
References

1. K. Abdel-Malek and H.-J. Yeh. On the determination of starting points for parametric surface intersections. *Computer-Aided Design*, 29(1):21–35, January 1997.
2. S. S. Abhyankar. *Algebraic Geometry for Scientists and Engineers*. American Mathematical Society, Providence, RI, 1990.
3. S. L. Abrams, L. Bardis, C. Chrysostomidis, N. M. Patrikalakis, S. T. Tuohy, F.-E. Wolter, and J. Zhou. The geometric modeling and interrogation system Praxiteles. *Journal of Ship Production*, 11(2):117–132, May 1995.
4. S. L. Abrams, W. Cho, C.-Y. Hu, T. Maekawa, N. M. Patrikalakis, E. C. Sherbrooke, and X. Ye. Efficient and reliable methods for rounded-interval arithmetic. *Computer-Aided Design*, 30(8):657–665, July 1998.
5. P. G. Alourdas. *Shape Creation, Interrogation and Fairing Using B-Splines*. Engineer's thesis, Massachusetts Institute of Technology, Department of Ocean Engineering, Cambridge, Massachusetts, 1989.
6. L.-E. Andersson, T. J. Peters, and N. F. Stewart. Selfintersection of composite curves and surfaces. *Computer Aided Geometric Design*, 15(5):507–527, May 1998.
7. R. K. E. Andersson. Surfaces with prescribed curvature I. *Computer Aided Geometric Design*, 10(5):431–452, October 1993.
8. E. V. Anoshkina, A. G. Belyaev, and T. L. Kunii. Detection of ridges and ravines based on caustic singularities. *International Journal of Shape Modeling*, 1(1):13–22, 1994.
9. E. V. Anoshkina, A. G. Belyaev, O. G. Okunev, and T. L. Kunii. Ridges and ravines: A singularity approach. *International Journal of Shape Modeling*, 1(1):1–11, 1994.
10. ANSI/IEEE Std 754–1985. *IEEE Standard for Binary Floating-Point Arithmetic*. IEEE, New York, 1985. Reprinted in *ACM SIGPLAN Notices*, 22(2):9–25, February 1987.
11. S. Aomura and T. Uehara. Self-intersection of an offset surface. *Computer-Aided Design*, 22(7):417–422, September 1990.
12. C. G. Armstrong, T. K. H. Tam, D. J. Robinson, R. M. McKeag, and M. A. Price. Automatic generation of well structured meshes using medial axis and surface subdivision. In G. A. Gabriele, editor, *Proceedings of the 17th ASME Design Automation Conference: Advances in Design Automation, Vol. 2*, pages 139–146, Miami, FL, September 1991. New York: ASME.
13. G. Aumann. Interpolation with developable Bézier patches. *Computer Aided Geometric Design*, 8(5):409–420, November 1991.
14. F. Aurenhammer. Voronoi diagrams — a survey of fundamental geometric data structure. *ACM Computing Surveys*, 23(3):345–405, September 1991.
15. W. Auzinger and H. J. Stetter. An elimination algorithm for the computation of zeros of a system of multivariate polynomial equations. In R. P. Agarwal,

- Y. M. Chow, and S. J. Wilson, editors, *Numerical Mathematics, Singapore, 1988, International Series of Numerical Mathematics, Volume 86*, pages 11–30. Birkhäuser Verlag, Boston Basel Berlin, 1988.
16. C. Bajaj, J. Chen, and G. Xu. Modeling with cubic A-patches. *ACM Transactions on Graphics*, 14(2):103–133, April 1995.
17. C. L. Bajaj, C. M. Hoffmann, J. E. Hopcroft, and R. E. Lynch. Tracing surface intersections. *Computer Aided Geometric Design*, 5(4):285–307, November 1988.
18. R. E. Barnhill, G. Farin, L. Fayard, and H. Hagen. Twists, curvatures and surface interrogation. *Computer-Aided Design*, 20(6):341–346, July 1988.
19. R. E. Barnhill, G. Farin, M. Jordan, and B. R. Piper. Surface/surface intersection. *Computer Aided Geometric Design*, 4(1-2):3–16, July 1987.
20. R. E. Barnhill and S. N. Kersey. A marching method for parametric surface / surface intersection. *Computer Aided Geometric Design*, 7(1-4):257–280, June 1990.
21. R. C. Beach. *An Introduction to the Curves and Surfaces of Computer-Aided Design*. Van Nostrand Reinhold, New York, 1991.
22. J. M. Beck, R. T. Farouki, and J. K. Hinds. Surface analysis methods. *IEEE Computer Graphics and Applications*, 6(12):18–36, December 1986.
23. K.-P. Beier and Y. Chen. Highlight–line algorithm for realtime surface-quality assessment. *Computer-Aided Design*, 26(4):268–277, April 1994.
24. M. V. Berry and J. H. Hannay. Umbilic points on Gaussian random surfaces. *Journal of Physics A.*, 10(11):1809–1821, 1977.
25. D. Blackmore, M. C. Leu, and L. P. Wang. Sweep-envelope differential equation algorithm and its application to NC machining verification. *Computer-Aided Design*, 29(9):629–637, September 1997.
26. W. Blaschke. *Kreis und Kugel*. Walter de Gruyter and Co., Berlin, 1956.
27. C. Blik. *Computer Methods for Design Automation*. PhD thesis, Massachusetts Institute of Technology, Cambridge, MA, July 1992.
28. G. A. Bliss. The geodesic lines on the anchor ring. *Annals of Mathematics*, 4:1–21, October 1902.
29. H. Blum. Biological shape and visual science (part I). *Journal of Theoretical Biology*, 38:205–287, 1973.
30. H. Blum. A transformation for extracting new descriptors of shape. *Models for the Perception of Speech and Visual Form*, pages 362–381, ed: Weinant Wathen-Dunn MIT Press, 1967.
31. H. Blum and R. N. Nagel. Shape description using weighted symmetric axis features. *Pattern Recognition*, 10(3):167–180, 1978.
32. R. M. C. Bodduluri and B. Ravani. Design of developable surfaces using duality between plane and point geometries. *Computer-Aided Design*, 25(10):621–632, October 1993.
33. W. Boehm. Cubic b-spline curves and surfaces in computer aided geometric design. *Computing*, 19:29–34, 1977.
34. W. Boehm. Inserting new knots into B-spline curves. *Computer-Aided Design*, 12(4):199–201, July 1980.
35. W. Boehm. Subdividing multivariate splines. *Computer-Aided Design*, 15(6):345–352, November 1983.
36. F. L. Bookstein. The line skeleton. *Computer Graphics and Image Processing*, 11:123–137, 1979.
37. M. Brady, J. Ponce, A. Yuille, and H. Asada. Describing surfaces. *Computer Vision, Graphics and Image Processing*, 32(1):1–28, October 1985.

38. J. W. Brandt. *Theory and Application of the Skeleton Representation of Continuous Shapes*. PhD thesis, University of California, Davis, CA, December 1991.
39. J. W. Brandt. Describing a solid with the three-dimensional skeleton. In J. D. Warren, editor, *Proceedings of The International Society for Optical Engineering, Volume 1830, Curves and Surfaces in Computer Vision and Graphics III*, pages 258–269. SPIE, Boston, Massachusetts, 1992.
40. J. W. Brandt. Convergence and continuity criteria for discrete approximations of the continuous planar skeleton. *CVGIP: Image Understanding*, 59(1):116–124, January 1994.
41. J. W. Brandt and V. R. Algazi. Continuous skeleton computation by Voronoi diagram. *CVGIP: Image Understanding*, 55(3):329–338, May 1992.
42. J. W. Brandt and V. R. Algazi. Lossy encoding of document images with the continuous skeleton. In P. Maragos, editor, *Visual Communications and Image Processing '92, SPIE 1818*, pages 663–673, 1992.
43. J. W. Brandt, A. K. Jain, and V. R. Algazi. Medial axis representation and encoding of scanned documents. *Journal of Visual Communication and Image Representation*, 2(2):151–165, June 1991.
44. E. L. Brechner. General tool offset curves and surfaces. In R. E. Barnhill, editor, *Geometry Processing for Design and Manufacturing*, pages 101–121. SIAM, 1992.
45. P. Brunet, A. Vinacua, M. Vivo, N. Pla, and A. Rodriguez. Surface fairing for ship hull design application. *Mathematical Engineering in Industry*, 7(2):179–193, 1998.
46. B. Buchberger. *Ein Algorithmus zum Auffinden der Basiselemente des Restklassenringes nach einem nulldimensionalen Polynomideal*. PhD thesis, University of Innsbruck, Innsbruck, Austria, 1965.
47. B. Buchberger. Gröbner bases: An algorithmic method in polynomial ideal theory. In N. K. Bose, editor, *Multidimensional Systems Theory: Progress, Directions and Open Problems in Multidimensional Systems*, pages 184–232. Dordrecht, Holland: D. Reidel Publishing Company, 1985.
48. J. F. Canny. *The Complexity of Robot Motion Planning*. MIT Press, Cambridge, MA, 1988.
49. J. F. Canny and I. Z. Emiris. An efficient algorithm for the sparse mixed resultant. In G. Cohen, T. Mora, and O. Moreno, editors, *Proceedings of 10th International Symposium, Applied Algebra, Algebraic Algorithms and Error-Correcting Codes*, pages 89–104. Springer-Verlag, 1993.
50. J. S. Chalfant. Analysis and Design of Developable Surfaces for Shipbuilding. Master's thesis, Massachusetts Institute of Technology, Department of Ocean Engineering, Cambridge, Massachusetts, 1997.
51. B. W. W. Char, K. O. Geddes, G. H. Gonnet, B. L. Leong, M. B. Monagan, and S. M. Watt. *First Leaves: A Tutorial Introduction to Maple V*. Springer-Verlag, 1992.
52. Y. J. Chen and B. Ravani. Offset surface generation and contouring in computer-aided design. *Journal of Mechanisms, Transmissions, and Automation in Design, Transactions of the ASME*, 109(3):133–142, March 1987.
53. K.-P. Cheng. Using plane vector fields to obtain all the intersection curves of two general surfaces. In W. Strasser and H. Seidel, editors, *Theory and Practice of Geometric Modeling*, pages 187–204. Springer-Verlag, New York, 1989.
54. C.-S. Chiang. *The Euclidean Distance Transform*. PhD thesis, Purdue University, West Lafayette, IN, August 1992.
55. C. S. Chiang, C. M. Hoffmann, and R. E. Lynch. How to compute offsets without self-intersection. In M. J. Silberman and D. Tagare, editors, *Proceedings of*

