Carla Manni

List of Publications by Year
in descending order

100 papers	2,009 citations	236925 25 h-index	302126 39 g-index
103 all docs	103 docs citations	103 times ranked	569 citing authors

#	ARTICLE	IF	CITATIONS
1	On a class of weak Tchebycheff systems. Numerische Mathematik, 2005, 101, 333-354.	1.9	90
2	Isogeometric analysis with Powell–Sabin splines for advection–diffusion–reaction problems. Computer Methods in Applied Mechanics and Engineering, 2012, 221-222, 132-148.	6.6	83
3	Generalized B-splines as a tool in isogeometric analysis. Computer Methods in Applied Mechanics and Engineering, 2011, 200, 867-881.	6.6	72
4	Robust and optimal multi-iterative techniques for IgA Galerkin linear systems. Computer Methods in Applied Mechanics and Engineering, 2015, 284, 230-264.	6.6	67
5	Identification of spatial PH quintic Hermite interpolants with near-optimal shape measures. Computer Aided Geometric Design, 2008, 25, 274-297.	1.2	66
6	Symbol-Based Multigrid Methods for Galerkin B-Spline Isogeometric Analysis. SIAM Journal on Numerical Analysis, 2017, 55, 31-62.	2.3	62
7	Effortless quasi-interpolation in hierarchical spaces. Numerische Mathematik, 2016, 132, 155-184.	1.9	57
8	Quadratic spline quasi-interpolants on Powell-Sabin partitions. Advances in Computational Mathematics, 2007, 26, 283-304.	1.6	54
9	Blended B-spline construction on unstructured quadrilateral and hexahedral meshes with optimal convergence rates in isogeometric analysis. Computer Methods in Applied Mechanics and Engineering, 2018, 341, 609-639.	6.6	49
10	Efficient Solution of the Complex Quadratic Tridiagonal System for C2 PH Quintic Splines. Numerical Algorithms, 2001, 27, 35-60.	1.9	48
11	On the spectrum of stiffness matrices arising from isogeometric analysis. Numerische Mathematik, 2014, 127, 751-799.	1.9	48
12	Characterization and construction of helical polynomial space curves. Journal of Computational and Applied Mathematics, 2004, 162, 365-392.	2.0	47
13	Geometric Hermite interpolation by spatial Pythagorean-hodograph cubics. Advances in Computational Mathematics, 2005, 22, 325-352.	1.6	46
14	Quasi-interpolation in isogeometric analysis based on generalized B-splines. Computer Aided Geometric Design, 2010, 27, 656-668.	1.2	45
15	Optimizing domain parameterization in isogeometric analysis based on Powell–Sabin splines. Journal of Computational and Applied Mathematics, 2015, 289, 68-86.	2.0	44
16	A control polygon scheme for design of planar PH quintic spline curves. Computer Aided Geometric Design, 2007, 24, 28-52.	1.2	42
17	Robust and optimal multi-iterative techniques for IgA collocation linear systems. Computer Methods in Applied Mechanics and Engineering, 2015, 284, 1120-1146.	6.6	40
18	Isogeometric collocation methods with generalized B-splines. Computers and Mathematics With Applications, 2015, 70, 1659-1675.	2.7	39

