

Publications

A. Articles in books, refereed Journals and Conference Proceedings

- [1] Über affine zyklonale Radlinien. Sitzungsberichte der Österr. Akademie der Wissenschaften, math.-naturwiss. Kl., Abt. II **191** (1982), 203–211.
- [2] Zwei Verallgemeinerungen der Böschungslinien. Sitzungsberichte der Österr. Akademie der Wissenschaften, math.-naturwiss. Kl., Abt. II **191** (1982), 311–324.
- [3] Geradenhüllbahnen bei Zykloidenbewegungen n-ter Stufe. Mechanism and Machine Theory **18** (1983), 221–223.
- [4] Über Geradenhüllbahnen bei ebenen äquiformen Zwangsläufen. Abhandlungen der Braunschweigischen Wissenschaftlichen Gesellschaft **35** (1983), 25–30.
- [5] Höhere Spiraloiden. Sitzungsberichte der Österr. Akademie der Wissenschaften, math.-naturwiss. Kl., Abt. II **192** (1983), 113–129.
- [6] Verallgemeinerte Böschungslinien, die geodätische Linien eines Kegels sind. Sitzungsberichte der Österr. Akademie der Wissenschaften, math.-naturwiss. Kl., Abt. II **192** (1983), 365–383.
- [7] Spezielle äquiforme Zwangsläufe. Aplikace matematiky **29** (1984), 225–232.
- [8] Zur Geometrie höherer Planetenumschwungbewegungen. Monatshefte für Mathematik **97** (1984), 141–156.
- [9] Nichteuklidische Kreisevolventoiden. Mathematisch-statistische Sektion, Forschungszentrum Graz, Bericht Nr. 227 (1984).
- [10] Zur Konstruktion der sphärischen Wendekurve. Mechanism and Machine Theory **20** (1985), 77–79.
- [11] Holditch-Sicheln. Archiv der Mathematik **44** (1985), 373–378.
- [12] Über Böschungslinien im dreidimensionalen elliptischen Raum. Monatshefte für Mathematik **99** (1985), 315–320.
- [13] Ein isotropes Analogon zum Satz von Holditch. Journal of Geometry **26** (1986), 35–42.
- [14] Zum Satz von Holditch in der euklidischen Ebene. Elemente der Mathematik **41** (1986), 1–6.
- [15] Ebene äquiforme Zwangsläufe im Großen I. Resultate der Mathematik **9** (1986), 131–159.
- [16] Böschungslinien und Böschungsflächen im quasielliptischen Raum. Rad jugoslavenske akademije znanosti i umjetnosti **421** (1986), 115–134.
- [17] Die Öffnungsstrecken der Bahnregelflächen geschlossener räumlicher äquiformer Zwangsläufe. Monatshefte für Mathematik **101** (1986), 317–326.
- [18] Globale Eigenschaften ebener isotroper Zwangsläufe (mit O. Röschel). Studia Scientiarum Mathematicarum Hungarica **21** (1986), 207–217.
- [19] Ebene äquiforme Zwangsläufe im Großen II. Resultate der Mathematik **11** (1987), 122–143.
- [20] Sätze vom Holditch-Typ über den Flächeninhalt kinematisch erzeugter unbeschränkter Bereiche. Anzeiger der Österr. Akademie der Wissenschaften, math.-naturwiss. Kl. **124** (1987), 43–51.

- [21] Zur globalen Kinematik einer fünfgliedrigen Untergruppe der ebenen Laguerre-Gruppe. Časopis pro pestovani matematiky **112** (1987), 401–410.
- [22] Zur globalen Raumkinematik. Monatshefte für Mathematik **103** (1987), 289–302.
- [23] Über geschlossene sphärische Kurven. Elemente der Mathematik **42** (1987), 62–68.
- [24] Über Scheitel von Normalrissen einer Raumkurve. Sitzungsberichte der Österr. Akademie der Wissenschaften, math.-naturwiss. Kl., Abt. II **196** (1987), 39–48.