- The SPIE Conference on Curves and Surfaces in Computer Vision and Graphics II*, Volume 1610, pages 76–87, Boston, Massachusetts, 1991. International Society for Optical Engineering.
56. H. Chiyokura. *Solid Modelling with DesignBase*. Addison-Wesley, Reading, MA, 1988.
 57. W. Cho, T. Maekawa, and N. M. Patrikalakis. Topologically reliable approximation of composite Bézier curves. *Computer Aided Geometric Design*, 13(6):497–520, August 1996.
 58. W. Cho, T. Maekawa, N. M. Patrikalakis, and J. Peraire. Topologically reliable approximation of trimmed polynomial surface patches. *Graphical Models and Image Processing*, 61(2):84–109, March 1999.
 59. B. K. Choi and R. Jerard. *Sculptured Surface Machining - Theory and Applications*. Kluwer Academic Publishers, 1998.
 60. B. K. Choi, C. S. Lee, and C. S. Jun. Compound surface modelling and machining. *Computer-Aided Design*, 20(3):127–136, April 1988.
 61. I. Choi and K. Lee. Efficient generation of reflection lines to evaluate car body surfaces. *Mathematical Engineering in Industry*, 7(2):233–250, 1998.
 62. B. Cobb. *Design of Sculptured Surfaces Using the B-spline Representation*. PhD thesis, Computer Science Department, University of Utah, Salt Lake City, Utah, 1984.
 63. E. Cohen, T. Lyche, and R. Riesenfeld. Discrete B-splines and subdivision techniques in computer-aided geometric design and computer graphics. *Computer Graphics and Image Processing*, 14(2):87–111, October 1980.
 64. G. E. Collins and R. Loos. Real zeros of polynomials. In B. Buchberger, G. E. Collins, and R. Loos, editors, *Computer Algebra: Symbolic and Algebraic Computation*, pages 83–94. Springer-Verlag, Vienna, 1982.
 65. S. Coquillart. Computing offsets of B-spline curves. *Computer-Aided Design*, 19(6):305–309, July/August 1987.
 66. T. H. Cormen, C. E. Leiserson, and R. L. Rivest. *Introduction to Algorithms*. MIT Press, Cambridge, MA, 1990.
 67. M. G. Cox. The numerical evaluation of B-splines. *Journal of the Institute for Mathematics Applications*, 10:134–149, 1972.
 68. T. Culver, J. Keyser, and D. Manocha. Accurate computation of the medial axis of a polyhedron. In W. F. Bronsvoort and D. C. Anderson, editors, *In Proceedings of Fifth Symposium on Solid Modeling and Applications*, Ann Arbor, Michigan, pages 179–190. NY: ACM, June 1999.
 69. G. Dahlquist and Å. Björck. *Numerical Methods*. Prentice-Hall, Inc., Englewood Cliffs, NJ, 1974.
 70. P.-E. Danielsson. Euclidean distance mapping. *Computer Graphics and Image Processing*, 14:227–248, 1980.
 71. G. Darboux. *Leçons sur la Théorie Générale des Surfaces, Vol.4*. Gauthier-Villars, Paris, 1896.
 72. C. De Boor. On calculating with B-splines. *Journal of Approximation Theory*, 6:50–62, 1972.
 73. C. De Boor. *A Practical Guide to Splines*. Springer, New York, 1978.
 74. J. C. Dill. An application of color graphics to the display of surface curvature. *ACM Computer Graphics*, 15(3):153–161, August 1981.
 75. Q. Ding and B. J. Davies. *Surface Engineering Geometry for Computer-Aided Design and Manufacture*. Ellis Horwood, Chichester, UK, 1987.
 76. P. M. do Carmo. *Differential Geometry of Curves and Surfaces*. Prentice-Hall, Inc., Englewood Cliffs, NJ, 1976.

77. T. Dokken. Finding intersections of B-spline represented geometries using recursive subdivision techniques. *Computer Aided Geometric Design*, 2(1-3):189–195, September 1985.
78. D. Dragomatz and S. Mann. A classified bibliography of literature on NC milling path generation. *Computer-Aided Design*, 29(3):239–247, March 1997.
79. A. Dresden. *A Solid Analytical Geometry and Determinants*. Dover, New York, 1964.
80. T. Duff. Interval arithmetic and recursive subdivision for implicit functions and constructive solid geometry. *ACM Computer Graphics*, 26(2):131–138, July 1992.
81. D. Dutta and C. M. Hoffmann. A geometric investigation of the skeleton of CSG objects. In B. Ravani, editor, *Proceedings of the 16th ASME Design Automation Conference: Advances in Design Automation, Computer Aided and Computational Design*, volume I, pages 67–75, Chicago, IL, September 1990. New York: ASME, 1990.
82. D. Dutta and C. M. Hoffmann. On the skeleton of simple CSG objects. *Journal of Mechanical Design, ASME Transactions*, 115(1):87–94, March 1993.
83. D. Dutta, R. R. Martin, and M. J. Pratt. Cyclides in surface and solid modeling. *IEEE Computer Graphics and Applications*, 13(1):53–59, January 1993.
84. H. Edelsbrunner and E. P. Mücke. Three-dimensional alpha shapes. *ACM Transactions on Graphics*, 13(1):43–72, 1994.
85. G. Elber and E. Cohen. Error bounded variable distance offset operator for free form curves and surfaces. *International Journal of Computational Geometry and Applications*, 1(1):67–78, March 1991.
86. G. Elber and E. Cohen. Offset approximation improvement by control points perturbation. In T. Lyche and L. L. Schumaker, editors, *Mathematical Methods in Computer Aided Geometric Design II*, pages 229–237. Academic Press, Boston, 1992.
87. G. Elber and E. Cohen. Second-order surface analysis using hybrid symbolic and numeric operators. *ACM Transactions on Graphics*, 12(2):160–178, April 1993.
88. G. Elber, I.-K. Lee, and M. S. Kim. Comparing offset curve approximation methods. *IEEE Computer Graphics and Applications*, 17(3):62–71, May/June 1997.
89. I. Z. Emiris. *Sparse Elimination and Applications in Kinematics*. PhD thesis, University of California at Berkeley, Berkeley, CA, 1994.
90. W. Enger. Interval Ray Tracing - A divide and conquer strategy for realistic computer graphics. *The Visual Computer*, 9(2):91–104, November 1992.
91. M. Etzion and A. Rappoport. Computing the Voronoi diagram of a 3-d polyhedron by separate computation of its symbolic and geometric parts. In W. F. Bronsvoort and D. C. Anderson, editors, *In Proceedings of Fifth Symposium on Solid Modeling and Applications*, Ann Arbor, Michigan, pages 167–178, NY: ACM, June 1999.
92. G. Farin. *Curves and Surfaces for Computer Aided Geometric Design: A Practical Guide*. Academic Press, Boston, MA, 3rd edition, 1993.
93. R. T. Farouki. Exact offset procedures for simple solids. *Computer Aided Geometric Design*, 2(4):257–279, 1985.
94. R. T. Farouki. The approximation of non-degenerate offset surfaces. *Computer Aided Geometric Design*, 3(1):15–43, May 1986.
95. R. T. Farouki. The characterization of parametric surface sections. *Computer Vision, Graphics and Image Processing*, 33(2):209–236, February 1986.

96. R. T. Farouki. Graphical methods for surface differential geometry. In R. R. Martin, editor, *The Mathematics of Surfaces II*, pages 363–385. Clarendon Press, 1987.
97. R. T. Farouki. Hierarchical segmentations of algebraic curves and some applications. In T. Lyche and L. L. Schumaker, editors, *Mathematical Methods in Computer Aided Geometric Design*, pages 239–248. Academic Press, Boston, 1989.
98. R. T. Farouki. On integrating lines of curvature. *Computer Aided Geometric Design*, 15(2):187–192, February 1998.
99. R. T. Farouki and J. K. Johnstone. The bisector of a point and a plane parametric curve. *Computer Aided Geometric Design*, 11(2):117–151, April 1994.
100. R. T. Farouki and J. K. Johnstone. Computing point/curve and curve/curve bisectors. In R. B. Fisher, editor, *The Mathematics of Surfaces V*, pages 327–354. Oxford University, Oxford, 1994.
101. R. T. Farouki and C. A. Neff. Algebraic properties of plane offset curves. *Computer Aided Geometric Design*, 7(1 - 4):101–127, June 1990.
102. R. T. Farouki and C. A. Neff. Analytic properties of plane offset curves. *Computer Aided Geometric Design*, 7(1 - 4):83–99, June 1990.
103. R. T. Farouki and C. A. Neff. Hermite interpolation by Pythagorean hodograph quintics. *Mathematics of Computation*, 64(212):1589–1609, October 1995.
104. R. T. Farouki, C. A. Neff, and M. A. O'Connor. Automatic parsing of degenerate quadric-surface intersections. *ACM Transactions on Graphics*, 8(3):174–203, 1989.
105. R. T. Farouki and V. T. Rajan. On the numerical condition of polynomials in Bernstein form. *Computer Aided Geometric Design*, 4(3):191–216, November 1987.
106. R. T. Farouki and V. T. Rajan. Algorithms for polynomials in Bernstein form. *Computer Aided Geometric Design*, 5(1):1–26, June 1988.
107. R. T. Farouki and V. T. Rajan. On the numerical condition of algebraic curves and surfaces 1. implicit equations. *Computer Aided Geometric Design*, 5(3):215–252, September 1988.
108. R. T. Farouki and T. Sakkalis. Pythagorean hodographs. *IBM Journal of Research and Development*, 34(5):736–752, September 1990.
109. R. T. Farouki and T. Sakkalis. Real rational curves are not ‘unit speed’. *Computer Aided Geometric Design*, 8(2):151–157, May 1991.
110. R. T. Farouki and T. Sakkalis. Pythagorean-hodograph space curves. *Advances in Computational Mathematics*, 2:41–46, 1994.
111. R. T. Farouki and T. W. Sederberg. Analysis of the offset to a parabola. *Computer Aided Geometric Design*, 12(6):639–645, September 1995.
112. R. T. Farouki and S. Shah. Real-time CNC interpolators for Pythagorean-hodograph curves. *Computer Aided Geometric Design*, 13(7):583–600, October 1996.
113. R. T. Farouki and R. Sverrisson. Approximation of rolling-ball blends for free-form parametric surfaces. *Computer-Aided Design*, 28(11):871–878, November 1996.
114. R. T. Farouki, K. Tarabanis, J. U. Korein, J. S. Batchelder, and S. R. Abrams. Offset curves in layered manufacturing. *Journal of Manufacturing Science and Engineering, Transactions of the ASME*, 68(2):557–568, 1994.
115. J. C. Faugere, P. Gianni, D. Lazard, and T. Mora. Efficient computation of zero-dimensional Gröbner bases by change of ordering. *Journal of Symbolic Computation*, 16(4):329–344, 1993.
116. I. D. Faux and M. J. Pratt. *Computational Geometry for Design and Manufacture*. Ellis Horwood, Chichester, England, 1981.

