sumanta N. Pattanaik. 1993. *Computational Methods for Global Illumination and Visualization of Complex 3D Environments*. Ph.D. Thesis. Birla Institute of Technology and Science, Pilani, India, (February 1993).
- [2413] Mathias Paulin. 2011. *GigaVoxels: A Voxel-Based Rendering Pipeline for Efficient Exploration of Large and Detailed Scenes*. Ph.D. Thesis. Karlsruhe Institute of Technology.
- [2414] Vincent Pegoraro. 2009. *Efficient Physically-Based Simulation of Light Transport in Participating Media*. Ph.D. Thesis. University of Utah, United States – Utah. 209 pages.
- [2415] Rudolph W. Preisendorfer. 1956. *A Mathematical Foundation for Radiative Transfer Theory*. Ph.D. Thesis. University of California at Los Angeles, (May 1956).
- [2416] Y. Rahmani. 2013. *Micromechanics and Rheology of Hard and Soft-Sphere Colloidal Glasses*. Ph.D. Thesis. Universiteit van Amsterdam, (June 2013). ISBN: 9789462033443.
- [2417] Ravi Ramamoorthi. 1997. *Creating Generative Models from Range Images*. Ph.D. Thesis. California Institute of Technology, Pasadena, California. CS-TR-98-05.
- [2418] Ravi Ramamoorthi. 2002. *A Signal-Processing Framework for Forward and Inverse Rendering*. Ph.D. Thesis. Stanford University, (August 2002).
- [2419] Mark C. Reichert. 1992. *A Two-Pass Radiosity Method Driven by Lights and Viewer Position*. M.Sc. Thesis. Program of Computer Graphics, Cornell University, Ithaca, NY, (January 1992).
- [2420] Holly Edith Rushmeier. 1988. *Realistic Image Synthesis for Scenes with Radiatively Participating Media*. Ph.D. Thesis. Cornell University, Ithaca, NY, (May 1988). 159 pages.
- [2421] Kenneth B. Russell. 1999. *IMPS: Implicit Surfaces for Interactive Animated Characters*. Masters Thesis. Massachusetts Institute of Technology, (May 1999).
- [2422] Lars Schjøth. 2009. *Anisotropic Density Estimation in Global Illumination: A Journey through Time and Space*. Ph.D. Thesis. University of Copenhagen.
- [2423] Erin S. Shaw. 1994. *Hierarchical Radiosity for Dynamic Environments*. M.Sc. Thesis. Cornell University, Ithaca, New York, (August 1994).
- [2424] Kamal A-R. M. El-Sheikh. 1974. *Effectiveness of the Russian Roulette-Splitting Technique in Reactor Shielding Analysis*. Ph.D. Thesis. The University of Michigan.

- [2425] Peter Shirley. 1990. *Physically Based Lighting Calculations for Computer Graphics*. Ph.D. Thesis. University of Illinois, Urbana-Champaign, (November 1990).
- [2426] François X. Sillion. 1989. *Simulation de l'éclairage Pour La Synthèse d'images : Réalisme et Interactivité*. Ph.D. Thesis. Université Paris XI, (June 1989).
- [2427] Brian E. Smits. 1994. *Efficient Hierarchical Radiosity in Complex Environments*. Ph.D. Thesis. Cornell University, Ithaca, NY, (August 1994).
- [2428] John M. Snyder. 1991. *Generative Modeling: An Approach to High Level Shape Design for Computer Graphics and CAD*. Ph.D. Thesis. California Institute of Technology, (May 1991).
- [2429] Masamichi Sugihara. 2009. *Free-Form Deformation for Implicit Surfaces*. Ph.D. Thesis.
- [2430] Ivan E. Sutherland. 1963. *Sketchpad: A Man-Machine Graphical Communication System*. Ph.D. Thesis. Massachusetts Institute of Technology, (January 1963).
- [2431] László Szirmay-Kalos. 2000. *Photorealistic Image Synthesis Using Ray-Bundles*. Ph.D. Thesis. Department of Control Engineering and Information Technology, Technical University of Budapest, Budapest, Hungary.
- [2432] Filippo Tampieri. 1993. *Discontinuity Meshing for Radiosity Image Synthesis*. Ph.D. Thesis. Program of Computer Graphics, Cornell University, Ithaca, NY.
- [2433] Eric Veach. 1997. *Robust Monte Carlo Methods for Light Transport Simulation*. Ph.D. Thesis. Stanford University, United States – California, (December 1997). 406 pages.
- [2434] Bruce Johnathan Walter. 1998. *Density Estimation Techniques for Global Illumination*. Ph.D. Thesis. Cornell University, Ithaca, NY, (August 1998).
- [2435] Changyaw Wang. 1994. *The Direct Lighting Computation in Global Illumination Methods*. Ph.D. Thesis. Indiana University, (February 1994).
- [2436] John E. Warnock. 1969. *A Hidden-Surface Algorithm for Computer Generated Half-Tone Pictures*. Ph.D. Thesis. University of Utah. TR 4-15.
- [2437] Jiaying Weng. 2014. *Maximin Strong Orthogonal Arrays*. M.Sc. Thesis. Simon Fraser University.
- [2438] Stephen H. Westin. 1992. *Predicting Reflectance Functions from Complex Surfaces*. Ph.D. Thesis. Cornell University, Ithaca, New York, (August 1992).
