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Soggetti	Computer graphics Computer simulation Algorithms Computer-aided engineering Computer science—Mathematics Discrete mathematics Computer Graphics Computer Modelling Computer-Aided Engineering (CAD, CAE) and Design Discrete Mathematics in Computer Science
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Nota di contenuto	Preface -- Finite Element Approximation with Hierarchical B-Splines -- Non-linear Local Polynomial Regression Multiresolution Methods using 1-norm Minimization with Application to Signal Processing -- A New Class of Interpolatory L-splines with Adjoint End Conditions -- On a New Conformal Functional for Simplicial Surfaces -- Evaluation of Smooth Spline Blending Surfaces using GPU -- Implicit Equations of Non-degenerate Rational Bezier Quadric Triangles -- Support Vector Machines for Classification of Geometric Primitives in Point Clouds -- Computing Topology Preservation of RBF Transformations for Landmark-Based Image Registration -- New Bounds on the Lebesgue Constants of Leja Sequences on the Unit Disc and on -Leja Sequences

-- A Curvature Smooth Lofting Scheme for Singular Point Treatments -- A Consistent Statistical Framework for Current-Based Representations of Surfaces -- Isotropic M¨obius geometry and i-M circles on singular isotropic Cyclides -- Symbolic Computation of Equi-affine Evolute for Plane B-spline Curves -- On-line CAD Reconstruction with Accumulated Means of Local Geometric Properties -- Analysis of Intrinsic Mode Functions Based on Curvature Motion-like PDEs -- Differential Geometry Revisited by Biquaternion Clifford Algebra -- Ridgelet Methods for Linear Transport Equations -- Basis Functions for Scattered Data Quasi-interpolation -- Optimality of a Gradient Bound for Polyhedral Wachspress Coordinates -- Mass Smoothers in Geometric Multigrid for Isogeometric Analysis -- On the Set of Trajectories of the Control Systems with Limited Control Resources -- High Order Reconstruction from Cross-sections -- Adaptive Atlas of Connectivity Maps -- Matrix Generation in Isogeometric Analysis by Low Rank Tensor Approximation -- Combination of Piecewise-geodesic Curves for Interactive Image Segmentation -- A Fully-nested Interpolatory Quadrature Based on Fej´er's Second Rule -- CINPACT-splines: A Class of C1 Curves with Compact Support -- Error Estimates for Approximate Operator Inversion via Kernel-based Methods -- Boundary Controlled Iterated Function Systems -- Construction of Smooth Isogeometric Function Spaces on Singularly Parameterized Domains -- Reflexive Symmetry Detection in Single Image.

Sommario/riassunto

This volume constitutes the thoroughly refereed post-conference proceedings of the 8th International Conference on Curves and Surfaces, held in Paris, France, in June 2014. The conference had the overall theme: "Representation and Approximation of Curves and Surfaces and Applications". The 32 revised full papers presented were carefully reviewed and selected from 39 submissions. The scope of the conference was on following topics: approximation theory, computer-aided geometric design, computer graphics and visualization, computational geometry and topology, geometry processing, image and signal processing, interpolation and smoothing, mesh generation, finite elements and splines, scattered data processing and learning theory, sparse and high-dimensional approximation, subdivision, wavelets and multi-resolution method.