117. J. H. Ferziger. *Numerical Methods for Engineering Applications*. Wiley, 1981.
118. J. D. Foley, A. Van Dam, S. K. Feiner, and J. F. Hughes. *Computer Graphics: Principles and Practice*. Addison-Wesley, Reading, MA, 2nd edition, 1996.
119. A. R. Forrest. Computational geometry. *Proceedings of the Royal Society of London A*, 321:187–195, 1971.
120. W. H. Frey and D. Bindschadler. Computer-aided design of a class of developable Bézier surfaces. R&D Publication 8057, General Motors, September 1993.
121. J. Gallier. *Curves and Surfaces in Geometric Modeling: Theory and Algorithms*. Morgan Kaufmann, San Francisco, CA, 1999.
122. J. Gallier. *Geometric Methods and Applications: For Computer Science and Engineering*. Springer-Verlag, New York, 2001.
123. C. B. Garcia and W. I. Zangwill. Global continuation methods for finding all solutions to polynomial systems of equations in n variables. In A. V. Fiacco and K. O. Kortanek, editors, *Extremal Methods and Systems Analysis*, pages 481–497. Springer-Verlag, New York, NY, 1980.
124. A. Geisow. *Surface Interrogations*. PhD thesis, School of Computing Studies and Accountancy, University of East Anglia, Norwich NR47TJ, U. K., July 1983.
125. S. M. Gelston and D. Dutta. Boundary surface recovery from skeleton curves and surfaces. *Computer Aided Geometric Design*, 12(1):27–51, February 1995.
126. C. F. Gerald and P. O. Wheatley. *Applied Numerical Analysis*. Addison-Wesley, Reading, MA, 4th edition, 1990.
127. G. Glaeser, J. Wallner, and H. Pottmann. Collision-free 3-axis milling and selection of cutting tools. *Computer-Aided Design*, 31(3):225–232, March 1999.
128. D. Goldberg. What every computer scientist should know about floating-point arithmetic. *ACM Computing Surveys*, 23(1):5–48, March 1991.
129. M. Golubitsky and V. Guillemin. *Stable Mappings and their Singularities*. Springer-Verlag, New York, 1973.
130. W. J. Gordon and R. F. Riesenfeld. B-spline curves and surfaces. In R. E. Barnhill and R. F. Riesenfeld, editors, *Computer Aided Geometric Design*, pages 95–126. Academic Press, Inc., 1974.
131. T. A. Grandine. Computing zeroes of spline functions. *Computer Aided Geometric Design*, 6(2):129–136, May 1989.
132. T. A. Grandine. Geometry processing and numerical stability. In G. Farin, J. Hoschek, M. S. Kim, and D. Abma, editors, *The Handbook of Computer Aided Design*. Elsevier, 2001.
133. T. A. Grandine and F. W. Klein. A new approach to the surface intersection problem. *Computer Aided Geometric Design*, 14(2):111–134, 1997.
134. J. A. Grant and G. D. Hitchins. An always convergent minimization technique for the solution of polynomial equations. *Journal of Industrial and Mathematical Applications*, 8:122–129, 1971.
135. J. A. Grant and G. D. Hitchins. Two algorithms for the solution of polynomial equations to limiting machine precision. *The Computer Journal*, 18(3), 1973.
136. A. Gray. *Modern Differential Geometry of Curves and Surfaces*. CRC Press, Boca Raton, 1993.
137. L. Guibas and J. Stolfi. Primitives for the manipulation of general subdivisions and the computation of Voronoi diagrams. *ACM Transactions on Graphics*, 4(2):74–123, April 1985.
138. A. Z. Gurbuz and I. Zeid. Offsetting operations via closed ball approximation. *Computer-Aided Design*, 27(11):805–810, November 1995.

139. H. N. Gursoy. *Shape Interrogation by Medial Axis Transform for Automated Analysis*. PhD thesis, Massachusetts Institute of Technology, Cambridge, MA, November 1989.
140. H. N. Gursoy and N. M. Patrikalakis. Automated interrogation and adaptive subdivision of shape using medial axis transform. *Advances in Engineering Software and Workstations*, 13(5/6):287–302, September/November 1991.
141. H. N. Gursoy and N. M. Patrikalakis. An automated coarse and fine surface mesh generation scheme based on medial axis transform, part I: Algorithms. *Engineering with Computers*, 8(3):121–137, 1992.
142. H. N. Gursoy and N. M. Patrikalakis. An automated coarse and fine surface mesh generation scheme based on medial axis transform, part II: Implementation. *Engineering with Computers*, 8(4):179–196, 1992.
143. C. Gutierrez and J. Sotomayor. Lines of curvature, umbilic points and Carathéodory conjecture. *Resenhas IME-UPS*, 3(3):291–322, 1998.
144. J. Hadenfeld. Local energy fairing of B-spline surfaces. In M. Dæhlen, T. Lyche, and L. L. Schumaker, editors, *Mathematical Methods for Curves and Surfaces*, pages 203–212. Vanderbilt University Press, 1995.
145. H. Hagen, S. Hahmann, and T. Schreiber. Visualization and computation of curvature behaviour of freeform curves and surfaces. *Computer-Aided Design*, 27(7):545–552, July 1995.
146. H. Hagen, S. Hahmann, T. Schreiber, Y. Nakajima, B. Wördenweber, and P. Hollemann-Grundstedt. Surface interrogation algorithms. *IEEE Computer Graphics and Applications*, 12(5):53–60, September 1992.
147. G. D. Hager. Constraint solving methods and sensor-based decision making. In *Proceedings of the 1992 IEEE International Conference on Robotics and Automation*, pages 1662–1667. IEEE, 1992.
148. S. Hahmann and S. Konz. Knot-removal surface fairing using search strategies. *Computer-Aided Design*, 30(12):923–930, February 1998.
149. D. G. Hakala, R. C. Hillyard, B. E. Nourse, and P. J. Malraison. Natural quadrics in mechanical design. In *Proceedings of the Autofact West 1, Anaheim, CA in November, 1980*, pages 363–378, 1980.
150. B. Hamann and J. L. Chen. Data point selection for piecewise trilinear approximation. *Computer Aided Geometric Design*, 11(5):477–489, October 1994.
151. R. W. Hamming. *Numerical Methods for Scientists and Engineers*. McGraw-Hill, New York, 1962.
152. H. Hancock. *Theory of Maxima and Minima*. Dover, New York, 1960.
153. A. Hansen and F. Arbab. An algorithm for generating NC tool paths for arbitrarily shaped pockets with islands. *ACM Transactions on Graphics*, 11(2):152–182, 1992.
154. E. Hartmann. G^2 interpolation and blending on surfaces. *The Visual Computer*, 12(4):181–192, 1996.
155. E. Hartmann. Numerical implicitization for intersection and G^n -continuous blending of surfaces. *Computer Aided Geometric Design*, 15(4):377–397, April 1998.
156. R. N. Hawat and L. A. Piegl. Genetic algorithm approach to curve-curve intersection. *Mathematical Engineering in Industry*, 7(2):269–282, 1998.
157. M. Held. *On the Computational Geometry of Pocket Machining*. Springer-Verlag, Berlin, Germany, 1991.
158. P. Van Hentenryck, D. McAllester, and D. Kapur. Solving polynomial systems using a branch and prune approach. *SIAM Journal on Numerical Analysis*, 34(2):797–827, April 1997.
159. P. Van Hentenryck, L. Michel, and Y. Deville. *Numerica: A Modeling Language for Global Optimization*. MIT Press, Cambridge, MA, 1997.

160. H.-S. Heo, M.-S. Kim, and G. Elber. The intersection of two ruled surfaces. *Computer-Aided Design*, 31(1):33–50, January 1999.
161. T. Hermann, G. Lukacs, and F. E. Wolter. Geometrical criteria on the higher order smoothness of composite surfaces. *Computer Aided Geometric Design*, 16(9):907–911, October 1999.
162. M. Higashi and K. Kaneko. Generation of high-quality curve and surface with smoothly varying curvature. In D. A. Duce and P. Jancene, editors, *Eurographics '88*, pages 79–92, Nice, France, September 1988. North-Holland.
163. M. Higashi, T. Saitoh, Y. Watanabe, and Y. Watanabe. Analysis of aesthetic free-form surfaces by surface edges. In S. Y. Shin and T. L. Kunii, editors, *Proceedings of the Third Pacific Conference on Computer Graphics and Applications, Pacific Graphics '95*, pages 294–305, Seoul, Korea, August 1995. World Scientific.
164. M. Higashi, H. Tsutsumori, and M. Hosaka. Generation of smooth surfaces by controlling curvature variation. *Computer Graphics Forum*, 15(3):187–196, September 1996.
165. D. Hilbert and S. Cohn-Vossen. *Geometry and the Imagination*. Chelsea, New York, 1952.
166. F. B. Hildebrand. *Advanced Calculus for Applications*. Prentice-Hall, Inc., Englewood Cliffs, New Jersey, 1976.
167. C. M. Hoffmann. *Geometric and Solid Modeling: An Introduction*. Morgan Kaufmann Publishers, Inc., San Mateo, California, 1989.
168. C. M. Hoffmann. The problems of accuracy and robustness in geometric computation. *Computer*, 22(3):31–41, March 1989.
169. C. M. Hoffmann. A dimensionality paradigm for surface interrogations. *Computer Aided Geometric Design*, 7(6):517–532, November 1990.
170. C. M. Hoffmann. How to construct the skeleton of CSG objects. In A. Bowyer and J. Davenport, editors, *Proceedings of the Fourth IMA Conference, The Mathematics of Surfaces, University of Bath, UK, September 1990*, pages 421–438, New York, 1994. Oxford University Press.
171. C. M. Hoffmann and G. Vanecek. On alternate solid representations and their uses. Technical Report CSD-TR-91-019, Computer Sciences Department, Purdue University, March 1991.
172. D. H. Hoitsma. Surface curvature analysis. In M. J. Wozny et al., editors, *IFIP TC5/WG5.2 Second Workshop on Geometric Modeling*, pages 21–38, New York, 1988. IFIP, North Holland.
173. M. Hosaka. *Modeling of Curves and Surfaces in CAD/CAM*. Springer-Verlag, New York, 1991.
174. J. Hoschek. Spline approximation of offset curves. *Computer Aided Geometric Design*, 5(1):33–40, June 1988.
175. J. Hoschek and D. Lasser. *Fundamentals of Computer Aided Geometric Design*. A. K. Peters, Wellesley, MA, 1993. Translated by L. L. Schumaker.
176. J. Hoschek and N. Wissel. Optimal approximate conversion of spline curves and spline approximation of offset curves. *Computer-Aided Design*, 20(8):475–483, October 1988.
177. E. G. Houghton, R. F. Emmett, J. D. Factor, and C. L. Sabharwal. Implementation of a divide-and-conquer method for intersection of parametric surfaces. *Computer Aided Geometric Design*, 2(1-3):173–183, September 1985.
178. C. Y. Hu, T. Maekawa, N. M. Patrikalakis, and X. Ye. Robust interval algorithm for surface intersections. *Computer-Aided Design*, 29(9):617–627, September 1997.