- [2439] Christopher R. Wyman. 2004. *Fast Local Approximation to Global Illumination*. Ph.D. Thesis. University of Utah, (August 2004).
- [2440] Yang Li Hector Yee. 2000. *Spatiotemporal Sensitivity and Visual Attention for Efficient Rendering of Dynamic Environments*. Cornell University.
- [2441] Harold Zatz. 1992. *Galerkin Radiosity: A Higher Order Solution Method for Global Illumination*. Ph.D. Thesis. Cornell University, Ithaca, New York, (August 1992).
- [2442] Timo Aila, Samuli Laine, and Tero Karras. 2012. Understanding the Efficiency of Ray Traversal on GPUs – Kepler and Fermi Addendum. NVIDIA Technical Report NVR-2012-02. NVIDIA Corporation, (June 2012).
- [2443] Alfred Alasia. 1999. Digital anti-counterfeiting software method and apparatus. (December 2, 1999). Patent Patent No. AU713560B2 (AU). Graphic Security Systems Corp.
- [2444] Alfred V. Alasia. 1976. Process of coding indicia and product produced thereby. (February 10, 1976). U.S. patent Patent No. 3937565A. Alasia Alfred Victor.
- [2445] James Arvo. 1990. A simple method for box-sphere intersection testing. In *Graphics Gems*. Andrew S. Glassner, editor. Academic Press, NY.
- [2446] James Arvo, editor. *Graphics Gems II*. Academic Press, NY.
- [2447] James Arvo. 1992. Fast random rotation matrices. In *Graphics Gems III*. David Kirk, editor. Academic Press, NY, 117–120.
- [2448] James Arvo. 1993. Linear operators and integral equations in global illumination. In *Global Illumination*. ACM SIGGRAPH Course Notes. Volume 42. (August 1993). Chapter 2, 1–21.
- [2449] James Arvo. 1993. Transfer equations in global illumination. In *Global Illumination*. ACM SIGGRAPH Course Notes. Volume 42. (August 1993).
- [2450] James Arvo and David Kirk. 1989. A survey of ray tracing acceleration techniques. In *An Introduction to Ray Tracing*. Andrew S. Glassner, editor. Academic Press, NY. Chapter 6.
- [2451] James Arvo and Cary Scofield. 1992. The shader cache: a rendering pipeline accelerator. In *Graphics Gems III*. David Kirk, editor. Academic Press, NY, 383–389.
- [2452] H. P. Baltes. 1976. On the validity of Kirchhoff's law of heat radiation for a body in a nonequilibrium environment. In *Progress in Optics*. Volume 13. E. Wolf, editor. North Holland, Amst, 3–25.
- [2453] J. B. Bednar and Richard Redner, editors. Conference on Inverse Scattering: Theory and Application. SIAM, Phil.
- [2454] Laurent Belcour, Ling-Qi Yan, Ravi Ramamoorthi, and Derek Nowrouzezahrai. 2015. Antialiasing Complex Global Illumination Effects in Path-Space. 1375. University of Montreal.
- [2455] George I Bell and Samuel Glasstone. 1970. Nuclear Reactor Theory. US Atomic Energy Commission, Washington, DC (United States), NY.
- [2456] R. Bellman, G. Birkhoff, and I. Abu-Shumays, editors. Transport Theory. Proceedings of a Symposium in Applied Mathematics of the American Mathematical Society and the Society for Industrial and Applied Mathematics. American Mathematical Society, Providence, RI.
- [2457] H. W. Bertini. 1963. Monte Carlo Simulations on Intranuclear Cascades. ORNL-3383. Oak Ridge National Laboratory, Oak Ridge, TN, USA, (April 1963). doi: c54v.
- [2458] R. L. Billings, J. W. Barnes, J. R. Howell, and O. E. Slotboom. 1990. Markov analysis of radiative transfer in specular enclosures. In *Radiation Heat Transfer: Fundamentals and Applications*. ASME, NY, 89–100.
- [2459] Garrett Birkhoff. 1960. Some mathematical problems of nuclear reactor theory. In *Frontiers of Numerical Mathematics*. R. E. Langer, editor. The University of Wisconsin Press, Madison, Wisconsin, 23–42.
- [2460] Garrett Birkhoff. 1961. Positivity and criticality. In *Nuclear Reactor Theory. Proceedings of the Eleventh Symposium in Applied Mathematics*. The Annals of Mathematical Statistics, Prov, 116–126.
- [2461] Benedikt Bitterli. 2018. Tungsten renderer. (2018). <https://github.com/tunabrain/tungsten/>.
- [2462] Frédéric Boudon, Alexandre Meyer, and Christophe Godin. 2006. Survey on Computer Representations of Trees for Realistic and Efficient Rendering. 2301. Inria.
- [2463] Scott Brosh and Timothy Wright. 1994. Anti-counterfeiting process using lenticular optics and color masking. (1994). Patent Patent No. 5303370.
- [2464] Forrest B Brown and William R Martin. 2001. Monte Carlo Particle Transport in Media with Exponentially Varying Time-Dependent Cross-Sections. LA-UR-01-0675. Los Alamos National Laboratory.
- [2465] Michael Bunnell. 2005. Dynamic ambient occlusion and indirect lighting. In *GPU Gems 2*. Matt Pharr, editor. Addison-Wesley, 223–233.
