

CS488/688

Fall 2017

References

University of Waterloo

Department of Computer Science

Instructor: Stephen Mann

August 31, 2017

CS488/688 F17

General References

References

- [1] Kurt Akeley and Tom Jermoluk. High-performance polygon rendering. *Computer Graphics (SIGGRAPH)*, 22(4):239–246, August 1988.
- [2] Kurt X. Akeley and Tom Jermoluk. High-performance polygon rendering. *Computer Graphics (SIGGRAPH)*, 22(4):239–246, August 1988.
- [3] John Amanatides. Ray tracing with cones. *Computer Graphics (SIGGRAPH)*, 18(3):129–136, July 1984.
- [4] David Baraff and Andrew Witkin. Large steps in cloth simulation. In *Computer Graphics (SIGGRAPH) Proceedings*, pages 43–54, July 1998.
- [5] Ronen Barzel and Alan H. Barr. A modeling system based on dynamic constraints. *Computer Graphics (SIGGRAPH)*, 22(4):179–188, August 1988.
- [6] Gary Bishop and David M. Weimer. Fast phong shading. *Computer Graphics (SIGGRAPH)*, 20(4):103–106, August 1986.

- 2 CS488/688, Fall 2017, Introduction to Computer Graphics, 150/156
- [7] James F. Blinn. Raster graphics. *Tutorial: Computer Graphics (SIGGRAPH)*, 12(3):150-156, August 1979.
- [8] James F. Blinn. How many ways can you draw a circle? *IEEE Computer Graphics (SIGGRAPH) and Applications*, 7(8):39-44, August 1987.
- [9] James F. Blinn. Return of the jaggy. *IEEE Computer Graphics (SIGGRAPH) and Applications*, 9(2):82-89, March 1989.
- [10] James F. Blinn. The truth about texture mapping. *IEEE Computer Graphics (SIGGRAPH) and Applications*, 10(2):78-83, March 1990.
- [11] James F. Blinn. Hyperbolic interpolation. *IEEE Computer Graphics (SIGGRAPH) and Applications*, 12(4):89-94, July 1992.
- [12] James F. Blinn. A trip down the graphics pipeline: Grandpa, what does viewport mean? *IEEE Computer Graphics (SIGGRAPH) and Applications*, 12(1):83-87, January 1992.
- [13] James F. Blinn. A trip down the graphics pipeline: Line clipping. *IEEE Computer Graphics (SIGGRAPH) and Applications*, 11(1):98-105, January 1992.
- [14] James F. Blinn. A trip down the graphics pipeline: Pixel coordinates. *IEEE Computer Graphics (SIGGRAPH) and Applications*, 11(4):81-85, July 1992.
- [15] James F. Blinn. A trip down the graphics pipeline: The homogeneous perspective transform. *IEEE Computer Graphics (SIGGRAPH) and Applications*, 13(3):75-80, May 1993.
- [16] James F. Blinn and Martin E. Newell. Texture and reflection in computer generated images. *Communications of the ACM*, 19(10):542-547, October 1976.
- [17] James F. Blinn and Martin E. Newell. Clipping using homogeneous coordinates. *Computer Graphics (SIGGRAPH)*, 12(3):245-251, August 1978.
- [18] J.F. Blinn. Simulation of wrinkled surfaces. *Computer Graphics (SIGGRAPH)*, 12(3), July 1978.
- [19] Normand Bri e and Pierre Poulin. Adaptive representation of specular light flux. In *Graphics Interface Proceedings*, pages 137-144, May 2000.
- [20] Loren Carpenter. The a-buffer, an antialiased hidden surface method. *Computer Graphics (SIGGRAPH)*, 18(3):103-108, July 1984.
- [21] Loren C. Carpenter. Computer rendering of fractal curves and surfaces. *SIGGRAPH '80 Conference Proceedings Supplement*, 13(3):9-15, August 1980.
- [22] Edwin Catmull. Computer display of curved surfaces. *Proceedings of the IEEE Conference on Computer Graphics (SIGGRAPH), Pattern Recognition, and Data Structure*, 18(3):11-17, May 1975.
- [23] Edwin Catmull. The problems of computer-assisted animation. *Computer Graphics (SIGGRAPH)*, 12(3):348-352, August 1978.