179. C. Y. Hu, T. Maekawa, E. C. Sherbrooke, and N. M. Patrikalakis. Robust interval algorithm for curve intersections. *Computer-Aided Design*, 28(6/7):495–506, June/July 1996.
180. C. Y. Hu, N. M. Patrikalakis, and X. Ye. Robust interval solid modeling: Part I, Representations. *Computer-Aided Design*, 28(10):807–817, October 1996.
181. C. Y. Hu, N. M. Patrikalakis, and X. Ye. Robust interval solid modeling: Part II, Boundary evaluation. *Computer-Aided Design*, 28(10):819–830, October 1996.
182. IGES/PDES Organization, U.S. Product Data Association, Fairfax, VA. *Digital Representation for Communication of Product Definition Data, US PRO/IPO-100, Initial Graphics Exchange Specification (IGES) 5.2*, November 1993.
183. C. G. Jensen and D. C. Anderson. A review of numerically controlled methods for finish-sculptured-surface machining. *IEE Transactions*, 28:30–39, 1996.
184. R. B. Jerard, R. L. Drysdale, B. Schaudt, K. Hauck, and J. Magewick. Methods for detecting errors in numerically controlled machining of sculptured surfaces. *IEEE Computer Graphics and Applications*, 9(1):26–39, January 1989.
185. H. T. Jessop and F. C. Harris. *Photoelasticity, Principles and Methods*. New York: Dover Publications, 1950.
186. R. A. Jinkerson, S. L. Abrams, L. Bardis, C. Chrysostomidis, A. Clement, N. M. Patrikalakis, and F.-E. Wolter. Inspection and feature extraction of marine propellers. *Journal of Ship Production*, 9(2):88–106, May 1993.
187. J. P. Jouanolou. Le formalisme du resultant. *Advances in Mathematics*, 90(2):117–263, 1991.
188. J. T. Kajiya. Ray tracing parametric patches. *ACM Computer Graphics*, 16(3):245–254, July 1982.
189. K. Kase, A. Makinouchi, T. Nakagawa, H. Suzuki, and F. Kimura. Shape error evaluation method of free-form surfaces. *Computer-Aided Design*, 31(8):495–505, July 1999.
190. E. Kaufmann and R. Klass. Smoothing surfaces using reflection lines for families of splines. *Computer-Aided Design*, 20(6):312–316, July 1988.
191. R. B. Kearfott. Interval Newton/generalized bisection when there are singularities near roots. *Annals of Operations Research*, 25:181–196, 1990.
192. R. B. Kearfott. Decomposition of arithmetic expressions to improve the behavior of interval iteration for nonlinear systems. *Computing*, 47:169–191, 1991.
193. N. Kehtarnavaz and R. J. P. de Figueiredo. A 3-D contour segmentation scheme based on curvature and torsion. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 10(5):707–713, September 1988.
194. H. B. Keller. *Numerical Methods for Two-Point Boundary Value Problems*. Blaisdell, Waltham, MA, 1968.
195. B. W. Kernighan and D. M. Ritchie. *The C Programming Language*. Prentice-Hall, Englewood Cliffs, NJ, 2nd edition, 1988.
196. J. Keyser, T. Culver, D. Manocha, and S. Krishnan. Efficient and exact manipulation of algebraic points and curves. *Computer-Aided Design*, 32(11):649–662, September 2000.
197. K. I. Kim and K. Kim. A new machine strategy for sculptured surfaces using offset surface. *International Journal of Production Research*, 33(6):1683–1697, 1995.
198. M.-S. Kim, E.-J. Park, and S.-B. Lim. Approximation of variable-radius offset curves and its application to Bézier brush-stroke design. *Computer-Aided Design*, 25(11):684–698, November 1993.

199. T. Kim and S. E. Sarma. Time-optimal paths covering a surface. In R. Cipolla and R. Martin, editors, *The Mathematics of Surfaces IX*, pages 126–143, University of Cambridge, UK., September 2000. London: Springer.
200. R. Kimmel, A. Amir, and A. M. Bruckstein. Finding shortest paths on surfaces using level sets propagation. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 17(6):635–640, June 1995.
201. R. Kimmel and A. M. Bruckstein. Shape offsets via level sets. *Computer-Aided Design*, 25(3):154–162, March 1993.
202. R. Klass. Correction of local surface irregularities using reflection lines. *Computer-Aided Design*, 12(2):73–76, March 1980.
203. R. Klass. An offset spline approximation for plane cubic splines. *Computer-Aided Design*, 15(4):297–299, September 1983.
204. D. E. Knuth. *The Art of Computer Programming, Vol. 2, Seminumerical Algorithms*. Addison-Wesley, Reading, Massachusetts, 1981. 2nd Edition.
205. J. J. Koenderink. *Solid Shape*. MIT Press, Cambridge, MA, 1990.
206. E. Kreyszig. *Differential Geometry*. University of Toronto Press, Toronto, 1959.
207. E. Kreyszig. *Introduction to Differential Geometry and Riemannian Geometry*. University of Toronto Press, 1968.
208. G. A. Kriezis. *Algorithms for Rational Spline Surface Intersections*. PhD thesis, Massachusetts Institute of Technology, Cambridge, Massachusetts, March 1990.
209. G. A. Kriezis and N. M. Patrikalakis. Rational polynomial surface intersections. In G. A. Gabriele, editor, *Proceedings of the 17th ASME Design Automation Conference, Vol. II*, pages 43–53, Miami, September 1991. ASME, New York, 1991.
210. G. A. Kriezis, N. M. Patrikalakis, and F.-E. Wolter. Topological and differential-equation methods for surface intersections. *Computer-Aided Design*, 24(1):41–55, January 1992.
211. G. A. Kriezis, P. V. Prakash, and N. M. Patrikalakis. Method for intersecting algebraic surfaces with rational polynomial patches. *Computer-Aided Design*, 22(10):645–654, December 1990.
212. S. Krishnan and D. Manocha. Efficient surface intersection algorithm based on lower-dimensional formulation. *ACM Transactions on Graphics*, 16(1):74–106, January 1997.
213. E. Kruppa. *Analytische und Konstruktive Differentialgeometrie*. Springer-Verlag, Wien, 1957.
214. R. Kunze, F.-E. Wolter, and T. Rausch. Geodesic Voronoi diagrams on parametric surfaces. In *Proceedings of Computer Graphics International, CGI '97, June 1997*, pages 230–237. IEEE Computer Society Press, 1997.
215. T. Kuragano. FRES DAM system for design of aesthetically pleasing free-form objects and generation of collision-free tool paths. *Computer-Aided Design*, 24(11):573–581, November 1992.
216. T. Kuragano, N. Sasaki, and A. Kikuchi. The FRES DAM system for designing and manufacturing freeform objects. In R. Martin, editor, *USA-Japan Cross Bridge. Flexible Automation Volume 2*, pages 931–938, 1988.
217. A. Kurosh. *Higher Algebra*. Mir Publishers, Moscow, 1980. Translated by G. Yankovsky.
218. Y. N. Lakshman. *On the complexity of computing Gröbner bases for zero dimensional ideals*. PhD thesis, Rennselaer Polytechnic Institute, Troy, NY, 1992.
219. H. Lamure and D. Michelucci. Solving geometric constraints by homotopy. *IEEE Transactions on Visualization and Computer Graphics*, 2:22–34, 1996.