- [2466] Francis E. Cady and Henry B. Dates, editors. Illuminating Engineering. John Wiley & Sons, NY.
- [2467] Emmanuel J Candes and David L Donoho. 2000. Curvelets: A Surprisingly Effective Nonadaptive Representation for Objects with Edges. DTIC Document.
- [2468] B. G. Carlson and K. D. Lathrop. 1968. Transport theory – the method of discrete ordinates. In *Computing Methods in Reactor Physics*. H. Greenspan, C. N. Kelber, and D. Okrent, editors. Gordon and Breach, NY, 171–266.
- [2469] Bengt Carlson. 1961. Numerical solution of neutron transport problems. In *Nuclear Reactor Theory. Proceedings of the Eleventh Symposium in Applied Mathematics*. The Annals of Mathematical Statistics, Prov, 219–232.
- [2470] Leland L. Carter. 1971. MCNA: A Computer Program to Solve the Adjoint Neutron Transport Equation by Coupled Sampling with the Monte Carlo Method. LA-4488. Los Alamos Scientific Laboratory of the University of California, Los Alamos, New Mexico, (March 1971).
- [2471] Michael B. Carter and John L. Gustafson. 1993. An Improved Hierarchical Radiosity Method. IS-J 4881. Ames Laboratory, (January 1993).
- [2472] Michael B. Carter and John L. Gustafson. 1993. The Symmetric Radiosity Formulation. IS-J 4880. Ames Laboratory, (January 1993).
- [2473] Min Chen and James Arvo. 2000. Closed-Form Expressions for Irradiance from Non-Uniform Lambertian Luminaires Part I: Linearly-Varying Radiant Exitance. Technical Report CS-TR-00-01. California Institute of Technology, Pasadena, California, (March 2000). doi: 10/gfz6kk.
- [2474] Min Chen and James Arvo. 2000. Closed-Form Expressions for Irradiance from Non-Uniform Lambertian Luminaires Part II: Polynomially-Varying Radiant Exitance. Technical Report CS-TR-00-04. California Institute of Technology, Pasadena, California, (March 2000). doi: 10/c54s.
- [2475] Kenneth Chiu, Peter Shirley, and Changyaw Wang. 1994. Multi-jittered sampling. In *Graphics Gems IV*. Graphics Gems Series. Paul S. Heckbert, editor. Academic Press, San Diego, CA, USA. Chapter Multi-jittered Sampling, 370–374. ISBN: 0-12-336155-9.
- [2476] Per Christensen. 2018. Progressive Sampling Strategies for Disk Light Sources. 18-02. Pixar Animation Studios, 6.
- [2477] Per H. Christensen. 2008. Point-Based Approximate Color Bleeding. 08-01. Pixar Animation Studios, Emeryville, CA, (July 2008).
- [2478] Per H. Christensen, George Harker, Jonathan Shade, Brenden Schubert, and Dana Batali. 2012. Multiresolution Radiosity Caching for Efficient Preview and Final Quality Global Illumination in Movies. Technical Memo 12-06. Pixar.
- [2479] Per Christensen and Brent Burley. 2015. Approximate Reflectance Profiles for Efficient Subsurface Scattering. 15-04. Pixar Animation Studios.
- [2480] Francis H. Clark. 1971. Methods and data for reactor shield calculations. In *Advances in Nuclear Science and Technology*. Volume 5. E. J. Henley and J. Lewins, editors. Plenum, NY, 95–183.
- [2481] Jonathan Cohen and Paul Debevec. 2001. LightGen, HDRShop plugin. (2001). <http://gl.ict.usc.edu/HDRShop/lightgen/>.
- [2482] J. M. Cook. 1968. Mathematical foundations. In *Computing Methods in Reactor Physics*. H. Greenspan, C. N. Kelber, and D. Okrent, editors. Gordon and Breach, NY, 542–579.

EVERYTHING ELSE

- [2483] Patrick Cozzi and Christophe Riccio, editors. OpenGL Insights. CRC Press, Boca Raton, FL. 679 pages. ISBN: 978-1-4398-9376-0.
- [2484] Elizabeth Cuthill. 1964. Digital computers in nuclear reactor design. In *Advances in Computers*. Volume 5. F. L. Alt and M. Rubinoff, editors. Academic Press, NY, 289–348.
- [2485] Eugene d'Eon. 2012. A Better Dipole. <http://www.eugenedeon.com>.
- [2486] A.A. D'Souza. Using EM to estimate a probability density with a mixture of Gaussians. Technical note, ().
- [2487] Mark A. Z. Dippé and Erling Henry Wold. 1992. Progress in Computer Graphics (Vol. 1). In George W. Zobrist and Chaman Sabharwal, editors. Ablex Publishing Corp., Norwood, NJ, USA. Chapter Stochastic Sampling: Theory and Application, 1–54. ISBN: 0-89391-651-X.
- [2488] R. V. Dunkle. 1963. Thermal radiation characteristics of surfaces. In *Theory and Fundamental Research in Heat Transfer*. J. A. Clark, editor. Pergamon Press, NY, 1–31.
- [2489] Frédo Durand. 2011. A Frequency Analysis of Monte-Carlo and Other Numerical Integration Schemes. TR-2011-052. MIT CSAIL, (February 2011).