- [24] Chun-Fa Chang, Gary Bishop, and Anselmo Lastra. Ldi tree: A hierarchical representation for image-based rendering. In *Computer Graphics (SIGGRAPH) Proceedings*, pages 291–198, August 1999.
- [25] Michael Chen, S.Joy Mountford, and Abigail Sellen. A study in interactive 3-d rotation using 2-d control devices. *SIGGRAPH '88*, 22(4):121–129, August 1988.
- [26] Michael Cohen, Eric Chen Shenchang, John Wallace, and Donald Greenberg. A progressive refinement approach to fast radiosity image generation. *SIGGRAPH '88*, 22(4):75–84, August 1988.
- [27] R. Cook, T. Porter, and L. Carpenter. Distributed ray tracing. *Computer Graphics (SIGGRAPH)*, 18(3):137–145, July 1984.
- [28] R.L. Cook. Stochastic sampling in computer graphics (siggraph). *ACM Transactions on Graphics*, 5(1):51–72, January 1986.
- [29] R.L. Cook, Thomas Porter, and Loren Carpenter. Distributed ray tracing. *Computer Graphics (SIGGRAPH)*, 18(3):137–146, July 1984.
- [30] R.L. Cook and K.E. Torrance. A reflection model for computer graphics (siggraph). *Computer Graphics (SIGGRAPH)*, 15(3):307–316, August 1981.
- [31] Robert L. Cook, Loren Carpenter, and Edwin Catmull. The reyes image rendering architecture. *Computer Graphics (SIGGRAPH)*, 21(4):95 102, July 1987.
- [32] Robert L. Cook, Thomas Porter, and Loren Carpenter. Distributed ray tracing. *Computer Graphics (SIGGRAPH)*, 18(3):137 145, July 1984.
- [33] Robert L. Cook and Kenneth E. Torrance. Reflectance model for computer graphics (siggraph). *ACM Transactions on Graphics*, 1(1):7 24, January 1982.
- [34] Frank C. Crow. The aliasing problem in computer generated shaded images. *Communications of the ACM*, 20(11):799–805, November 1977.
- [35] Frank C. Crow. Shaded computer graphics (siggraph) in the entertainment industry. *IEEE Computer*, 11(3):799–805, March 1978.
- [36] Frank C. Crow. The use of grayscale for improved raster display of vectors and characters. *Computer Graphics (SIGGRAPH)*, 12(3):1 5, August 1978.
- [37] Franklin C. Crow. Parallelism in rendering algorithms. *Graphics Interface '88 Conference Proceedings*, 12(3):87 96, June 1988.
- [38] Tony DeRose. Geometric programming: A coordinate-free approach. *SIGGRAPH '88 Tutorial Notes: Course 25*, 12(3):87 96, August 1988.
- [39] Tony DeRose, Michael Kass, and Tien Truong. Subdivision surfaces in character animation. In *Computer Graphics (SIGGRAPH) Proceedings*, pages 85–94, July 1998.
- [40] Mathieu Desbrun and Marie-Paule Cani-Gascuel. Active implicit surface for animation. In *Graphics Interface Proceedings*, pages 143–150, June 1998.