- [25] Zur globalen Geometrie der Regelflächen im einfach isotropen Raum. Sitzungsberichte der Österr. Akademie der Wissenschaften, math.-naturwiss. Kl., Abt. II **196** (1987), 141–159.
- [26] Regelflächen konstanter Breite. Proceedings of the Congress of Geometry, Thessaloniki, 1987, 131–156.
- [27] Globale Eigenschaften der Pseudostriktionslinien einer Regelfläche. Beiträge zur Algebra und Geometrie **26** (1987), 101–112.
- [28] Öffnungsinvarianten der Bahnregelflächen räumlicher euklidischer Zwangsläufe (mit O. Röschel). Beiträge zur Algebra und Geometrie **27** (1988), 97–111.
- [29] Über Zindler-Kurven in euklidischen Räumen. Manuscripta Mathematica **60** (1988), 217–220.
- [30] Curves and tensor product surfaces with third order geometric continuity. Proceedings International Conference on Engineering Graphics and Descriptive Geometry, Vienna, 1988, Vol. 2, 107–116.
- [31] Interpolierende Kurven und Flächen mit geometrischer Stetigkeit höherer Ordnung. Proceedings Austrographics'88, Informatik-Fachberichte **183**, Springer-Verlag, 1988, 181–200.
- [32] Eine Verfeinerung der Isophotenmethode zur Qualitätsanalyse von Freiformflächen. CAD und Computergraphik **11** (1988), 99–109.
- [33] Geometrisches Modellieren mit rationalen Kurven und Flächen. CAD und Computergraphik **11** (1988), 143–152.
- [34] Globale äquiforme Kinematik (mit G. Hager). Proceedings 13. Differentialgeometrie-Kolloquium, TU München, 1988, 34–38.
- [35] Bemerkungen zum Satz von Jacobi und Scherrer über das Hauptnormalenbild einer Raumkurve. Rad Jugoslavenske akademije znanosti i umjetnosti **435** (1988), 27–33.
- [36] Eine affine kinematische Abbildung II (mit W. Rath). Rad Jugoslavenske akademije znanosti i umjetnosti **435** (1988), 123–138.
- [37] Visualizing curvature discontinuities of free-form surfaces. Proceedings Eurographics '89, North-Holland, 1989, 529–536.
- [38] Curvature continuous triangular interpolants (with H. Hagen). In: T. Lyche, L.L. Schumaker (eds.): Mathematical Methods in Computer Aided Geometric Design, Academic Press, 1989, 373–384.
- [39] Ebene konvexe Affinzwangsläufe (mit W. Rath). Časopis pro pestovani matematiky **114** (1989), 279–288.
- [40] Projectively invariant classes of geometric continuity for CAGD. Computer Aided Geometric Design **6** (1989), 307–321.
- [41] Die Flächenvektoren der Bahnkurven geschlossener räumlicher Zwangsläufe (mit W. Rath). Beiträge zur Algebra und Geometrie **29** (1989), 143–160.

- [42] Globale Eigenschaften sphärischer Zwangsläufe. *Jugoslavenske akademije znanosti i umjetnosti* **444** (1989), 53–62.
- [43] Smooth curves under tension. *Computer Aided Design* **22** (1990), 241–245.
- [44] Modified multiquadric methods for scattered data interpolation over a sphere (with M. Eck). *Computer Aided Geometric Design* **7** (1990), 313–321.
- [45] Interpolation von Meßdaten auf Flächen (mit A. Divivier). In: J. Encarnacao, J. Hoschek, J. Rix (eds.): *Geometrische Verfahren der Graphischen Datenverarbeitung*, Springer, 1990, 104–120.
- [46] Scattered data interpolation based upon generalized minimum norm networks. *Constructive Approximation* **7** (1991), 247–256.
- [47] A projective algorithm for curvature continuous rational splines. In: G. Farin (ed.): *NURBS for Curve and Surface Design*, SIAM, 1991, 141–148.
- [48] Locally controllable conic splines with curvature continuity. *ACM Transactions on Graphics* **10** (1991), 366–377.