- [2490] Elmar Eisemann, Michael Schwarz, Ulf Assarsson, and Michael Wimmer, editors. Real-Time Shadows. CRC Press, Boca Raton. 383 pages. ISBN: 978-1-56881-438-4.
- [2491] Klaus Engel, Markus Hadwiger, Joe Kniss, Christof Rezk-Salama, and Daniel Weiskopf, editors. Real-Time Volume Graphics. OCLC: ocm62896553. AK Peters, Ltd., Wellesley, Mass. 497 pages. ISBN: 978-1-56881-266-3.
- [2492] Thomas Engelhardt, Jan Novák, and Carsten Dachsbacher. 2010. Instant Multiple Scattering for Interactive Rendering of Heterogeneous Participating Media. Karlsruhe Institute of Technology, (December 2010).
- [2493] Emden R. Gansner and John H. Reppy. 1993. A multi-threaded higher-order user interface toolkit. In *User Interface Software*. Bass and Dewan, editors. John Wiley & Sons, NY. Chapter 4.
- [2494] Vincent Garcia, Frank Nielsen, and Richard Nock. 2010. Levels of details for Gaussian mixture models. In *Computer Vision – ACCV 2009. Lecture Notes in Computer Science*. Volume 5995. Hongbin Zha, Rin-ichiro Taniguchi, and Stephen Maybank, editors. Springer Berlin / Heidelberg, 514–525.
- [2495] Izrail Moiseevich Gel'fand, Mark Isosifovich Graev, and N.Ya. Vilenkin, editors. Integral Geometry and Representation Theory. Academic Press, (January 1, 1966). ISBN: 978-1-4832-2975-1. doi: [10/c445](https://doi.org/10/c445).
- [2496] Simon Gibson and Paul E. Debevec, editors. EGRW '02: Proceedings of the 13th Eurographics Workshop on Rendering. Eurographics Association, Pisa, Italy. ISBN: 1-58113-534-3.
- [2497] Paul Glasserman. 2003. Monte Carlo methods in financial engineering. In *Stochastic Modelling and Applied Probability*. Volume 53. Springer New York. Chapter 4, 185–204. ISBN: 978-1-4419-1822-2. doi: [bf7w](https://doi.org/10/bf7w).
- [2498] Harold Grad. 1958. Principles of the kinetic theory of gases. In *Handbuch Der Physik*. Volume 12. S. Flügge, editor. Springer-Verlag, NY, 205–294.
- [2499] Harold Grad. 1960. Theory of rarefied gases. In *Rarefied Gas Dynamics, First International Symposium*. F. M. Devienne, editor. Pergamon Press, NY, 100–138.
- [2500] Robin Green. 2003. Spherical Harmonic Lighting: The Gritty Details. Sony Computer Entertainment America, (March 2003).
- [2501] Harold Greenspan, C. N. Kelber, and D. Okrent, editors. Computing Methods in Reactor Physics. Gordon and Breach, NY.
- [2502] Ralf Habel, Per H. Christensen, and Wojciech Jarosz. 2013. Classic and Modified Diffusion Theory for Subsurface Scattering. Disney Research Zürich.
- [2503] Ralf Habel, Per H. Christensen, and Wojciech Jarosz. 2013. Classical and Improved Diffusion Theory for Subsurface Scattering. Disney Research Zürich, (June 2013).
- [2504] Eric Haines and Tomas Akenine-Möller, editors. Ray Tracing Gems: High-Quality and Real-Time Rendering with DXR and Other APIs. Apress, Berkeley, CA. ISBN: 978-1-4842-4426-5 978-1-4842-4427-2. doi: [c54w](https://doi.org/10/c54w).
- [2505] Bashar Awwad Shiekh Hasan and John Gan. 2009. Sequential EM for unsupervised adaptive Gaussian mixture model based classifier. In *Machine Learning and Data Mining in Pattern Recognition*. Volume 5632, 96–106.
- [2506] Felix Heide. 2012. Waveform Inversion for Lambertian Objects Using Transient Imaging. University of British Columbia.
- [2507] Eric Heitz. 2018. Generating Random Segments from Non-Uniform Distributions. Research Report hal-01745725. Unity Technologies, (March 2018).
- [2508] W. L. Hendry, K. D. Lathrop, S. Vandervoort, and J. Wooten. 1970. Bibliography on Neutral Particle Transport Theory. LA-4287-MS. United States Atomic Energy Commission.
- [2509] Christophe Hery. 2012. Texture Mapping for the Better Dipole Model. 12-11. Pixar.
- [2510] Christophe Hery and Ravi Ramamoorthi. 2012. Importance Sampling of Reflections from Hair Fibers. 12-11. Pixar Animation Studios.
- [2511] Kerstin Hesse, Ian H. Sloan, and Robert S. Womersley. 2010. Handbook of geomathematics. In Willi Freeden, M. Zuhair Nashed, and Thomas Sonar, editors. Chapter Numerical Integration on the Sphere.
- [2512] Jared Hoberock and Nathan Bell. 2010. Thrust: a parallel template library. Version 1.7.0. (2010). <http://thrust.github.io/>.
- [2513] O. E. Lanford III. 1983. On a derivation of the Boltzmann equation. In *Nonequilibrium Phenomena I. The Boltzmann Equation*. J. L. Lebowitz and E. W. Montroll, editors. North Holland, Amst, 3–17.