- 4[41] CS488/688, Fall 2017, Introduction to Computer Graphics
Mathieu Desbrun, Peter Schneider, and Al Barr. Interactive animation of structured deformable objects. In *Graphics Interface Proceedings*, pages 1–8, June 1999.
- [42] Oliver Deussen and Bernd Lintermann. A modelling method and user interface for creating plants. In *Graphics Interface Proceedings*, pages 189–197, May 1997.
- [43] M.A. Dipp’e and E.H. Wold. Anti-aliasing through stochastic sampling. *Computer Graphics (SIGGRAPH)*, 19(3):69–78, July 1985.
- [44] Mark Dippe and John Swensen. An adaptive subdivision algorithm and parallel architecture for realistic image synthesis. *Computer Graphics (SIGGRAPH)*, 18(3):149–158, July 1984.
- [45] Mark A. Z. Dipp’e and Erling Henry Wold. Antialiasing through stochastic sampling. *Computer Graphics (SIGGRAPH)*, 19(3):69–78, July 1985.
- [46] Yoshinori Dobashi, Kazufumi Kaneda, Hideo Yamashita, Tsuyoshi Okita, and Tomoyuki Nishita. A simple, efficient method for realistic animation of clouds. In *Computer Graphics (SIGGRAPH) Proceedings*, pages 19–28, July 2000.
- [47] Paul Fearing. Computer modelling of fallen snow. In *Computer Graphics (SIGGRAPH) Proceedings*, pages 37–46, July 2000.
- [48] R. P. Feynman, R. B. Leighton, and M. Sands. Color vision. *The Feynman Lectures on Physics*, 19(3):354–363, July 1977.
- [49] James D. Foley and Victor L. Wallace. The art of natural man-machine conversation. *Proceedings of the IEEE*, 62(4):462–471, April 1974.
- [50] Deborah Fowler, Hans Meinhardt, and Przemyslaw Prusinkiewicz. Modeling seashells. *SIGGRAPH ’92*, 26(2):379–387, July 1992.
- [51] Sarah Frisken, Ronald Perry, Lyn Rockwood, and Thouis Jones. Adaptively sampled distance fields. In *Computer Graphics (SIGGRAPH) Proceedings*, pages 249–254, July 2000.
- [52] Andrew S. Glassner. Space subdivision for fast ray tracing. *IEEE Computer Graphics (SIGGRAPH) and Applications*, 4(10):15–22, October 1984.
- [53] Andrew S. Glassner. Spacetime ray tracing for animation. *IEEE Computer Graphics (SIGGRAPH) and Applications*, 8(2):60–70, March 1988.
- [54] A.S. Glassner. Space subdivision for fast ray tracing. *IEEE Transactions on Computer Graphics (SIGGRAPH) and Applications*, 4(10):15–22, October 1984.
- [55] Ronald N. Goldman. Illicit expressions in vector algebra. *ACM Transactions on Graphics*, 4(3):223–243, July 1985.
- [56] Cindy M. Goral, Kenneth E. Torrance, Donald P. Greenberg, and Bennett Battaile. Modeling the interaction of light between diffuse surfaces. *Computer Graphics (SIGGRAPH)*, 18(3):213–222, July 1984.
- [57] Ralph N. Haber and Leland Wilkinson. Perceptual components of computer displays. *IEEE Computer Graphics (SIGGRAPH) and Applications*, 2(3):23–35, May 1982.

- [58] Robert A. Hall and D.P. Greenberg. A testbed for realistic image synthesis. *IEEE Computer Graphics (SIGGRAPH) and Applications*, 3(8):10–20, November 1983.
- [59] Michael Halle. Multiple viewpoint rendering. In *Computer Graphics (SIGGRAPH) Proceedings*, pages 242–254, July 1998.
- [60] Pat Hanrahan, David Salzman, and Larry Aupperle. A rapid hierarchical radiosity algorithm. *SIGGRAPH '91*, 25(4):197–206, July 1991.
- [61] Patrick Hanrahan. Ray tracing algebraic surfaces. *Computer Graphics (SIGGRAPH)*, 17(3):83–90, July 1983.
- [62] Paul S. Heckbert. Writing a ray tracer. *SIGGRAPH '88 Tutorial Notes: Course 10*, 25(4):197–206, August 1988.
- [63] P.S. Heckbert and Patrick Hanrahan. Beam tracing polygonal objects. *Computer Graphics (SIGGRAPH)*, 18(3):119–128, July 1984.
- [64] Wolfgang Heidrich and Hans-Peter Seidel. Realistic hardware-accelerated shading and lighting. In *Computer Graphics (SIGGRAPH) Proceedings*, pages 171–178, August 1999.
- [65] Edward W. Herold. History and development of the color picture tube. *Proceedings of the SID*, 15(4):141–149, August 1974.
- [66] David S. Immel, Michael F. Cohen, and Donald P. Greenberg. A radiosity method for non-diffuse environments. *Computer Graphics (SIGGRAPH)*, 20(4):133–142, August 1986.
- [67] A. B. Jaffe and R. N. Mills. Color hard copy for computer systems. *Proceedings of the SID*, 24(3):219–234, August 1983.
- [68] Henrik Wann Jensen and Per Christensen. Efficient simulation of light transport in scenes with participating media using photon maps. In *Computer Graphics (SIGGRAPH) Proceedings*, pages 311–320, July 1998.
- [69] James T. Kajiya. The rendering equation. *Computer Graphics (SIGGRAPH)*, 20(4):143–150, August 1986.
- [70] J.T. Kajiya. Ray tracing parametric patches. *Computer Graphics (SIGGRAPH)*, 16(3):245–254, July 1982.
- [71] J.T. Kajiya. New techniques for ray tracing procedurally defined objects. *Computer Graphics (SIGGRAPH)*, 18(3):91–99, July 1983.
- [72] J.T. Kajiya. New techniques for ray tracing procedurally defined objects. *Transactions on Graphics*, 2(3):161–181, July 1983.
- [73] J.T. Kajiya. The rendering equation. *Computer Graphics (SIGGRAPH)*, 20(3):143–150, August 1986.
- [74] J.T. Kajiya and B.P. Von Herzen. Ray tracing volume densities. *Computer Graphics (SIGGRAPH)*, 18(3):165–174, July 1984.