- [49] Visualizing functions on a surface (with H. Hagen and A. Divivier). *Journal of Visualization and Computer Animation* **2** (1991), 52–58.
- [50] Classification using normal curves (with T.D. DeRose). *SPIE Proceedings 1610, Conference on Curves and Surfaces in Computer Vision and Graphics II*, Boston, 1991, 217–228.
- [51] Interpolation on surfaces using minimum norm networks. *Computer Aided Geometric Design* **9** (1992), 51–67.
- [52] Fat surfaces: a trivariate approach to triangle-based interpolation on surfaces (with R.E. Barnhill and K. Opitz). *Computer Aided Geometric Design* **9** (1992), 365–378.
- [53] The geometry of Tchebycheffian splines. *Computer Aided Geometric Design* **10** (1993), 181–210.
- [54] Helix splines as an example of affine Tchebycheffian splines (with M. Wagner). *Advances in Computational Mathematics* **2** (1994), 123–142.
- [55] Applications of the dual Bézier representation of rational curves and surfaces. In: P.J. Laurent, A. LeMéhauté, and L.L. Schumaker (eds.), *Curves and Surfaces in Geometric Design*, A K Peters, Wellesley, MA, 1994, 377–384.
- [56] Symmetric Tchebycheffian B-spline schemes (with M. Wagner). In: P.J. Laurent, A. LeMéhauté, and L.L. Schumaker (eds.), *Curves and Surfaces in Geometric Design*, A K Peters, Wellesley, MA, 1994, 483–490.
- [57] Kinematische Geometrie. In: O. Giering und J. Hoschek (eds.), *Geometrie und ihre Anwendungen*, Hanser, 1994, 141–175.
- [58] Computing shortest paths on polyhedra: applications in geometric modeling and scientific visualization (with K. Opitz). *International Journal of Computational Geometry & Applications* **4** (1994), 165–178.
- [59] Curvature analysis and visualization for functions defined on Euclidean spaces or surfaces (with K. Opitz). *Computer Aided Geometric Design* **11** (1994), 655–674.
- [60] H. Pottmann, “Curve design with rational Pythagorean-hodograph curves,” *Advances in Computational Mathematics*, vol. 3, pp. 147–170, 1995.
- [61] H. Pottmann, “Rational curves and surfaces with rational offsets,” *Computer Aided Geometric Design*, vol. 12, pp. 175–192, 1995.

- [62] H. Pottmann and G. Farin, “Developable rational Bézier and B-spline surfaces,” *Computer Aided Geometric Design*, vol. 12, pp. 513–531, 1995.
- [63] A. Kolb, H. Pottmann, and H. Seidel, “Fair surface reconstruction using quadratic functionals,” *Computer Graphics Forum*, vol. 14, pp. 469–479, 1995.
- [64] J. Hoschek and H. Pottmann, “Interpolation and approximation with developable B-spline surfaces,” in *Mathematical Methods for Curves and Surfaces* (M. Daehlen, T. Lyche, and L. Schumaker, eds.), pp. 255–264, Nashville, TN: Vanderbilt University Press, 1995.
- [65] A. Kolb, H. Pottmann, and H. Seidel, “Surface reconstruction based upon minimum norm networks,” in *Mathematical Methods for Curves and Surfaces* (M. Daehlen, T. Lyche, and L. Schumaker, eds.), pp. 293–304, Nashville, TN: Vanderbilt University Press, 1995.
- [66] H. Pottmann, “Studying NURBS curves and surfaces with classical geometry,” in *Mathematical Methods for Curves and Surfaces* (M. Daehlen, T. Lyche, and L. Schumaker, eds.), pp. 413–438, Nashville, TN: Vanderbilt University Press, 1995.
- [67] M. Wagner and H. Pottmann, “Geometric motion design,” in *Modelling and Planning for Sensor based Intelligent Robot Systems* (H. Bunke, T. Kanade, and H. Noltemeier, eds.), vol. 21 of *Series in Machine Perception and Artificial Intelligence*, pp. 104–119, World Scientific, 1995.