- [2514] Janine Illian, Antti Penttinen, Helga Stoyan, and Dietrich Stoyan, editors. Statistical Analysis and Modelling of Spatial Point Patterns. John Wiley & Sons.
- [2515] Erdal İnönü and P. F. Zweifel, editors. Developments in Transport Theory. Academic Press, NY.
- [2516] Frederic E. Ives. 1903. Parallax stereogram and process of making same. (April 14, 1903). U.S. patent Patent No. 725567A. Frederic E Ives.
- [2517] Alec Jacobson, Daniele Panozzo, et al. 2016. Libigl: A simple C++ geometry processing library. (2016). <http://libigl.github.io/libigl/>.
- [2518] Wenzel Jakob. 2013. Mitsuba renderer. (2013). <http://www.mitsuba-renderer.org>.
- [2519] Wojciech Jarosz, Matthias Zwicker, and Henrik Wann Jensen. 2008. The Beam Radiance Estimate for Volumetric Photon Mapping. CS2008-0914. University of California, San Diego.
- [2520] H. J. Kall and E. D. Cashwell. 1977. Evaluation of Three Monte Carlo Estimation Schemes for Flux at a Point. LA-6865-MS. Los Alamos Scientific Lab., N.Mex. (USA), New Mexico, USA, (September 1, 1977). doi: [10/bptfck](https://doi.org/10/bptfck).
- [2521] Hans G. Kaper, Gary K. Leaf, and Arthur J. Lindeman. 1974. An Approximation Procedure for the Neutron Transport Equation Based on the Use of Surface Harmonic Tensors. ANL-8081. Argonne National Laboratory, (February 1974).
- [2522] Hans G. Kaper, Gary K. Leaf, and Arthur J. Lindeman. 1974. Applications of Finite Element Methods in Reactor Mathematics. Numerical Solution of the Neutron Transport Equation. ANL-8126. Argonne National Laboratory, (October 1974).
- [2523] Alexander Keller. 2003. Strictly deterministic sampling methods in computer graphics. In *Monte Carlo Ray Tracing*. ACM SIGGRAPH Course Notes.
- [2524] Renee J. Kelly. 1987. Process for matching color of paint to a colored surface. (September 8, 1987). U.S. patent Patent No. 4692481A. E I du Pont de Nemours and Co.
- [2525] Andrew Kensler. 2013. Correlated Multi-Jittered Sampling. 13-01. Pixar Animation Studios, (March 2013).
- [2526] F. Kerton Musgrave. 2003. QAEB rendering for procedural models. In *Texturing and Modeling: A Procedural Approach*. The Morgan Kaufmann Series in Computer Graphics. David S. Ebert, F. Kerton Musgrave, Darwyn Peachey, Ken Perlin, Steven Worley, William R. Mark, John C. Hart, F. Kerton Musgrave, Darwyn Peachey, Ken Perlin, and Steven Worley, editors. Morgan Kaufmann, San Francisco, (January 1, 2003), 508–526. ISBN: 978-1-55860-848-1. doi: [10/bkwdf2](https://doi.org/10/bkwdf2).
- [2527] A. M. Khounsary, A. C. Cogley, and W. J. Minkowycz. 1988. Invariant imbedding for the solution of vector radiative transfer in general plane-parallel media. In *Wave Propagation and Scattering in Varied Media*. Volume 927. V. K. Varadan and V. V. Varadan, editors. SPIE – The International Society for Optical Engineering, Bellingham, Washington, 68–76.
- [2528] Friedrich Kottler. 1964. The elements of radiative transfer. In *Progress in Optics*. Volume 3. E. Wolf, editor. North Holland, Amst, 3–28.
- [2529] Noriko Kurachi. 2011. BSSRDF models in motion picture production. In *The Magic of Computer Graphics*. (1st edition). CRC Press, 116–119. ISBN: 978-1-56881-577-0.
- [2530] Philip Laven. 2017. MiePlot. (2017). <http://www.philiplaven.com/mieplot.htm>.
- [2531] Philip Laven. [n. d.] Mie scattering. <http://www.philiplaven.com/>.
- [2532] Urs Lehn and Hektor. 2004. In a beautiful place out in the country. In *Wenn Roboter Zeichnen*. Kunstmuseum Solothurn.
- [2533] Jacqueline Lenoble, editor. Standard Procedures to Compute Atmospheric Radiative Transfer in a Scattering Atmosphere. National Center for Atmospheric Research, Boulder, Colorado.
- [2534] Jacqueline Lenoble, editor. Radiative Transfer in Scattering and Absorbing Atmospheres: Standard Computational Procedures. Studies in Geophysical Optics and Remote Sensing. A. Deepak, Hampton, Virginia.
- [2535] M. Lobo and A. F. Emery. 1990. Development of special radiation elements to improve the performance of finite element methods for thermal radiation analysis. In *Radiation Heat Transfer: Fundamentals and Applications*. ASME, NY, 53–64.
- [2536] Marcus A. Magnor, Oliver Grau, Olga Sorkine-Hornung, and Christian Theobalt, editors. Digital Representations of the Real World: How to Capture, Model, and Render Visual Reality. OCLC: ocn911017669. CRC Press, Boca Raton. 431 pages. ISBN: 978-1-4822-4381-9.