- 6 [75] Jan Krautz and Michael McCool. Approximation of glossy reflection with pre-rendered environment maps. In *Graphics Interface Proceedings*, pages 119–126, May 2000.
- [76] M. Lee, R. Redner, and S. Uselton. Statistically optimized sampling for distributed ray tracing. *Computer Graphics (SIGGRAPH)*, 19(3):61–68, July 1985.
- [77] You-Dong Liang and Brian A. Barsky. A new concept and method for line clipping. *ACM Transactions on Graphics*, 3(1):1–22, January 1984.
- [78] Oleg Mazarak, Claude Martins, and John Amanatides. Animating exploding objects. In *Graphics Interface Proceedings*, pages 211–218, June 1999.
- [79] T.H. Meyer and Ivan E. Sutherland. On the design of display processors. *Communications of the ACM*, 11(6):119–128, June 1968.
- [80] James C. Michener and Andries van Dam. A functional overview of the core system with glossary. *Computing Surveys*, 10(4):381–387, December 1978.
- [81] D.P. Mitchell. Generating antialiased images at low sampling densities. *Computer Graphics (SIGGRAPH)*, 21(4):65–72, July 1987.
- [82] Michael Neff and Eugene Fiume. A visual model for blast waves and fracture. In *Graphics Interface Proceedings*, pages 193–202, June 1999.
- [83] William M. Newman and Andries van Dam. Recent efforts towards graphics standardization. *Computing Surveys*, 10(4):365–380, December 1978.
- [84] J. Painter and K. Sloan. Antialiased ray tracing by adaptive progressive refinement. *Computer Graphics (SIGGRAPH)*, 23(3):281–288, July 1989.
- [85] Yoav I. H. Parish and Pascal Muller. Procedural modeling of cities. In *Computer Graphics (SIGGRAPH) Proceedings*, pages 301–308, August 2002.
- [86] K. Perlin. An image synthesizer. *Computer Graphics (SIGGRAPH)*, 19(3):287–296, July 1985.
- [87] Bui Tuong Phong. Illumination for computer generated pictures. *Communications of the Acm*, 18(6):311–317, June 1975.
- [88] Przemyslaw Prusinkiewicz, Aristid Lindenmayer, and James Hanan. Developmental models of herbaceous plants for computer imagery purposes. *Computer Graphics (SIGGRAPH)*, 22(4):141–150, August 1988.
- [89] William T. Reeves. Particle systems—a technique for modeling a class of fuzzy objects. *Computer Graphics (SIGGRAPH)*, 17(3):359–376, July 1983.
- [90] William T. Reeves and Ricki Blau. Approximate and probabilistic algorithms for shading and rendering structured particle systems. *Computer Graphics (SIGGRAPH)*, 19(3):313–322, July 1985.
- [91] William T. Reeves, David H. Salesin, and Robert L. Cook. Rendering antialiased shadows with depth maps. *Computer Graphics (SIGGRAPH)*, 21(4):283–291, July 1987.