- [68] M. Mazure and H. Pottmann, “Tchebycheff curves,” in *Total Positivity and Its Applications* (M. Gasca and C. Micchelli, eds.), pp. 187–218, Dordrecht: Kluwer Academic Publishers, 1995.
- [69] R. Farouki and H. Pottmann, “Polynomial and rational Pythagorean-hodograph curves reconciled,” in *The Mathematics of Surfaces VI* (G. Mullineux, ed.), pp. 355–378, Oxford University Press, 1996.
- [70] N. Pfeifer and H. Pottmann, “Surface models on the basis of a triangular mesh — surface reconstruction,” in *International Archives of Photogrammetry and Remote Sensing*, vol. 31(Part B3), (Vienna), pp. 638–643, 1996.
- [71] W. Lü and H. Pottmann, “Pipe surfaces with rational spine curve are rational,” *Computer Aided Geometric Design*, vol. 13, pp. 621–628, 1996.
- [72] H. Pottmann, W. Lü, and B. Ravani, “Rational ruled surfaces and their offsets,” *Graphical Models and Image Processing*, vol. 58, pp. 544–552, 1996.
- [73] M. Peternell and H. Pottmann, “Designing rational surfaces with rational offsets,” in *Advanced Topics in Multivariate Approximation* (F. Fontanella, K. Jetter, and P. Laurent, eds.), pp. 275–286, World Scientific, 1996.
- [74] H. Pottmann and P. Paukowitz, “Inflections of planar surface curves,” *Computer Aided Geometric Design*, vol. 14, pp. 293–297, 1997.
- [75] M. Peternell and H. Pottmann, “Computing rational parametrizations of canal surfaces,” *Journal of Symbolic Computation*, vol. 23, pp. 255–266, 1997.
- [76] H. Pottmann, “General offset surfaces,” *Neural, Parallel & Scientific Computations*, vol. 5, pp. 55–80, 1997.
- [77] J. Wallner and H. Pottmann, “Spline orbifolds,” in *Curves and Surfaces with Applications in CAGD* (A. LeMéhauté, C. Rabut, and L. Schumaker, eds.), pp. 445–464, Vanderbilt University Press, 1997.
- [78] J. Wallner and H. Pottmann, “Rational blending surfaces between quadrics,” *Computer Aided Geometric Design*, vol. 14, pp. 407–419, 1997.

- [79] H. Pottmann and M. Wagner, “Principal surfaces,” in *The Mathematics of Surfaces VII* (T. Goodman and R. Martin, eds.), pp. 337–362, Information Geometers Ltd., 1997.
- [80] H. Pottmann and M. Peternell, “Applications of Laguerre geometry in CAGD,” *Computer Aided Geometric Design*, vol. 15, pp. 165–186, 1998.
- [81] M. Peternell and H. Pottmann, “A Laguerre geometric approach to rational offsets,” *Computer Aided Geometric Design*, vol. 15, pp. 223–249, 1998.
- [82] H. Pottmann, M. Peternell, and B. Ravani, “Contributions to computational line geometry,” in *Geometric Modeling and Processing '98*, (Pohang, Korea), pp. 43–81, 1998.
- [83] H. Pottmann, I. Lee, and T. Randrup, “Reconstruction of kinematic surfaces from scattered data,” in *Proceedings Symposium on Geodesy for Geotechnical and Structural Engineering*, (Eisenstadt, Austria), pp. 483–488, 1998.
- [84] M. Neamtu, H. Pottmann, and L. Schumaker, “Designing NURBS cam profiles using trigonometric splines,” *Transactions of the ASME, Journal of Mechanical Design*, vol. 120, pp. 175–180, 1998.
- [85] S. Leopoldseder and H. Pottmann, “Approximation of developable surfaces with cone spline surfaces,” *Computer-Aided Design*, vol. 30, pp. 571–582, 1998.
- [86] H. Pottmann, M. Peternell, and B. Ravani, “Approximation in line space: applications in robot kinematics and surface reconstruction,” in *Advances in Robot Kinematics: Analysis and Control* (J. Lenarčič and M. Husty, eds.), pp. 403–412, Kluwer, 1998.
