

Table of Contents

Exact Medial Axis Computation for Triangulated Solids with Respect to Piecewise Linear Metrics	1
<i>Oswin Aichholzer, Wolfgang Aigner, Franz Aurenhammer, and Bert Jüttler</i>	
Exact Medial Axis Computation for Circular Arc Boundaries	28
<i>Oswin Aichholzer, Wolfgang Aigner, Thomas Hackl, and Nicola Wolpert</i>	
Complex Bézier Curves and the Geometry of Polynomials	43
<i>Rachid Ait-Haddou and Taishin Nomura</i>	
The Shape of Conchoids to Plane Algebraic Curves	66
<i>Juan Gerardo Alcázar</i>	
Estimation of Integral Properties of a Planar Closed Curve Based on a Quadratic Spline Quasi-Interpolant	80
<i>C. Allouch, P. Sablonnière, and D. Sibih</i>	
Design of Multiresolution Operators Using Statistical Learning Tools: Application to Compression of Signals	94
<i>Francesc Aràndiga, Albert Cohen, and Dionisio F. Yáñez</i>	
Weighted-Power _p Nonlinear Subdivision Schemes	109
<i>Francesc Aràndiga, Rosa Donat, and Maria Santágueda</i>	
Tracking Level Set Representation Driven by a Stochastic Dynamics	130
<i>Christophe Avenel, Etienne Mémin, and Patrick Pérez</i>	
G^2 Hermite Interpolation with Curves Represented by Multi-valued Trigonometric Support Functions	142
<i>Bohumír Bastl, Miroslav Lávička, and Zbyněk Šír</i>	
Approximating Algebraic Space Curves by Circular Arcs	157
<i>Szilvia Béla and Bert Jüttler</i>	
Generating Series for Drawing the Output of Dynamical Systems	178
<i>Farida Benmakrouha, Christiane Hespel, and Edouard Monnier</i>	
Practical Mixed-Integer Optimization for Geometry Processing	193
<i>David Bommes, Henrik Zimmer, and Leif Kobbelt</i>	
Non-degenerate Developable Triangular Bézier Patches	207
<i>Alicia Cantón and Leonardo Fernández-Jambrina</i>	

Stable Splitting of Bivariate Splines Spaces by Bernstein-Bézier Methods	220
<i>Oleg Davydov and Abid Saeed</i>	
Mesh Segmentation and Model Extraction	236
<i>Julie Digne, Jean-Michel Morel, Charyar Mehdi-Souzani, and Claire Lartigue</i>	
Design of C^2 Spatial Pythagorean-Hodograph Quintic Spline Curves by Control Polygons	253
<i>Rida T. Farouki, Carla Manni, Francesca Pelosi, and Maria Lucia Sampoli</i>	
Shape Curvatures of Planar Rational Spirals	270
<i>Georgi H. Georgiev</i>	
Volumetric Geometry Reconstruction of Turbine Blades for Aircraft Engines	280
<i>David Großmann and Bert Jüttler</i>	
Globally Convergent Adaptive Normal Multi-scale Transforms	296
<i>Stanislav Harizanov</i>	
Helmholtz-Hodge Decomposition on $[0, 1]^d$ by Divergence-Free and Curl-Free Wavelets	311
<i>Souleymane Kadri Harouna and Valérie Perrier</i>	
Finite Element Analysis with B-Splines: Weighted and Isogeometric Methods	330
<i>Klaus Höllig, Jörg Hörner, and Axel Hoffacker</i>	
$\sqrt{3}$ -Based 1-Form Subdivision	351
<i>Jinghao Huang and Peter Schröder</i>	
Curvature of Approximating Curve Subdivision Schemes	369
<i>Kęstutis Karčiauskas and Jörg Peters</i>	
Fitting a Surface to One of Its Sectional Planar Curves Using Adaptive Trees in Spaces of Curves	382
<i>Yannick L. Kergosien</i>	
Verified Spatial Subdivision of Implicit Objects Using Implicit Linear Interval Estimations	402
<i>Stefan Kiel</i>	
Image Separation Using Wavelets and Shearlets	416
<i>Gitta Kutyniok and Wang-Q Lim</i>	
On a Special Class of Polynomial Surfaces with Pythagorean Normal Vector Fields	431
<i>Miroslav Lávička and Jan Vršek</i>	

Convergence Rate of the Causal Jacobi Derivative Estimator	445
<i>Da-yan Liu, Olivier Gibaru, and Wilfrid Perruquetti</i>	
Continuous Deformations by Isometry Preserving Shape Integration	456
<i>Janick Martinez Esturo, Christian Rössl, and Holger Theisel</i>	
On a (W)ENO-Type Multiscale Representation Based on Quincunx Refinement: Application to Image Compression	473
<i>Basarab Matei, Sylvain Meignen, and Anastasia Zakharova</i>	
OpenFlipper: An Open Source Geometry Processing and Rendering Framework	488
<i>Jan Möbius and Leif Kobbelt</i>	
Parameterization of Contractible Domains Using Sequences of Harmonic Maps	501
<i>Thien Nguyen and Bert Jüttler</i>	
Nonlinear L_1C^1 Interpolation: Application to Images	515
<i>E. Nyrî, O. Gibaru, and Ph. Auquiart</i>	
Normal Multi-scale Transforms for Surfaces	527
<i>Peter Oswald</i>	
Generalized Dupin Cyclides with Rational Lines of Curvature	543
<i>Martin Peternell</i>	
Spline Volume Fairing	553
<i>Kjell Fredrik Pettersen and Vibeke Skytt</i>	
Neuroelectric Current Localization from Combined EEG/MEG Data . . .	562
<i>Francesca Pitolli</i>	
Bootstrap-Based Normal Reconstruction	575
<i>Ahmad Ramli and Ioannis Ivrissimtzis</i>	
Couple Points – A Local Approach to Global Surface Analysis	586
<i>Christian Rössl and Holger Theisel</i>	
Chordal Cubic Spline Quasi Interpolation	603
<i>P. Sablonnière, D. Sbibi, and M. Tahrichi</i>	
Multiple Subdivision Schemes	612
<i>Tomas Sauer</i>	
On a Linear Programming Approach to the Discrete Willmore Boundary Value Problem and Generalizations	629
<i>Thomas Schoenemann, Simon Masnou, and Daniel Cremers</i>	

Interpolation Function of Generalized q -Bernstein-Type Basis Polynomials and Applications	647
<i>Yilmaz Simsek</i>	
Differential Behaviour of Iteratively Generated Curves	663
<i>Dmitry Sokolov, Christian Gentil, and Hicham Bensoudane</i>	
Algebraic Curves of Low Convolution Degree	681
<i>Jan Vršek and Miroslav Lávička</i>	
A Logistic Model for the Degradation of Triangle Mesh Normals	697
<i>Ying Yang and Ioannis Ivrissimtzis</i>	
On Single Image Scale-Up Using Sparse-Representations	711
<i>Roman Zeyde, Michael Elad, and Matan Protter</i>	
Periodic T-Splines and Tubular Surface Fitting	731
<i>Jianmin Zheng and Yimin Wang</i>	
Author Index	747