- [92] B. E. Rogowitz. The human visual system: A guide for the display technologist. *Proceedings of the SID*, 24(3):235–252, July 1983.
- [93] S.D. Roth. Ray tracing for modeling solids. *Computer Graphics (SIGGRAPH) and Image Processing*, 18(3):109–144, July 1982.
- [94] S.M. Rubin and T.A. Whitted. Three-dimensional representation for fast rendering of complex scenes. *Computer Graphics (SIGGRAPH)*, 14(3):110–116, July 1980.
- [95] Symon Rusinkiewica and Marc Levoy. Qsplat: A multiresolution point rendering system for large models. In *Computer Graphics (SIGGRAPH) Proceedings*, pages 343–352, July 2000.
- [96] Hanan Samet and Robert E. Webber. Hierarchical data structures and algorithms for computer graphics (siggraph), part i. *IEEE Computer Graphics (SIGGRAPH) and Applications*, 8(3):48–68, May 1988.
- [97] Hanan Samet and Robert E. Webber. Hierarchical data structures and algorithms for computer graphics (siggraph), part ii. *IEEE Computer Graphics (SIGGRAPH) and Applications*, 8(4):59–75, July 1988.
- [98] Bruce J. Schachter. Computer image generation for flight simulation. *IEEE Computer Graphics (SIGGRAPH) and Applications*, 1(4):29–68, October 1981.
- [99] T.W. Sederberg and D.C. Anderson. Ray tracing steiner patches. *Computer Graphics (SIGGRAPH)*, 18(3):159–164, July 1984.
- [100] Jonathan Shade, Steven Gotler, Li wei He, and Richard Szeliski. Layered depth images. In *Computer Graphics (SIGGRAPH) Proceedings*, pages 231–242, July 1998.
- [101] Ken Shoemake. Animating rotation with quaternion curves. *Computer Graphics (SIGGRAPH)*, 19(3):245–254, July 1985.
- [102] Richard G. Shoup. Color table animation. *Computer Graphics (SIGGRAPH)*, 13(3):8–13, August 1979.
- [103] Gene Smarte and Nicholas M. Baran. Face to face. *Byte*, 13(9):243–252, September 1988.
- [104] Alvy Ray Smith. Plants, fractals, and formal languages. *Computer Graphics (SIGGRAPH)*, 18(3):1–10, July 1984.
- [105] Jeffrey Smith, Andrew Witkin, and David Baraff. Fast and controllable simulation of the shattering of brittle objects. In *Graphics Interface Proceedings*, pages 27–34, May 2000.
- [106] John M. Snyder and Alan H. Barr. Ray tracing complex models containing surface tessellations. *Computer Graphics (SIGGRAPH)*, 21(4):119–128, July 1987.
- [107] Jos Stam. Exact evaluation of catmull-clark subdivision surfaces at arbitrary parameter values. In *Computer Graphics (SIGGRAPH) Proceedings*, pages 395–404, July 1998.
- [108] Jos Stam. Diffraction shaders. In *Computer Graphics (SIGGRAPH) Proceedings*, pages 101–110, August 1999.

- CS488/688 Fall 2017 Introduction to Computer Graphics
[109] J. Stam. Stable fluids. In *Computer Graphics (SIGGRAPH) Proceedings*, pages 211–218, August 1999.
- [110] Ivan E. Sutherland. Computer displays. *Scientific American*, 222(6):36–41, June 1970.
- [111] Ivan E. Sutherland and Gary W. Hodgman. Reentrant polygon clipping. *Communications of the ACM*, 17(1):32–42, January 1974.
- [112] Greg Turk. Generating textures for arbitrary surfaces using reaction-diffusion. *SIGGRAPH '91*, 25(4):289–198, July 1991.
- [113] Marcelo Walter, Alain Fournier, and Mark Reimers. Clonal mosaic model for the synthesis of mammalian coat patterns. In *Graphics Interface Proceedings*, June 1998.
- [114] Hank Weghorst, Gary Hooper, and Donald P. Greenberg. Improved computational methods for ray tracing. *ACM Transactions on Graphics*, 3(1):52–69, January 1984.
- [115] Hank Weghorst, Gary Hooper, and D.P. Greenberg. Improved computational methods for ray tracing. *ACM Transactions on Graphics*, 3(1):52–69, January 1984.
- [116] Li-Yi Wei and Marc Levoy. Fast texture synthesis using tree-structured vector quantization. In *Computer Graphics (SIGGRAPH) Proceedings*, pages 479–488, July 2000.
- [117] T. Whitted. An improved illumination model for shaded display. *Communications of the Association for Computing Machinery*, 23(6):343–349, June 1980.
- [118] Turner Whitted. An improved illumination model for shaded display. *Communications of the ACM*, 23(6):343–349, June 1980.