- [87] H. Pottmann and T. Randrup, “Rotational and helical surface approximation for reverse engineering,” *Computing*, vol. 60, pp. 307–322, 1998.
- [88] J. Wallner, H.-Y. Chen, and H. Pottmann, “Galilei Laguerre geometry and rational circular offsets,” *Contributions to Algebra and Geometry*, vol. 39, pp. 291–305, 1998.
- [89] H. Pottmann, H. Chen, and I. Lee, “Approximation by profile surfaces,” in *The Mathematics of Surfaces VIII* (R. Cripps, ed.), pp. 17–36, Information Geometers, 1998.
- [90] H. Pottmann and M. Wagner, “Contributions to motion based surface design,” *International Journal of Shape Modeling*, vol. 4, pp. 183–196, 1998.
- [91] M. Neamtu, H. Pottmann, and L. Schumaker, “Dual focal splines and rational curves with rational offsets,” *Mathematical Engineering in Industry*, vol. 7, pp. 139–154, 1998.
- [92] H. Chen and H. Pottmann, “Approximation by ruled surfaces,” *Journal of Computational and Applied Mathematics*, vol. 102, pp. 143–156, 1999.
- [93] H. Pottmann, M. Peternell, and B. Ravani, “An introduction to line geometry with applications,” *Computer-Aided Design*, vol. 31, pp. 3–16, 1999.
- [94] M. Peternell, H. Pottmann, and B. Ravani, “On the computational geometry of ruled surfaces,” *Computer-Aided Design*, vol. 31, pp. 17–32, 1999.
- [95] G. Glaeser, J. Wallner, and H. Pottmann, “Collision-free 3-axis milling and selection of cutting tools,” *Computer-Aided Design*, vol. 31, pp. 225–232, 1999.
- [96] H. Chen, I. Lee, S. Leopoldseder, H. Pottmann, T. Randrup, and J. Wallner, “On surface approximation using developable surfaces,” *Graphical Models and Image Processing*, vol. 61, pp. 110–124, 1999.
- [97] H. Pottmann, J. Wallner, G. Gläser, and B. Ravani, “Geometric criteria for gouge-free three-axis milling of sculptured surfaces,” *ASME Journal of Mechanical Design*, vol. 121, pp. 241–248, 1999.
- [98] J. Wallner, G. Gläser, and H. Pottmann, “Geometric contributions to 3-axis milling of sculptured surfaces,” in *Machining Impossible Shapes* (G. Olling, B. Choi, and R. Jerard, eds.), pp. 33–41, Boston: Kluwer Academic Publ., 1999.

- [99] H. Pottmann and J. Wallner, “Approximation algorithms for developable surfaces,” *Computer Aided Geometric Design*, vol. 16, pp. 539–556, 1999.
- [100] H. Pottmann, “A geometric approach to variation diminishing freeform curve schemes,” in *Shape preserving representations in Computer-Aided Design* (J. Peña, ed.), pp. 119–131, New York: Nova Science Publishers, 1999.
- [101] I. Lee, J. Wallner, and H. Pottmann, “Scattered data approximation with kinematic surfaces,” in *Proceedings of Sampling Theory and Applications '99'*, (Loen, Norway), pp. 72–77, 1999.
- [102] H. Pottmann and B. Ravani, “Singularities of motions constrained by contacting surfaces,” *Mechanism and Machine Theory*, vol. 35, pp. 963–984, 2000.
- [103] H. Pottmann, R. Krasauskas, B. Hamann, K. Joy, and W. Seibold, “On piecewise linear approximation of quadratic functions,” *Journal of Geometry and Graphics*, vol. 4, pp. 31–53, 2000.
- [104] M. Peternell and H. Pottmann, “Interpolating functions on lines in 3-space,” in *Curve and Surface Fitting: Saint Malo 1999* (P. Laurent, P. Sablonnière, and L. Schumaker, eds.), pp. 351–358, Nashville, TN: Vanderbilt University Press, 2000.