220. J. M. Lane and R. F. Riesenfeld. A theoretical development for the computer display and generation of piecewise polynomial surfaces. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 2(1):35–46, January 1980.
221. J. M. Lane and R. F. Riesenfeld. Bounds on a polynomial. *BIT: Nordisk Tidskrift for Informations-Behandling*, 21(1):112–117, 1981.
222. J. Lang and O. Röschel. Developable (1,n) Bézier surfaces. *Computer Aided Geometric Design*, 9(4):291–298, September 1992.
223. C. Lartigue, F. Thiebaut, and T. Maekawa. CNC tool path in terms of B-spline curves. *Computer-Aided Design*, 33(4):307–319, April 2001.
224. D. Lasser. Self-intersections of parametric surfaces. In *Proceedings of Third International Conference on Engineering Graphics and Descriptive Geometry: Volume 1*, pages 322–331, Vienna, 1988.
225. D. Lasser. Calculating the self-intersections of Bézier curves. *Computers in Industry*, 12:259–268, 1989.
226. D. Lavender, A. Bowyer, J. Davenport, A. Wallis, and J. Woodwark. Voronoi diagrams of set-theoretic solid models. *IEEE Computer Graphics and Applications*, 12(5):69–77, 1992.
227. J. D. Lawrence. *A Catalogue of Special Plane Curves*. Dover Publications, Inc., New York, 1972.
228. D. Lazard. Solving zero-dimensional algebraic systems. *Journal of Symbolic Computation*, 13(2):117–131, 1992.
229. D. T. Lee. Medial axis transformation of a planar shape. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, PAMI-4(4):363–369, July 1982.
230. I.-K. Lee, M.-S. Kim, and G. Elber. Planar curve offset based on circle approximation. *Computer-Aided Design*, 28(8):617–630, 1996.
231. K. Lee. *Principles of CAD/CAM/CAE Systems*. Addison-Wesley, 1999.
232. Y. Lee and T. Chang. CASCAM - an automated system for sculptured surface cavity machining. *Computers in Industry*, 16:321–342, 1991.
233. J. Z. Levin. A parametric algorithm for drawing pictures of solid objects composed of quadric surfaces. *Communications of the Association for Computing Machinery*, 19(10):555–563, October 1976.
234. J. Z. Levin. Mathematical models for determining the intersections of quadric surfaces. *Computer Vision, Graphics and Image Processing*, 11:73–87, 1979.
235. M. M. Lipschutz. *Theory and Problems of Differential Geometry*. Schaum's Outline Series: McGraw-Hill, 1969.
236. N. G. Lloyd. *Degree Theory*. Cambridge University Press, Cambridge, 1978.
237. T. Lozano-Perez and M. A. Wesley. An algorithm for planning collision-free paths amongst polyhedral obstacles. *Communications of the ACM*, 25(9):560–570, October 1979.
238. W. Lü. Rational offsets by reparametrization. Technical report, Zhejiang University, December 1992.
239. W. Lü. Offset-rational parametric plane curves. *Computer Aided Geometric Design*, 12(6):601–616, September 1995.
240. W. Lü. Rational parameterization of quadrics and their offsets. *Computing*, 57(2):135–147, 1996.
241. W. Lü and H. Pottmann. Pipe surfaces with rational spine curve are rational. *Computer Aided Geometric Design*, 13(7):621–628, October 1996.
242. R. C. Luo, Y. Ma, and D. F. McAllister. Tracing tangential surface-surface intersections. In C. Hoffmann and J. Rossignac, editors, *Proceedings of the Third ACM Solid Modeling Symposium*, pages 255–262, Salt Lake City, Utah, May 1995. ACM, NY.
243. T. Lyche and K. Mørken. Knot removal for parametric B-spline curves and surfaces. *Computer Aided Geometric Design*, 4(3):217–230, November 1987.

244. Y. Ma and Y.-S. Lee. Detection of loops and singularities of surface intersections. *Computer-Aided Design*, 30(14):1059–1067, December 1998.
245. Y. Ma and R. C. Luo. Topological method for loop detection of surface intersection problems. *Computer-Aided Design*, 27(11):811–820, November 1995.
246. T. Maekawa. *Robust Computational Methods for Shape Interrogation*. PhD thesis, Massachusetts Institute of Technology, Cambridge, MA, June 1993.
247. T. Maekawa. Computation of shortest paths on free-form parametric surfaces. *Journal of Mechanical Design, Transactions of the ASME*, 118(4):499–508, December 1996.
248. T. Maekawa. Self-intersections of offsets of quadratic surfaces: Part I, explicit surfaces. *Engineering with Computers*, 14:1–13, 1998.
249. T. Maekawa. Self-intersections of offsets of quadratic surfaces: Part II, implicit surfaces. *Engineering with Computers*, 14:14–22, 1998.
250. T. Maekawa. An overview of offset curves and surfaces. *Computer-Aided Design*, 31(3):165–173, March 1999.
251. T. Maekawa and J. S. Chalfant. Computation of inflection lines and geodesics on developable surfaces. *Mathematical Engineering in Industry*, 7(2):251–267, 1998.
252. T. Maekawa and J. S. Chalfant. Design and tessellation of B-spline developable surfaces. *Journal of Mechanical Design, Transactions of the ASME*, 120(3):453–461, September 1998.
253. T. Maekawa, W. Cho, and N. M. Patrikalakis. Computation of self-intersections of offsets of Bézier surface patches. *Journal of Mechanical Design, Transactions of the ASME*, 119(2):275–283, June 1997.
254. T. Maekawa and N. M. Patrikalakis. Computation of singularities and intersections of offsets of planar curves. *Computer Aided Geometric Design*, 10(5):407–429, October 1993.
255. T. Maekawa and N. M. Patrikalakis. Interrogation of differential geometry properties for design and manufacture. *The Visual Computer*, 10(4):216–237, March 1994.
256. T. Maekawa, N. M. Patrikalakis, T. Sakalis, and G. Yu. Analysis and applications of pipe surfaces. *Computer Aided Geometric Design*, 15(5):437–458, May 1998.
257. T. Maekawa, F.-E. Wolter, and N. M. Patrikalakis. Umbilics and lines of curvature for shape interrogation. *Computer Aided Geometric Design*, 13(2):133–161, March 1996.
258. D. Manocha. Solving polynomial systems for curve, surface and solid modeling. In J. Rossignac, J. Turner, and G. Allen, editors, *Proceedings of 2nd ACM/IEEE Symposium on Solid Modeling and Applications*, pages 169–178, Montreal, May 1993. New York: ACM Press, 1993.
259. D. Manocha. Numerical methods for solving polynomial equations. In D. A. Cox and B. Sturmfels, editors, *Proceedings of Symposia in Applied Mathematics Volume 53, Applications of Computational Algebraic Geometry: American Mathematical Society short course, January 6-7, 1997, San Diego, California*, pages 41–66. American Mathematical Society, 1998.
260. D. Manocha and S. Krishnan. Solving algebraic systems using matrix computations. *Sigsam Bulletin: Communications in Computer Algebra*, 30(4):4–21, December 1996.
261. M. Mäntylä. *An Introduction to Solid Modeling*. Computer Science Press, Rockville, Maryland, 1988.
262. K. Marciniak. *Geometric modeling for numerically controlled machining*. Oxford University Press, New York, 1991.

263. R. Markot and R. Magedson. Procedural method for evaluating the intersection curves of two parametric surfaces. *Computer-Aided Design*, 23(6):395–404, July/August 1991.
264. R. P. Markot and R. L. Magedson. Solutions of tangential surface and curve intersections. *Computer-Aided Design*, 21(7):421–429, September 1989.
265. R. R. Martin. Principal patches - a new class of surface patch based on differential geometry. In P. J. W. Ten Hagen, editor, *Eurographics '83, Proceedings of the 4th Annual European Association for Computer Graphics Conference and Exhibition, Zagreb, Yugoslavia*, pages 47–55. Amsterdam: North-Holland, September 1983.
266. J. H. McKay and S. S. Wang. An inversion formula for two polynomials in two variables. *Journal of Pure and Applied Algebra*, 40(3):245–257, May 1986.
267. Z. Michalewicz. *Genetic algorithms + data structures = evolution programs*. Springer-Verlag, Berlin, 1992.
268. J. R. Miller and R. N. Goldman. Geometric algorithms for detecting and calculating all conic sections in the intersection of any two natural quadratic surfaces. *Graphical Models and Image Processing*, 57(1):55–66, January 1995.
269. J. S. B. Mitchell. An algorithmic approach to some problems in terrain navigation. *Artificial Intelligence*, 37:171–201, 1988.
270. K. Mørken. Some identities for products and degree raising of splines. *Constructive Approximation*, 7:195–208, 1991.
271. G. Monge. *Application de l'Analyse à la Géométrie*. Bachelier, Paris, 1850.
272. U. Montanari. Continuous skeletons from digitized images. *Journal of the Association for Computing Machinery*, 16(4):534–549, October 1969.
273. R. E. Moore. *Interval Analysis*. Prentice-Hall, Englewood Cliffs, NJ, 1966.
274. R. E. Moore. *Methods and Applications of Interval Analysis*. SIAM, Philadelphia, 1979.
275. H. P. Moreton. Simplified curve and surface interrogation via mathematical packages and graphics libraries and hardware. *Computer-Aided Design*, 27(7):523–543, July 1995.
276. M. E. Mortenson. *Geometric Modeling*. John Wiley and Sons, New York, 1985.
277. S. P. Mudur and P. A. Koparkar. Interval methods for processing geometric objects. *IEEE Computer Graphics and Applications*, 4(2):7–17, February 1984.
278. G. Müllenheim. On determining start points for a surface/surface intersection algorithm. *Computer Aided Geometric Design*, 8(5):401–408, November 1991.
279. F. C. Munchmeyer. On surface imperfections. In R. Martin, editor, *Mathematics of Surfaces II*, pages 459–474. Oxford University Press, 1987.
280. F. C. Munchmeyer. Shape interrogation: A case study. In G. Farin, editor, *Geometric Modeling*, pages 291–301. SIAM, Philadelphia, PA, 1987.
281. F. C. Munchmeyer and R. Haw. Applications of differential geometry to ship design. In D. F. Rogers, B. C. Nehring, and C. Kuo, editors, *Proceedings of Computer Applications in the Automation of Shipyard Operation and Ship Design IV*, volume 9, pages 183–196, Annapolis, Maryland, USA, June 1982.
282. L. R. Nackman. Curvature relations in three-dimensional symmetric axes. *Computer Graphics and Image Processing*, 20:43–57, 1982.
283. L. R. Nackman and S. M. Pizer. Three-dimensional shape description using the symmetric axis transform I: Theory. *IEEE Transactions on Pattern Analysis and Machine Intelligence*, PAMI-7(2):187–202, March 1985.
284. A. Neumaier. *Interval Methods for Systems of Equations*. Cambridge University Press, Cambridge, 1990.
285. M. Niizeki and F. Yamaguchi. Projectively invariant intersection detections for solid modeling. *ACM Transactions on Graphics*, 13(3):277–299, July 1994.