CS488/688 F17

Ray Tracing Bibliography

The following references are specifically on ray tracing.

References

- [1] John Amanatides. Ray tracing with cones. *Computer Graphics*, 18(3):129–136, July 1984.
- [2] J.F. Blinn. Simulation of wrinkled surfaces. *Computer Graphics*, 12(3), July 1978.
- [3] R. Cook, T. Porter, and L. Carpenter. Distributed ray tracing. *Computer Graphics*, 18(3):137–145, July 1984.
- [4] R.L. Cook. Stochastic sampling in computer graphics. *ACM Transactions on Graphics*, 5(1):51–72, January 1986.
- [5] R.L. Cook, Thomas Porter, and Loren Carpenter. Distributed ray tracing. *Computer Graphics*, 18(3):137–146, July 1984.

- [6] R.L. Cook and K.E. Torrance. A reflection model for computer graphics. *Computer Graphics*, 15(3):307–316, August 1981.
- [7] M.A. Dippé and E.H. Wold. Anti-aliasing through stochastic sampling. *Computer Graphics*, 19(3):69–78, July 1985.
- [8] Mark Dippe and John Swensen. An adaptive subdivision algorithm and parallel architecture for realistic image synthesis. *Computer Graphics*, 18(3):149–158, July 1984.
- [9] A.S. Glassner. Space subdivision for fast ray tracing. *IEEE Transactions on Computer Graphics and Applications*, 4(10):15–22, October 1984.
- [10] Roy A. Hall and D.P. Greenberg. A testbed for realistic image synthesis. *IEEE Computer Graphics and Applications*, 3(8):10–20, November 1983.
- [11] Patrick Hanrahan. Ray tracing algebraic surfaces. *Computer Graphics*, 17(3):83–90, July 1983.
- [12] P.S. Heckbert and Patrick Hanrahan. Beam tracing polygonal objects. *Computer Graphics*, 18(3):119–128, July 1984.
- [13] J.T. Kajiya. Ray tracing parametric patches. *Computer Graphics*, 16(3):245–254, July 1982.
- [14] J.T. Kajiya. New techniques for ray tracing procedurally defined objects. *Computer Graphics*, 18(3):91–99, July 1983.
- [15] J.T. Kajiya. New techniques for ray tracing procedurally defined objects. *Transactions on Graphics*, 2(3):161–181, July 1983.
- [16] J.T. Kajiya. The rendering equation. *Computer Graphics*, 20(3):143–150, August 1986.
- [17] J.T. Kajiya and B.P. VonHerzen. Ray tracing volume densities. *Computer Graphics*, 18(3):165–174, July 1984.
- [18] M. Lee, R. Redner, and S. Uselton. Statistically optimized sampling for distributed ray tracing. *Computer Graphics*, 19(3):61–68, July 1985.
- [19] D.P. Mitchell. Generating antialiased images at low sampling densities. *Computer Graphics*, 21(4):65–72, July 1987.
- [20] J. Painter and K. Sloan. Antialiased ray tracing by adaptive progressive refinement. *Computer Graphics*, 23(3):281–288, July 1989.
- [21] K. Perlin. An image synthesizer. *Computer Graphics*, 19(3):287–296, July 1985.
- [22] S.D. Roth. Ray tracing for modeling solids. *Computer Graphics and Image Processing*, 18(3):109–144, July 1982.
- [23] S.M. Rubin and T.A. Whitted. Three-dimensional representation for fast rendering of complex scenes. *Computer Graphics*, 14(3):110–116, July 1980.
- [24] T.W. Sederberg and D.C. Anderson. Ray tracing steiner patches. *Computer Graphics*, 18(3):159–164, July 1984.

- 10] CS488/688, Efficiency Issues for Ray Tracing. *Journal of Graphics Tools*, 9(2):14, 1998.
- [25] Brian Smith, Efficiency Issues for Ray Tracing. *Journal of Graphics Tools*, 9(2):14, 1998.
- [26] Hank Weghorst, Gary Hooper, and D.P. Greenberg. Improved computational methods for ray tracing. *ACM Transactions on Graphics*, 3(1):52–69, January 1984.
- [27] T. Whitted. An improved illumination model for shaded display. *Communications of the Association for Computing Machinery*, 23(6):343–349, June 1980.