- [105] J. Wallner and H. Pottmann, “On the geometry of sculptured surface machining,” in *Curve and Surface Design: Saint Malo 1999* (P. Laurent, P. Sablonnière, and L. Schumaker, eds.), pp. 417–432, Nashville, TN: Vanderbilt University Press, 2000.
- [106] J. Wallner, R. Krasauskas, and H. Pottmann, “Error propagation in geometric constructions,” *Computer-Aided Design*, vol. 32, pp. 631–641, 2000.
- [107] H. Pottmann, B. Odehnal, M. Peternell, J. Wallner, and R. A. Haddou, “On optimal tolerancing in computer-aided design,” in *Geometric Modeling and Processing 2000*, (Los Alamitos, CA), pp. 347–363, IEEE Computer Society, 2000.
- [108] H. Pottmann and M. Peternell, “On approximation in spaces of geometric objects,” in *The Mathematics of Surfaces IX* (R. Martin, ed.), pp. 438–458, New York: Springer, 2000.
- [109] H. Pottmann and M. Peternell, “Envelopes – computational theory and applications,” in *Spring Conference on Computer Graphics and its Applications*, (Budmerice, Slovakia), pp. 3–23, 2000.
- [110] M. Bertram, J. Barnes, B. Hamann, K. Joy, H. Pottmann, and D. Wushour, “Piecewise optimal triangulation of scattered data in the plane,” *Computer Aided Geometric Design*, vol. 17, pp. 767–787, 2000.
- [111] B. Odehnal and H. Pottmann, “Computing with discrete models of ruled surfaces and line congruences,” in *Proceedings '2nd Workshop on Computational Kinematics'*, (Seoul, Korea), pp. 211–226, 2001.
- [112] H. Pottmann, J. Wallner, and S. Leopoldseder, “Kinematical methods for the classification, reconstruction and inspection of surfaces,” in *Comptes rendus du Congrès national de mathématiques appliquées et industrielles*, (Corrèze, France), pp. 51–60, 2001.
- [113] J. Wallner, T. Sakkalis, T. Maekawa, H. Pottmann, and G. Yu, “Self-intersections of offset curves and surfaces,” *International Journal of Shape Modeling*, vol. 7, pp. 1–21, 2001.
- [114] R. Farouki and H. Pottmann, “Exact Minkowski products of n complex disks,” *Reliable Computing*, vol. 8, pp. 43–66, 2002.
- [115] T. Smith, R. Farouki, M. al Kandari, and H. Pottmann, “Optimal slicing of free-form surfaces,” *Computer Aided Geometric Design*, vol. 19, pp. 43–64, 2002.

- [116] H. Pottmann and S. Leopoldseder, “Geometries for CAGD,” in *Handbook of 3D Modeling* (G. Farin, J. Hoschek, and M. Kim, eds.), pp. 43–73, Elsevier, 2002.
- [117] D. Hönigmann, J. Ruisz, and H. Pottmann, “Fast model based segmentation of ultrasound data using an active image,” in *Proceedings IEEE Intl. Symposium on Biomedical Imaging: Macro to Nano*, (Washington), pp. 225–228, 2002.
- [118] M. Hofer, H. Pottmann, and B. Ravani, “Subdivision algorithms for motion design based on homologous points,” in *Advances in Robot Kinematics* (J. Lenarčič and F. Thomas, eds.), pp. 235–244, Dordrecht: Kluwer Academic Publ., 2002.
- [119] H. Pottmann, S. Leopoldseder, and M. Hofer, “Simultaneous registration of multiple views of a 3D object,” in *Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences*, vol. XXXIV, Part 3A, Commission III, pp. 265–270, 2002.
- [120] H. Pottmann, S. Leopoldseder, J. Wallner, and M. Peternell, “Recognition and reconstruction of special surfaces from point clouds,” in *Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences*, vol. XXXIV, Part 3A, Commission III, pp. 271–276, 2002.
- [121] M. Peternell and H. Pottmann, “Approximation in the space of planes — applications to geometric modeling and reverse engineering,” *RACSAM (Journal of the National Academy of Sciences of Spain, Series A, Mathematics)*, vol. 96, pp. 243–256, 2002.