- [2537] A. Majumdar and C. L. Tien. 1990. Reflection of radiation by rough fractal surfaces. In *Radiation Heat Transfer: Fundamentals and Applications*. ASME, NY, 27–35.
- [2538] G. I. Marchuk and V. V. Orlov. 1963. The theory of adjoint functions. In *Soviet Progress in Neutron Physics*. P. A. Krupchitskii, editor. Consultants Bureau, NY.
- [2539] Nelson L. Max and Michael J. Allison. 1992. Linear radiosity approximation using vertex-to-vertex form factors. In *Graphics Gems III*. David Kirk, editor. Academic Press, NY, 318–323.

- [2540] N. J. McCormick and I. Kušćer. 1973. Singular eigenfunction expansions in neutron transport theory. In *Advances in Nuclear Science and Technology*. Volume 7. Ernest J. Henley and Jeffery Lewins, editors. Academic Press, NY, (January 1, 1973), 181–282. ISBN: 978-0-12-029307-0. doi: [10/c5h3](#).
- [2541] Stephan Meister, Rahul Nair, Bernd Jähne, and Daniel Kondermann. 2013. Photon Mapping Based Simulation of Multi-Path Reflection Artifacts in Time-of-Flight Sensors. Heidelberg Collaboratory for Image Processing.
- [2542] Donald H. Menzel, editor. Selected Papers on the Transfer of Radiation. Dover Publications, NY.
- [2543] Laurence B. Miller. 1967. Monte Carlo Analysis of Reactivity Coefficients in Fast Reactors; General Theory and Applications. ANL-7307. Argonne National Laboratory, Argonne, IL, USA, (March 1967). doi: [c54x](#).
- [2544] Edward A. Milne. 1930. Thermodynamics of the stars. In *Handbuch Der Astrophysik*, Volume 3, Part I. E. A. Milne, A. Pannekoek, S. Rosseland, and W. Westphal, editors. Springer-Verlag, Berlin. Chapter 2, 65–255.
- [2545] Ranga B. Myneni and Juhan Ross, editors. Photon-Vegetation Interactions. Springer-Verlag, NY.
- [2546] Rahul Nair, Stephan Meister, Martin Lambers, Michael Balda, Hannes Hofmann, Andreas Kolb, Daniel Kondermann, and Bernd Jähne. 2013. Ground truth for evaluating time of flight imaging. In *Time-of-Flight and Depth Imaging. Sensors, Algorithms, and Applications*.
- [2547] M. H. N. Naraghi and B. T. F. Chung. 1985. A new approach for radiative interchange in enclosures with anisotropic media and directional surfaces. In *Radiation Heat Transfer*. ASME, NY, 103–110.
- [2548] M. H. N. Naraghi and J. Huan. 1990. An n-bounce method for analysis of radiative transfer in enclosures with anisotropically scattering media. In *Radiation Heat Transfer: Fundamentals and Applications*. ASME, NY, 107–115.
- [2549] Radford M. Neal. 2011. MCMC using Hamiltonian dynamics. In *Handbook of Markov Chain Monte Carlo*. Volume 2. Steve Brooks, Andrew Gelman, Galin L. Jones, and Xiao-Li Meng, editors. Chapman & Hall/CRC, (May 10, 2011), 113–162. ISBN: 1-4200-7941-7.
- [2550] Fabrice Neyret. 1996. Local Illumination in Deformed Space. RR-2856. INRIA.
- [2551] F. E. Nicodemus, J. C. Richmond, J. J. Hsia, I. W. Ginsberg, and T. Limperis. 1977. Geometric Considerations and Nomenclature for Reflectance. Monograph 161. National Bureau of Standards (US), (October 1977).
- [2552] Kevin Novins, James Arvo, and David Salesin. 1992. Adaptive Error Bracketing for Controlled-Precision Volume Rendering. 92-1312. Department of Computer Science, Cornell University, (November 1992).
- [2553] nVIDIA. 2004. Rainbows and Fogbows: Adding Natural Phenomena. SDK White Paper.
- [2554] M. Ohta and M. Maekawa. 1987. Ray coherence theorem and constant time ray tracing algorithm. In *Proceedings of Computer Graphics International (CGI)*. T. Kunii, editor. Proceedings of CG International '87. Springer-Verlag, NY, 303–314.
- [2555] Art Owen. 2003. Quasi-Monte Carlo sampling. In *Monte Carlo Ray Tracing*. ACM SIGGRAPH Course Notes.
- [2556] Art B. Owen. 2013. Advanced variance reduction. In *Monte Carlo Theory, Methods and Examples*.
- [2557] Andrzej Palczewski. 1984. The Cauchy problem for the Boltzmann equation. A survey of recent results. In *Kinetic Theories and the Boltzmann Equation*. C. Cercignani, editor. Springer-Verlag, NY, 419–424.
- [2558] Rohit Pandharkar, Andreas Velten, and Ramesh Raskar. 2012. Methods and apparatus for estimation of motion and size of non-line-of-sight objects. (November 29, 2012). U.S. patent Patent No. 20120300062A1. Massachusetts Institute of Technology.
- [2559] Mark J. Pavicic. 1990. Convenient anti-aliasing filters that minimize “bumpy” sampling. In *Graphics Gems I*. Andrew S. Glassner, editor. Academic Press, 144–146.