286. T. Nishita, T. W. Sederberg, and M. Kakimoto. Ray tracing trimmed rational surface patches. *ACM Computer Graphics*, 24(4):337–345, August 1990.
287. M. F. Nittel. Numerically controlled machining of propeller blades. *Marine Technology*, 26(3):202–209, July 1989.
288. M. Noro, T. Takeshima, and K. Yokoyama. Solution of systems of algebraic equations and linear maps on residue class ring. *Journal of Symbolic Computation*, 14:399–417, 1992.
289. H. Nowacki, J. Michalski, B. Oleksiewicz, M. I. G. Bloor, C. W. Dekaski, and M. J. Wilson. In H. Nowacki, M. I. G. Bloor, and B. Oleksiewicz, editors, *Computational Geometry for Ships*. World Scientific, 1995.
290. A. W. Nutbourne and R. R. Martin. *Differential Geometry Applied to Curve and Surface Design Vol. 1: Foundations*. Ellis Horwood, Chichester, UK, 1988.
291. N. O. Olesten. *Numerical Control*. Wiley-Interscience, 1970.
292. J. O'Rourke. *Computational Geometry in C*. Cambridge University Press, Cambridge, UK, 1994.
293. J. M. Ortega and W. C. Rheinboldt. *Iterative Solution of Nonlinear Equations in Several Variables*. Academic Press, New York, 1970.
294. N. M. Patrikalakis. Shape interrogation. In C. Chrysosostomidis, editor, *Proceedings of the 16th Annual MIT Sea Grant College Program Lecture and Seminar, Automation in the Design and Manufacture of Large Marine Systems*, pages 83–104, Cambridge, MA, October 1988. New York: Hemisphere Publishing, 1990.
295. N. M. Patrikalakis. Surface-to-surface intersections. *IEEE Computer Graphics and Applications*, 13(1):89–95, January 1993.
296. N. M. Patrikalakis and L. Bardis. Offsets of curves on rational B-spline surfaces. *Engineering with Computers*, 5:39–46, 1989.
297. N. M. Patrikalakis and L. Bardis. Localization of rational B-spline surfaces. *Engineering with Computers*, 7(4):237–252, 1991.
298. N. M. Patrikalakis and H. N. Gursoy. Shape interrogation by medial axis transform. In B. Ravani, editor, *Proceedings of the 16th ASME Design Automation Conference: Advances in Design Automation, Computer Aided and Computational Design, Vol. I*, pages 77–88, Chicago, IL, September 1990. New York: ASME.
299. N. M. Patrikalakis and G. A. Kriezis. Representation of piecewise continuous algebraic surfaces in terms of B-splines. *The Visual Computer*, 5(6):360–374, 1989.
300. N. M. Patrikalakis and T. Maekawa. Intersection problems. In G. Farin, J. Hoschek, M. S. Kim, and D. Abma, editors, *The Handbook of Computer Aided Design*. Elsevier, 2001.
301. N. M. Patrikalakis and P. V. Prakash. Free-form plate modeling using offset surfaces. *Journal of OMAE, Transactions of the ASME*, 110(3):287–294, 1988.
302. N. M. Patrikalakis and P. V. Prakash. Surface intersections for geometric modeling. *Journal of Mechanical Design, Transactions of the ASME*, 112(1):100–107, March 1990.
303. N. M. Patrikalakis, T. Sakkalis, and G. Shen. Boundary representation models: Validity and rectification. In R. Cipolla and R. Martin, editors, *The Mathematics of Surfaces IX*, pages 389–409, University of Cambridge, UK., September 2000. London: Springer.
304. J. Pegna and D. J. Wilde. Spherical and circular blending of functional surfaces. *Journal of OMAE, Transactions of the ASME*, 112(2):134–142, May 1990.

305. J. Pegna and F. E. Wolter. Geometrical criteria to guarantee curvature continuity of blend surfaces. *Journal of Mechanical Design, Transactions of the ASME*, 114(1):201–210, March 1992.
306. J. Pegna and F.-E. Wolter. Surface curve design by orthogonal projection of space curves onto free-form surfaces. *Journal of Mechanical Design, ASME Transactions*, 118(1):45–52, March 1996.
307. H. Persson. NC machining of arbitrarily shaped pockets. *Computer-Aided Design*, 10(3):169–174, May 1978.
308. M. Peternell and H. Pottmann. A Laguerre geometric approach to rational offsets. *Computer Aided Geometric Design*, 15(3):223–249, March 1998.
309. T. J. Peters, N. F. Stewart, D. R. Ferguson, and P. S. Fussell. Algorithmic tolerances and semantics in data exchange. In *Computational Geometry '97*, Nice, France, 1997.
310. S. Petitjean. Algebraic geometry and computer vision: Polynomial systems, real and complex roots. *Journal of Mathematical Imaging and Vision*, 10(3):191–220, 1999.
311. F. Pettinati. Private Communication, October 10, 1997.
312. B. Pham. Offset approximation of uniform B-splines. *Computer-Aided Design*, 20(8):471–474, October 1988.
313. B. Pham. Offset curves and surfaces: a brief survey. *Computer-Aided Design*, 24(4):223–229, April 1992.
314. L. A. Piegl and W. Tiller. *The NURBS Book*. Springer, New York, 1995.
315. L. A. Piegl and W. Tiller. Symbolic operators for NURBS. *Computer-Aided Design*, 29(5):361–368, May 1997.
316. L. A. Piegl and W. Tiller. Computing offsets of NURBS curves and surfaces. *Computer-Aided Design*, 31(2):147–156, February 1999.
317. K. G. Pigounakis and P. D. Kaklis. Fairing of 2D B-splines under design constraints. *Mathematical Engineering in Industry*, 7(2):165–178, 1998.
318. K. G. Pigounakis, N. Sapidis, and P. D. Kaklis. Fairing spatial B-spline curves. *Journal of Ship Research*, 40(4):351–367, 1996.
319. T. Poeschl. Detecting surface irregularities using isophotes. *Computer Aided Geometric Design*, 1(2):163–168, November 1984.
320. I. R. Porteous. Ridges and umbilics of surfaces. In R. Martin, editor, *The Mathematics of Surfaces II*, pages 447–458. Oxford University Press, 1987.
321. I. R. Porteous. The circles of a surface. In R. Martin, editor, *The Mathematics of Surfaces III*, pages 135–143. Oxford University Press, 1988.
322. I. R. Porteous. *Geometric Differentiation for the intelligence of curves and surfaces*. Cambridge University Press, Cambridge, 1994.
323. T. Poston and I. Stewart. *Catastrophe Theory and its Applications*. Pitman, San Francisco, CA, 1978.
324. H. Pottmann. Rational curves and surfaces with rational offsets. *Computer Aided Geometric Design*, 12(2):175–192, March 1995.
325. H. Pottmann. General offset surfaces. *Neural, Parallel and Scientific Computations*, 5:55–80, 1997.
326. H. Pottmann and G. Farin. Developable rational Bézier and B-spline surfaces. *Computer Aided Geometric Design*, 12(5):513–531, August 1995.
327. H. Pottmann, W. Lü, and B. Ravani. Rational ruled surfaces and their offsets. *Graphical Models and Image Processing*, 58(6):544–552, November 1996.
328. H. Pottmann and K. Opitz. Curvature analysis and visualization for functions defined on Euclidean spaces or surfaces. *Computer Aided Geometric Design*, 11:655–674, 1994.
329. H. Pottmann and J. Wallner. Approximation algorithms for developable surfaces. *Computer Aided Geometric Design*, 16(6):539–556, June 1999.

330. H. Pottmann and J. Wallner. *Computational Line Geometry*. Springer-Verlag, Berlin, 2001.
331. H. Pottmann, J. Wallner, G. Glaeser, and B. Ravani. Geometric criteria for gouge-free three-axis milling of sculptured surfaces. *Journal of Mechanical Design, Transactions of the ASME*, 31(1):17–32, 1999.
332. M. J. Pratt. Cyclides in computer aided geometric design. *Computer Aided Geometric Design*, 7(1 - 4):221–242, June 1990.
333. M. J. Pratt and A. D. Geisow. Surface/surface intersection problems. In J. A. Gregory, editor, *The Mathematics of Surfaces*, pages 117–142. Clarendon Press, 1986.
334. F. P. Preparata. The medial axis of a simple polygon. In G. Goos and J. Hartmanis, editors, *Lecture Notes in Computer Science: Mathematical Foundations of Computer Science*, pages 443–450. Springer-Verlag, 1977.
335. F. P. Preparata and M. I. Shamos. *Computational Geometry: An Introduction*. Springer-Verlag, New York, 1985.
336. W. H. Press, S. A. Teukolsky, W. T. Vetterling, and B. P. Flannery. *Numerical Recipes in C*. Cambridge University Press, 1988.
337. A. Preusser. Computing area filling contours for surface defined by piecewise polynomials. *Computer Aided Geometric Design*, 3:267–279, 1986.
338. M. A. Price, C. G. Armstrong, and M. A. Sabin. Hexahedral mesh generation by medial surface subdivision: I. Solids with convex edges. *International Journal of Numerical Methods in Engineering*, 38(19):3335–3359, 1995.
339. T. Rando and J. A. Roullet. Knot-removal surface fairing using search strategies. *Computer-Aided Design*, 23(7):492–497, September 1991.
340. T. Rausch, F.-E. Wolter, and O. Sniehotta. Computation of medial curves on surfaces. In T. Goodman and R. Martin, editors, *The Mathematics of Surfaces VII*, pages 43–68. Information Geometers, 1997.
341. J. M. Reddy and G. M. Turkiyyah. Computation of 3d skeletons using a generalized Delaunay triangulation technique. *Computer-Aided Design*, 27(9):677–694, September 1995.
342. A. A. G. Requicha. Representations for rigid solids: Theory, methods, and systems. *Computing Surveys*, 12(4), December 1990.
343. A. A. G. Requicha and H. B. Voelcker. Constructive Solid Geometry. Technical Report TM 25, Production Automation Project, University of Rochester, Rochester, NY, November 1977.
344. A. A. G. Requicha and J. R. Rossignac. Solid modeling and beyond. *IEEE Computer Graphics and Applications*, 12(5):31–44, September 1992.
345. R. F. Riesenfeld. *Applications of B-spline Approximation to Geometric Problems of Computer-Aided Design*. PhD thesis, Syracuse University, Syracuse, New York, 1973.
346. J. J. Risler. *Mathematical Methods for CAD*. Cambridge University Press, Cambridge, UK, 1992.
347. D. J. Robinson and C. G. Armstrong. Geodesic paths for general surfaces by solid modellers. In G. Mullineux, editor, *The Mathematics of Surfaces VI, Proceedings of the 6th IMA Conference on Mathematics of Surfaces VI*, pages 103–117. Oxford, UK, 1996. Clarendon Press.
348. D. F. Rogers and J. A. Adams. *Mathematical Elements for Computer Graphics*. McGraw-Hill Inc., 1990. Second Edition.
349. R. F. Rohmfeld. IGB-offset curves - loop removal by scanning of interval sequences. *Computer Aided Geometric Design*, 15(4):339–375, April 1998.
350. A. Rosenfeld. Axial representations of shape. *Computer Vision, Graphics and Image Processing*, 33:156–173, 1986.