- [122] H. Pottmann, S. Leopoldseder, and M. Hofer, “Approximation with active B-spline curves and surfaces,” in *Proceedings of Pacific Graphics 2002*, (Beijing, China), pp. 8–25, IEEE Press, 2002.
- [123] J.-H. Yoon, H. Pottmann, and Y.-S. Lee, “Locally optimal cutting positions for five-axis sculptured surface machining,” *Computer-Aided Design*, vol. 35, pp. 69–81, 2003.
- [124] H. Pottmann and M. Hofer, “Geometry of the squared distance function to curves and surfaces,” in *Visualization and Mathematics III* (H. Hege and K. Polthier, eds.), pp. 223–244, Springer, 2003.
- [125] H. Pottmann and S. Leopoldseder, “A concept for parametric surface fitting which avoids the parametrization problem,” *Computer Aided Geometric Design*, vol. 20, pp. 343–362, 2003.
- [126] J. Ruisz, D. Hönigmann, and H. Pottmann, “Segmentation and modeling of approximately rotationally symmetric objects in 3D ultrasound,” in *Proc. 3D Digital Imaging and Modeling*, (Banff, Canada), pp. 124–131, 2003.
- [127] H. Mühlthaler and H. Pottmann, “Computing the Minkowski sum of ruled surfaces,” *Graphical Models*, vol. 65, pp. 369–384, 2003.
- [128] M. Hofer, H. Pottmann, and B. Ravani, “Geometric design of motions constrained by a contacting surface pair,” *Computer Aided Geometric Design*, vol. 20, pp. 523–547, 2003.
- [129] M. Peternell, H. Pottmann, and T. Steiner, “Hough transform and Laguerre geometry for the recognition and reconstruction of special 3D shapes,” Tech. Rep. 100, Institute of Geometry, 2003.
- [130] S. Leopoldseder, H. Pottmann, and H. Zhao, “The d^2 -tree: A hierarchical representation of the squared distance function,” Tech. Rep. 101, Institute of Geometry, 2003.
- [131] J. Wallner and H. Pottmann, “Variational interpolation of subsets,” *Constr. Approx.*, vol. 20, pp. 233–248, 2004.
- [132] H. Pottmann, S. Leopoldseder, and M. Hofer, “Registration without ICP,” Tech. Rep. 91, Institute of Geometry, 2002.

- [133] H. Pottmann and M. Hofer, “A variational approach to spline curves on surfaces,” Tech. Rep. 115, Institute of Geometry, 2003.
- [134] M. Hofer, H. Pottmann, and B. Ravani, “From curve design algorithms to the design of rigid body motions,” *The Visual Computer*, vol. 20, 2004. To appear.
- [135] H. Pottmann, J. Eberhardter, and B. Ravani, “Stereographic projection of Study’s quadric,” tech. rep., 2003.
- [136] H. Pottmann, M. Hofer, B. Odehnal, and J. Wallner, “Line geometry for 3D shape understanding and reconstruction,” in *Proceedings European Conf. on Computer Vision*, 2004. To appear.
- [137] H. Pottmann, T. Steiner, M. Hofer, C. Haider, and A. Hanbury, “The isophotic metric and its application to feature sensitive morphology on surfaces,” in *Proceedings European Conf. on Computer Vision*, 2004. To appear.
- [138] M. Hofer and H. Pottmann, “Orientierung von Laserscanner-Punktwolken,” *Vermessung & Geoinformation*, 2004. To appear.
- [139] H. Pottmann, “Geometry and convergence analysis of registration algorithms,” Tech. Rep. 117, Geometry Preprint Series, TU Wien, 2004.
- [140] W. Wang, H. Pottmann, and Y. Liu, “Using squared distance minimization for curve reconstruction from unorganized data points,” tech. rep., University of Hong Kong, 2004.

B. Books

- [1] Computational Line Geometry (with J. Wallner). Springer Verlag, Heidelberg, 2001.