- [2560] Leonid Pekelis, Christophe Hery, Ryusuke Villemin, and Junyi Ling. 2015. A Data-Driven Light Scattering Model for Hair. 15-02. Pixar Animation Studios.
- [2561] Ken Perlin. 2001. Noise hardware. In *Realtime Shading*. ACM SIGGRAPH Course Notes.
- [2562] Bernard Péroche and Holly Rushmeier, editors. Rendering Techniques 2000: Proceedings of the 11th Eurographics Workshop. Springer Computer Science. Springer-Verlag, Wien. 422 pages. ISBN: 978-3-211-83535-7.
- [2563] Hélène Perrier, David Coeurjolly, and Victor Ostromoukhov. 2017. The Uni{corn|form} Tool Kit. (2017). <https://utk-team.github.io/utk/>.
- [2564] Phil Pitts, Arrigo Benedetti, Malcolm Slaney, and Phil Chou. 2014. Time of Flight Tracer. Microsoft.
- [2565] Leslie G. Polgar and John R. Howell. 1965. Directional Thermal-Radiative Properties of Conical Cavities. TN D-2904. NASA, WashDC, (June 1965).
- [2566] G. L. Polyak. 1960. Radiative transfer between surfaces of arbitrary spatial distribution of reflection. In *Convective and Radiative Heat Transfer*. Publishing House of the Academy of Sciences of the USSR, Moscow.
- [2567] Rudolph W. Preisendorfer. 1957. Radiative Transfer Axioms. 57-44. Scripps Institution of Oceanography, Visibility Laboratory, University of California, San Diego, (October 1957).
- [2568] Rudolph W. Preisendorfer. 1957. Unified Radiance Equations. 58-43. Scripps Institution of Oceanography, Visibility Laboratory, University of California, San Diego, (August 1957).
- [2569] Rudolph W. Preisendorfer. 1959. The Axiomatic Basis of the Principles of Radiative Transfer Theory. 59-75. Scripps Institution of Oceanography Visibility Laboratory, University of California, San Diego, (December 1959).
- [2570] Rudolph W. Preisendorfer. 1961. Spatial Semi-Groups in Neutron Transport Theory. General Atomic Report GA-2057. John Jay Hopkins Laboratory of Pure and Applied Science, San Diego, California.
- [2571] Rudolph W. Preisendorfer and Curtis D. Mobley. 1986. Albedo and glitter patterns of a wind-roughened sea surface. In *Ocean Optics VIII*. Volume 637. M. A. Blizard, editor. SPIE – The International Society for Optical Engineering, Bellingham, Washington, 58–65.
- [2572] Matthias Raab, Daniel Seibert, and Alexander Keller. 2008. Unbiased global illumination with participating media. In *Monte Carlo and Quasi-Monte Carlo Methods*. Alexander Keller, Stefan Heinrich, and Harald Niederreiter, editors. Springer-Verlag, 591–605. ISBN: 978-3-540-74496-2.
- [2573] Ramesh Raskar and James Davis. 2008. 5D Time-Light Transport Matrix: What Can We Reason about Scene Properties? MIT, (March 2008).
- [2574] Aristides A. G. Requicha and Herbert B. Voelker. 1977. Constructive Solid Geometry. Technical Memorandum 25. Production Automation Project, University of Rochester, (November 1977).
- [2575] Albert Schoenhut. 1908. Toy. (December 15, 1908). U.S. patent Patent No. 907092A. Albert Schoenhut.
- [2576] Albert Schoenhut. 1909. Design for a toy figure. (January 19, 1909). U.S. patent Patent No. D39775S.
- [2577] Thomas W. Sederberg and Eugene Greenwood. 1995. Shape blending of 2-D peicewise curves. In *Mathematical Methods for Curves and Surfaces*. M. Dæhlen, T. Lynche, and L. Schumaker, editors. Vanderbilt University Press, Nashville, 497–506.
- [2578] Benjamin Segovia, Jean-Claude Iehl, and Bernard Péroche. 2007. Coherent Metropolis Light Transport with Multiple-Try Mutations. RR-LIRIS-2007-015. Université Lyon, Lyon, France, (April 2007).
- [2579] Mike Seymour. 2013. The art of digital faces at ICT - digital Emily to digital Ira. (November 25, 2013). <http://www.fxguide.com/featured/the-art-of-digital-faces-at-ict-from-digital-emily-to-digital-ira/>.
- [2580] Charles J. Sherman and Kenneth S. Simone. 1989. Process for manufacturing paints. (December 12, 1989). U.S. patent Patent No. 4887217A. Sherwin Williams Co.
- [2581] Peter Shirley. 1992. Nonuniform random point sets via warping. In *Graphics Gems III*. David Kirk, editor. Academic Press, San Francisco, 80–83. ISBN: 978-0-12-409673-8. doi: [c54z](#).
- [2582] Peter Shirley and Kenneth Chiu. 1995. Notes on Adaptive Quadrature on the Hemisphere. 411. Indiana University.
- [2583] A. M. Smith and T. F. Smith, editors. Fundamentals and Applications of Radiation Heat Transfer. Proceedings of the 24th National Heat Transfer Conference and Exhibition. ASME, NY.
- [2584] Adam Smith, James Skorupski, and James Davis. 2008. Transient Rendering. UCSC-SOE-08-26. School of Engineering, University of California, Santa Cruz.