351. J. R. Rossignac. *Blending and Offsetting Solid Models*. PhD thesis, University of Rochester, July 1985. Production Automation Project Technical Memorandum No. 54.
352. J. R. Rossignac and A. A. G. Requicha. Piecewise-circular curves for geometric modeling. *IBM Journal of Research and Development*, 31(3):296–313, 1987.
353. J. R. Rossignac and A. G. Requicha. Offsetting operations in solid modelling. *Computer Aided Geometric Design*, 3(2):129–148, 1986.
354. M. Sabin. Subdivision surfaces. In G. Farin, J. Hoschek, M. S. Kim, and D. Abma, editors, *The Handbook of Computer Aided Design*. Elsevier, 2001.
355. M. A. Sabin. Recursive division interrogation of offset surfaces. In J. D. Warren, editor, *Curves and Surfaces in Computer Vision and Graphics III, Proceedings of SPIE*, volume 1830, pages 152–161, Boston, MA, November 1992. SPIE.
356. T. Sakkalis. On the zeros of a polynomial vector field. Research Report RC-13303, IBM T. J. Watson Research Center, Yorktown Heights, NY, 1987.
357. T. Sakkalis. The Euclidean algorithm and the degree of the Gauss map. *SIAM Journal on Computing*, 19(3):538–543, June 1990.
358. T. Sakkalis. The topological configuration of a real algebraic curve. *Bulletin of the Australian Mathematical Society*, 43:37–50, 1991.
359. T. Sakkalis and C. Charitos. Approximating curves via alpha shapes. *Graphical Models and Image Processing*, 61(3):165–176, 1999.
360. T. Sakkalis, G. Shen, and N. M. Patrikalakis. Topological and geometric properties of interval solid models. *Graphical Models*, 63, 2001. In press.
361. T. Sakuta, M. Kawai, and Y. Amano. Development of an NC machining system for stamping dies by offset surface method. In *Autofact 87 Conference Proceedings*, pages 2.13–2.27, Dearborn, Michigan, 1987. SME.
362. G. Salmon. *A Treatise on the Analytic Geometry of Three Dimensions, Vol. 1*. Chelsea, New York, seventh edition, 1927.
363. N. M. Samuel, A. A. G. Requicha, and S. A. Elkind. Methodology and results of an industrial part survey. Technical Report Tech. Momo. No. 21, Production Automation Project, University of Rochester, Rochester, NY, 1976.
364. P. T. Sander and S. W. Zucker. Singularities of principal direction fields from 3-D images. In *IEEE Second International Conference on Computer Vision, Tampa Florida*, pages 666–670, 1988.
365. N. Sapidis and G. Farin. An automatic fairing algorithm for B-spline curves. *Computer-Aided Design*, 22(2):121–129, March 1990.
366. R. Sarma and D. Dutta. The geometry and generation of NC tool paths. *Journal of Mechanical Design, Transactions of the ASME*, 119:253–258, June 1997.
367. R. F. Sarraga. Algebraic methods for intersections of quadric surfaces in GMSOLID. *Computer Vision, Graphics and Image Processing*, 22(2):222–238, May 1983.
368. I. Schoenberg. Contributions to the problem of approximation of equidistant data by analytic functions. *Quarterly of Applied Mathematics*, 4:45–99, 1946.
369. L. L. Schumaker. *Spline Functions: Basic Theory*. Pure and Applied Mathematics: a Wiley-Interscience Series of Texts, Monographs, and Tracts. Wiley, New York, 1981.
370. G. L. Scott, S. C. Turner, and A. Zisserman. Using a mixed wave/diffusion process to elicit the symmetry set. *Image and Vision Computing*, 7:63–70, 1989.
371. T. W. Sederberg. *Implicit and Parametric Curves and Surfaces for Computer Aided Geometric Design*. PhD thesis, Purdue University, August 1983.
372. T. W. Sederberg. Planar piecewise algebraic curves. *Computer Aided Geometric Design*, 1(3):241–255, December 1984.

373. T. W. Sederberg. Piecewise algebraic surface patches. *Computer Aided Geometric Design*, 2(1 - 3):53–59, September 1985.
374. T. W. Sederberg, D. C. Anderson, and R. N. Goldman. Implicit representation of parametric curves and surfaces. *Computer Vision, Graphics and Image Processing*, 28(1):72–84, October 1984.
375. T. W. Sederberg and D. B. Buehler. Offsets of polynomial Bézier curves: Hermite approximation with error bounds. In T. Lyche and L. L. Schumaker, editors, *Mathematical Methods in Computer Aided Geometric Design*, volume II, pages 549–558. Academic Press, 1992.
376. T. W. Sederberg, H. N. Christiansen, and S. Katz. Improved test for closed loops in surface intersections. *Computer-Aided Design*, 21(8):505–508, October 1989.
377. T. W. Sederberg and R. T. Farouki. Approximation by interval Bézier curves. *IEEE Computer Graphics and Applications*, 12(5):87–95, September 1992.
378. T. W. Sederberg and R. N. Goldman. Algebraic geometry for computer-aided geometric design. *IEEE Computer Graphics and Applications*, 6(6):52–59, June 1986.
379. T. W. Sederberg and R. J. Meyers. Loop detection in surface patch intersections. *Computer Aided Geometric Design*, 5(2):161–171, July 1988.
380. T. W. Sederberg and T. Saito. Rational-ruled surfaces: implicitization and section curves. *Graphical Models and Image Processing*, 57(4):334–342, 1995.
381. T. W. Sederberg and J. Zheng. Algebraic methods for CAGD. In G. Farin, J. Hoschek, M. S. Kim, and D. Abma, editors, *The Handbook of Computer Aided Design*. Elsevier, 2001.
382. T. W. Sederberg and A. K. Zundel. Pyramids that bound surface patches. *Graphical Models and Image Processing*, 58(1):75–81, January 1996.
383. U. Shani and D. H. Ballard. Splines as embeddings for generalized cylinders. *Computer Vision, Graphics and Image Processing*, 27:129–156, 1984.
384. D. J. Sheehy, C. G. Armstrong, and D. J. Robinson. Computing the medial surface of a solid from a domain Delaunay triangulation. In C. Hoffmann and J. Rossignac, editors, *Proceedings of the Third Symposium on Solid Modeling and Applications, May 1995, Salt Lake City, Utah*, pages 201–212, New York, 1995. ACM.
385. D. J. Sheehy, C. G. Armstrong, and D. J. Robinson. Numerical computation of medial surface vertices. In G. Mullineux, editor, *The Mathematics of Surfaces VI*, Oxford, UK, 1996. IMA, Oxford University Press.
386. G. Shen. *Analysis of Boundary Representation Model Rectification*. PhD thesis, Massachusetts Institute of Technology, Cambridge, MA, February 2000.
387. G. Shen and N. M. Patrikalakis. Numerical and geometric properties of interval B-splines. *International Journal of Shape Modeling*, 4(1 and 2):35–62, March and June 1998.
388. G. Shen, T. Sakkalis, and N. M. Patrikalakis. Manifold boundary representation model rectification (La rectification des modèles des variétés b-rep). In C. Masclé, C. Fortin, and J. Pegna, editors, *Proceedings of the 3rd International Conference on Integrated Design and Manufacturing in Mechanical Engineering*, page 199 and CDROM, Montreal, Canada, May 2000. Presses internationales Polytechnique.
389. G. Shen, T. Sakkalis, and N. M. Patrikalakis. Boundary representation model rectification. *Graphical Models*, 63, 2001. In press. Also in: *Proceedings of the Sixth ACM Solid Modeling Symposium*. D. Anderson and K. Lee, editors. Ann Arbor, Michigan, June 2001. NY: ACM, 2001.
390. C.-K. Shene and J. K. Johnstone. On the lower degree intersections of two natural quadrics. *ACM Transactions on Graphics*, 13(4):400–424, October 1994.

391. E. C. Sherbrooke. *3-D Shape Interrogation by Medial Axis Transform*. PhD thesis, Massachusetts Institute of Technology, Cambridge, MA, April 1995.
392. E. C. Sherbrooke and N. M. Patrikalakis. Computation of the solutions of nonlinear polynomial systems. *Computer Aided Geometric Design*, 10(5):379–405, October 1993.
393. E. C. Sherbrooke, N. M. Patrikalakis, and E. Brisson. Computation of medial axis transforms of 3-D polyhedra. In C. Hoffmann and J. Rossignac, editors, *Proceedings of the Third Symposium on Solid Modeling and Applications, May 1995, Salt Lake City, Utah*, pages 187–199, New York, 1995. ACM.
394. E. C. Sherbrooke, N. M. Patrikalakis, and E. Brisson. An algorithm for the medial axis transform of 3-D polyhedral solids. *IEEE Transactions on Visualization and Computer Graphics*, 2(1):44–61, March 1996.
395. E. C. Sherbrooke, N. M. Patrikalakis, and F.-E. Wolter. Differential and topological properties of medial axis transforms. *Graphical Models and Image Processing*, 58(6):574–592, November 1996.
396. P. Sinha, E. Klassen, and K. K. Wang. Exploiting topological and geometric properties for selective subdivision. In *Proceedings of the ACM Symposium on Computational Geometry*, pages 39–45. New York: ACM, 1985.
397. S. S. Sinha and P. J. Besl. Principal patches: A viewpoint-invariant surface description. In *IEEE International Robotics and Automation, Cincinnati, Ohio*, pages 226–231, May 1990.
398. J. Sneyd and C. S. Peskin. Computation of geodesic trajectories on tubular surfaces. *SIAM Journal of Scientific Statistical Computing*, 11(2):230–241, March 1990.
399. J. M. Snyder. *Generative Modeling for Computer Graphics and CAD : Symbolic Shape Design Using Interval Analysis*. Academic Press, Boston, MA, 1992.
400. J. M. Snyder. Interval analysis for computer graphics. *ACM Computer Graphics*, 26(2):121–130, July 1992.
401. J. Sone and H. Chiyokura. Surface highlight control using quartic blending NURBS boundary Gregory patch. *Journal of Information Processing Society of Japan*, 37(12):2212–2222, 1996. In Japanese.
402. M. R. Spencer. *Polynomial Real Root Finding in Bernstein Form*. PhD thesis, Department of Civil Engineering, Brigham Young University, August 1994.
403. M. Spivak. *Calculus*. New York: W. A. Benjamin, Inc., 1967.
404. Y. L. Srinivas and D. Dutta. Cyclides in geometric modeling: computational tools for an algorithmic infrastructure. *Journal of Mechanical Design, Transactions of the ASME*, 117(3):363–373, September 1995.
405. V. Srinivasan and L. R. Nackman. Voronoi diagram for multiply connect polygonal domains, I: Algorithm. *IBM Journal of Research and Development*, 31(3):361–372, May 1987.
406. V. Srinivasan, L. R. Nackman, J.-M. Tang, and S. N. Meshkat. Automatic mesh generation using the symmetric axis transformation of polygonal domains. *Proceedings of the IEEE, Special Issue on Computational Geometry*, 80(9):1485–1501, 1992.
407. S. Stifter. *A Medley of Solutions to the Robot Collision Problem in Two and Three Dimensions*. PhD thesis, Johannes Kepler Universität, Linz, Austria, 1989.
408. S. Stifter. An axiomatic approach to Voronoi-diagrams in 3D. *Journal of Computers and System Sciences*, 43(2):361–379, October 1991.
409. P. Stiller. Sparse resultants. Technical Report ISC-96-01-MATH, Texas A & M University, Institute for Scientific Computation, 1996.
410. G. Strang. *Linear Algebra and its Applications*. Harcourt Brace Jovanovich, San Diego, CA, 1988.

411. D. J. Struik. Outline of a history of differential geometry. *Isis*, 19:92–120, 1933.
412. D. J. Struik. *Lectures on Classical Differential Geometry*. Addison-Wesley, Cambridge, MA, 1950.
413. B. Sturmfels. Introduction to resultants. In D. A. Cox and B. Sturmfels, editors, *Proceedings of Symposia in Applied Mathematics Volume 53, Applications of Computational Algebraic Geometry: American Mathematical Society short course, January 6-7, 1997, San Diego, California*, pages 25–39. American Mathematical Society, 1998.
414. B. Sturmfels and A. Zelevinsky. Multigraded resultants of Sylvester type. *Journal of Algebra*, 163(1):115–127, January 1994.
415. A. Sudhalkar, L. Gürsöz, and F. Prinz. Continuous skeletons of discrete objects. In J. Rossignac, J. Turner, and G. Allen, editors, *Proceedings of the Second Symposium on Solid Modeling and Applications, Montreal, Canada*, pages 85–94, New York, 1993. ACM.
416. K. Sugihara. Approximation of generalized Voronoi diagrams by ordinary Voronoi diagrams. *Computer Vision, Graphics and Image Processing: Graphical Models and Image Processing*, 55(6):522–531, November 1993.
417. K. Suresh and D. C. H. Yang. Constant scallop-height machining of free-form surfaces. *Journal of Engineering for Industry, Transactions of the ASME*, 116:253–259, May 1994.
418. T. K. H. Tam and C. G. Armstrong. 2d finite element mesh generation by medial axis subdivision. *Advances in Engineering Software and Workstations*, 13(5/6):313–324, September/November 1991.
419. H. Theisel and G. Farin. The curvature of characteristic surfaces. *IEEE Computer Graphics and Applications*, 17(6):88–96, November/December 1997.
420. W. Tiller. Knot-removal algorithms for NURBS curves and surfaces. *Computer-Aided Design*, 24(8):445–453, August 1992.
421. W. Tiller and E. G. Hanson. Offsets of two-dimensional profiles. *IEEE Computer Graphics and Applications*, 4(9):36–46, September 1984.
422. D. Toth. On ray tracing parametric surfaces. *ACM Computer Graphics*, 19(3):171–179, July 1985.
423. S. T. Tuohy. A visual tool for demonstrating surface curvature. *Computer Applications in Engineering Education*, 5(1):21–27, 1997.
424. S. T. Tuohy, T. Maekawa, and N. M. Patrikalakis. Interrogation of geophysical maps with uncertainty for AUV micro-navigation. In *Engineering in Harmony with the Ocean, Proceedings of Oceans '93, Victoria, Canada*. IEEE Oceanic Engineering Society, October 1993.
425. S. T. Tuohy, T. Maekawa, G. Shen, and N. M. Patrikalakis. Approximation of measured data with interval B-splines. *Computer-Aided Design*, 29(11):791–799, November 1997.
426. S. T. Tuohy and N. M. Patrikalakis. Representation of geophysical maps with uncertainty. In N. M. Thalmann and D. Thalmann, editors, *Communicating with Virtual Worlds, Proceedings of CG International '93, Lausanne, Switzerland*, pages 179–192. Springer, Tokyo, June 1993.
427. S. T. Tuohy, J. W. Yoon, and N. M. Patrikalakis. Reliable interrogation of 3-D non-linear geophysical databases. In J. A. Vince and R. A. Earnshaw, editors, *Computer Graphics: Developments in Virtual Environments, Proceedings of CG International '95, Leeds, UK, June 1995*, pages 327–341. London, Academic Press, 1995.
428. G. M. Turkiyyah, D. W. Storti, M. Ganter, H. Chen, and M. Vimawala. An accelerated triangulation method for computing the skeletons of free-form solid models. *Computer-Aided Design*, 29(1):5–19, January 1997.

429. U. S. Product Data Association. *ANS US PRO/IPO-200-042-1994: Part 42 – Integrated Geometric Resources: Geometric and Topological Representation*, 1994.
430. M. E. Vafiadou and N. M. Patrikalakis. Interrogation of offsets of polynomial surface patches. In F. H. Post and W. Barth, editors, *Eurographics '91, Proceedings of the 12th Annual European Association for Computer Graphics Conference and Exhibition*, pages 247–259 and 538, Vienna, Austria, September 1991. Amsterdam: North-Holland.
431. P. J. Vermeer. *Medial Axis Transform to Boundary Representation Conversion*. PhD thesis, Purdue University, May 1994.
432. A. Verroust and F. Lazarus. Extracting skeletal curves from 3D scattered data. *The Visual Computer*, 16(1):15–25, 2000.
433. K. J. Versprille. *Computer Aided Design Applications of the Rational B-Spline Approximation Form*. PhD thesis, Syracuse University, Syracuse, New York, February 1975.
434. H. B. Voelcker et al. An introduction to PADL: Characteristics, status, and rationale. Technical Report Tech. Momo. No. 22, Production Automation Project, University of Rochester, Rochester, NY, December 1974.
435. M. N. Vrahatis. CHABIS: A mathematical software package for locating and evaluating roots of systems of nonlinear equations. *ACM Transactions on Mathematical Software*, 14(4):330–336, December 1988.
436. M. N. Vrahatis. Solving systems of nonlinear equations using the nonzero value of the topological degree. *ACM Transactions on Mathematical Software*, 14(4):312–329, December 1988.
437. R. J. Walker. *Algebraic Curves*. Princeton University Press, Princeton, New Jersey, 1950.
438. L. Wang, M. C. Leu, and D. Blackmore. Generating sweep solids for NC verification using the SEDE method. In *Proceedings of the Fourth Symposium on Solid Modeling and Applications*, pages 364–375, Atlanta, Georgia, May 14–16 1997.
439. W. P. Wang. Integration of solid geometric modeling for computerized process planning. In C. R. Liu, T. C. Chang, and R. Komanduri, editors, *Computer-Aided/Intelligent Process Planning, ASME, Winter Annual Meeting*, pages 177–187, 1985.
440. Y. Wang. Intersection of offsets of parametric surfaces. *Computer Aided Geometric Design*, 13(5):453–465, 1996.
441. C. E. Weatherburn. *Differential Geometry of Three Dimensions, Vol. 1*. The University Press, Cambridge, 1939.
442. H. S. Wilf. A global bisection algorithm for computing the zeros of polynomials in the complex plane. *Journal of the Association for Computing Machinery*, 25(3):415–420, July 1978.
443. I. Wilf and Y. Manor. Quadric-surface intersection curves: shape and structure. *Computer-Aided Design*, 25(10):633–643, October 1993.
444. T. J. Willmore. *An Introduction to Differential Geometry*. Clarendon Press, Oxford, 1959.
445. F. Winkler. *Polynomial Algorithms in Computer Algebra*. Springer-Verlag, New York, 1996.
446. S. Wolfram. *The Mathematica Book*. Wolfram Media, Champaign, IL, 3rd edition, 1996.
447. F.-E. Wolter. Distance function and cut loci on a complete Riemannian manifold. *Archiv der Mathematik*, 32:92–96, 1979.

448. F.-E. Wolter. Interior metric, shortest paths and loops in riemannian manifolds with not necessarily smooth boundary. Master's thesis, Free University of Berlin, Berlin, Germany, 1979.
449. F.-E. Wolter. *Cut Loci in Bordered and Unbordered Riemannian Manifolds*. PhD thesis, Technical University of Berlin, Department of Mathematics, December 1985.
450. F.-E. Wolter. Cut locus and medial axis in global shape interrogation and representation. Memorandum 92-2, Cambridge MA: MIT Ocean Engineering Design Laboratory, January 1992.
451. F.-E. Wolter and K.-I. Friese. Local and global geometric methods for analysis interrogation, reconstruction, modification and design of shape. In *Computer Graphics International, GCI 2000. (Invited paper)*, pages 137–151, Geneva, Switzerland, June 2000. IEEE Computer Society Press. Los Alamitos, CA: IEEE, 2000.
452. F. E. Wolter and S. T. Tuohy. Approximation of high degree and procedural curves. *Engineering with Computers*, 8(2):61–80, 1992.
453. F.-E. Wolter and S. T. Tuohy. Curvature computations for degenerate surface patches. *Computer Aided Geometric Design*, 9(4):241–270, September 1992.
454. S.-T. Wu and L. N. Andrade. Marching along a regular surface/surface intersection with circular steps. *Computer Aided Geometric Design*, 16(4):249–268, May 1999.
455. F. Yamaguchi. *Curves and Surfaces in Computer Aided Geometric Design*. Springer-Verlag, NY, 1988.
456. F. Yamaguchi. A shift of playground for geometric processing from Euclidean to homogeneous. *The Visual Computer*, 14(7):315–327, 1998.
457. Y. Yamaguchi. Differential properties at singular points of parametric surfaces. In P. Brunet, C. M. Hoffmann, and D. Roller, editors, *CAD-Tools and Algorithms for Product Design*, pages 211–221. Springer, 2000.
458. X. Ye and T. Maekawa. Differential geometry of intersection curves of two surfaces. *Computer Aided Geometric Design*, 16(8):767–788, September 1999.
459. W. I. Zangwill and C. B. Garcia. *Pathways to solutions, fixed points, and equilibria*. Prentice-Hall, Englewood Cliffs, NJ, 1981.
460. C. Zhang and F. Cheng. Removing local irregularities of NURBS surfaces by modifying highlight lines. *Computer-Aided Design*, 30(12):923–930, October 1998.
461. J. Zhou, E. C. Sherbrooke, and N. M. Patrikalakis. Computation of stationary points of distance functions. *Engineering with Computers*, 9(4):231–246, Winter 1993.