- [2585] N. M. Steen. 1966. A Simple Method to Improve the Efficiency of the Σ Estimator in Certain Monte Carlo Programs. WAPD-TM-609. Bettis Atomic Power Lab., Pittsburgh, Pa., (January 1, 1966).
- [2586] John C. Stewart. 1967. Some topics in radiative transfer. In *Developments in Transfer Theory*. Erdal İnönü and P. F. Zweifel, editors. Academic Press, NY, 113–148.
- [2587] Kelvin Sung and Peter Shirley. 1992. Ray tracing with the BSP tree. In *Graphics Gems III*. David Kirk, editor. Academic Press, 271–274.
- [2588] T. M. Sutton, F. B. Brown, F. G. Bischoff, D. B. MacMillan, C. L. Ellis, J. T. Ward, C. T. Ballinger, D. J. Kelly, and L. Schindler. 1999. The Physical Models and Statistical Procedures Used in the RACER Monte Carlo Code. KAPL-4840. Knolls Atomic Power Laboratory, Niskayuna, NY, USA, (July 1999). doi: [fw23jr](#).
- [2589] Patrick C. Teo, Eero P. Simoncelli, and David J. Heeger. 1997. Efficient Linear Re-Rendering for Interactive Lighting Design. STAN-CS-TN-97-60. Department of Computer Science, Stanford University, Stanford, CA, (October 1997).
- [2590] The Embree developers. 2013. Embree: high performance ray tracing kernels. (2013). <http://embree.github.io/>.
- [2591] 2000. The light of Mies van der Rohe. In collaboration with Stephen Duck. Animation in SIGGRAPH’2000 Electronic Theater. (July 2000).
- [2592] The OpenMP ARB. 2013. OpenMP. (2013). <http://openmp.org/>.
- [2593] Greg Turk. 1990. Generating random points in triangles. In *Graphics Gems*. Andrew S. Glassner, editor. Academic Press, NY, 24–28.
- [2594] Greg Turk and James F. O’Brien. 1999. Variational Implicit Surfaces. GIT-GVU-99-15. Georgia Institute of Technology.

- [2595] George N. Walton. 1987. Algorithms for calculating radiation view factors between plane convex polygons with obstructions. In *Fundamentals and Applications of Radiation Heat Transfer (24th National Heat Transfer Conference and Exhibition)*. Volume HTD-Vol. 72. ASME, NY, (August 1987), 45–52.
- [2596] Changyaw Wang. 1992. Physically correct direct lighting for distribution ray tracing. In *Graphics Gems III*. David Kirk, editor. Academic Press, NY, 301–312.
- [2597] Greg Ward. 1991. Real pixels. In *Graphics Gems II*. James Arvo, editor. Morgan Kaufmann, San Diego, 80–83. ISBN: 978-0-08-050754-5. doi: [gfzqh4](#).
- [2598] Tim Weyrich, Wojciech Matusik, Hanspeter Pfister, Addy Ngan, and Markus Gross. 2005. Measuring Skin Reflectance and Subsurface Scattering. Mitsubishi Electric Research Laboratories (MERL).
- [2599] Eugene P. Wigner. 1961. Mathematical problems of nuclear reactor theory. In *Nuclear Reactor Theory. Proceedings of the Eleventh Symposium in Applied Mathematics*. The Annals of Mathematical Statistics, Prov, 89–104.
- [2600] M. M. R. Williams. 1973. The Wiener-Hopf technique: an alternative to the singular eigenfunction method. In *Advances in Nuclear Science and Technology*. Volume 7. E. J. Henley and J. Lewins, editors. Plenum, NY, 283–327.
- [2601] Magnus Wrenninge, Ryusuke Villemin, and Christophe Hery. 2017. Path Traced Subsurface Scattering Using Anisotropic Phase Functions and Non-Exponential Free Flights. Technical Memo 17-07. Pixar.
- [2602] Brian Wyvill, Andrew Guy, and Eric Galin. 1998. The Blob Tree- Warping, Blending and Boolean Operations in an Implicit Surface Modeling System. University of Calgary, (March 1, 1998). doi: [gfz57d](#).
- [2603] Ziro Yamauti. 1927. Further Study of Geometrical Calculations of Illumination Due to Light from Luminescent Surface Sources of Simple Forms. 194. Researches of the Electrotechnical Laboratory, Ministry of Communications, Tokyo, Japan.
- [2604] Ziro Yamauti. 1929. The Amount of Flux Incident to Rectangular Floor through Rectangular Windows. 250. Researches of the Electrotechnical Laboratory, Ministry of Communications, Tokyo, Japan, (April 1929).
- [2605] Ziro Yamauti. 1932. Theory of Field of Illumination. 339. Researches of the Electrotechnical Laboratory, Ministry of Communications, Tokyo, Japan, (October 1932).
- [2606] C. D. Zerby, R. B. Curtis, and H. W. Bertini. 1961. The Relativistic Doppler Problem. ORNL-61-7-20. Oak Ridge National Laboratory, Oak Ridge, TN, USA, (July 1961). doi: [c542](#).
- [2607] Paul F. Zweifel. 1981. The Boltzmann equation and its properties. In *Kinetic Theories and the Boltzmann Equation*. C. Cercignani, editor. Springer-Verlag, NY, 111–175.