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19	Design of rational rotation–minimizing rigid body motions by Hermite interpolation. Mathematics of Computation, 2011, 81, 879-903.	2.1	37
20	Convergence of univariate non-stationary subdivision schemes via asymptotic similarity. Computer Aided Geometric Design, 2015, 37, 1-8.	1.2	34
21	Shape-Preserving C 2 Functional Interpolation via Parametric Cubics. Numerical Algorithms, 2001, 28, 229-254.	1.9	33
22	Quintic space curves with rational rotation-minimizing frames. Computer Aided Geometric Design, 2009, 26, 580-592.	1.2	29
23	From NURBS to NURPS geometries. Computer Methods in Applied Mechanics and Engineering, 2013, 255, 238-254.	6.6	29
24	On Shape Preserving C2 Hermite Interpolation. BIT Numerical Mathematics, 2001, 41, 127-148.	2.0	28
25	Computation of optimal composite re-parameterizations. Computer Aided Geometric Design, 2001, 18, 875-897.	1.2	27
26	Spectral analysis and spectral symbol of matrices in isogeometric collocation methods. Mathematics of Computation, 2015, 85, 1639-1680.	2.1	27
27	Multi-degree B-splines: Algorithmic computation and properties. Computer Aided Geometric Design, 2020, 76, 101792.	1.2	24
28	Monotone interpolation of order 3 by C2 cubic splines. IMA Journal of Numerical Analysis, 1997, 17, 305-320.	2.9	23
29	Sharp error estimates for spline approximation: Explicit constants, n-widths, and eigenfunction convergence. Mathematical Models and Methods in Applied Sciences, 2019, 29, 1175-1205.	3.3	23
30	Explicit error estimates for spline approximation of arbitrary smoothness in isogeometric analysis. Numerische Mathematik, 2020, 144, 889-929.	1.9	23
31	Shape-Preserving C 3 Interpolation: The Curve Case. Advances in Computational Mathematics, 2003, 18, 41-63.	1.6	22
32	Shape-preserving interpolation by G1 and G2 PH quintic splines. IMA Journal of Numerical Analysis, 2003, 23, 175-195.	2.9	22
33	Spectral analysis and spectral symbol of matrices in isogeometric Galerkin methods. Mathematics of Computation, 2016, 86, 1343-1373.	2.1	22
34	C1 comonotone Hermite interpolation via parametric cubics. Journal of Computational and Applied Mathematics, 1996, 69, 143-157.	2.0	21
35	Isogeometric analysis in advection–diffusion problems: Tension splines approximation. Journal of Computational and Applied Mathematics, 2011, 236, 511-528.	2.0	21
36	Foundations of Spline Theory: B-Splines, Spline Approximation, and Hierarchical Refinement. Lecture Notes in Mathematics, 2018, , 1-76.	0.2	21

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37	Local shape-preserving interpolation by space curves. IMA Journal of Numerical Analysis, 2001, 21, 301-325.	2.9	19
38	Geometric construction of spline curves with tension properties. Computer Aided Geometric Design, 2003, 20, 579-599.	1.2	19
39	Shape-preserving interpolants with high smoothness. Journal of Computational and Applied Mathematics, 2003, 157, 383-405.	2.0	19
40	Polynomial cubic splines with tension properties. Computer Aided Geometric Design, 2010, 27, 592-610.	1.2	18
41	Computation of quadrature rules for integration with respect to refinable functions on assigned nodes. Applied Numerical Mathematics, 2015, 90, 168-189.	2.1	18
42	Adaptive refinement with locally linearly independent LR B-splines: Theory and applications. Computer Methods in Applied Mechanics and Engineering, 2020, 369, 113230.	6.6	18
43	On the dimension of bivariate spline spaces on generalized quasi-cross-cut partitions. Journal of Approximation Theory, 1992, 69, 141-155.	0.8	17
44	Real-time CNC interpolators for BÃ©zier conics. Computer Aided Geometric Design, 2001, 18, 639-655.	1.2	17
45	On discrete hyperbolic tension splines. Advances in Computational Mathematics, 1999, 11, 331-354.	1.6	16
46	Quasi-interpolation projectors for box splines. Journal of Computational and Applied Mathematics, 2008, 221, 416-429.	2.0	16
47	Generalized spline spaces over T-meshes: Dimension formula and locally refined generalized B-splines. Applied Mathematics and Computation, 2016, 272, 187-198.	2.2	16
48	Convergence analysis of <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si1.gif" overflow="scroll"><mml:mrow><mml:msup><mml:mrow><mml:mi>C</mml:mi></mml:mrow><mml:mrow><mml:mn>2</mml:mn></mml:m Hermite interpolatory subdivision schemes by explicit joint spectral radius formulas. Linear Algebra and Its Applications, 2011, 434, 884-902.	0.9	15
49	Lusin theorem, GLT sequences and matrix computations: An application to the spectral analysis of PDE discretization matrices. Journal of Mathematical Analysis and Applications, 2017, 446, 365-382.	1.0	15
50	Are the eigenvalues of the Bâ€spline isogeometric analysis approximation of âˆ'Î"<i>u</i>â€‰=â€‰<i>Î»</i><i>u</i> known in almost closed form?. Numerical Linear Algebra With Applications, 2018, 25, e2198.	1.6	15
51	A Tchebycheffian Extension of Multidegree B-Splines: Algorithmic Computation and Properties. SIAM Journal on Numerical Analysis, 2020, 58, 1138-1163.	2.3	15
52	A bicubic shape-preserving blending scheme. Computer Aided Geometric Design, 1996, 13, 307-331.	1.2	14
53	A local shape-preserving interpolation scheme for scattered data. Computer Aided Geometric Design, 1999, 16, 385-405.	1.2	13
54	Tensioned Quasi-Interpolation Via Geometric Continuity. Advances in Computational Mathematics, 2004, 20, 105-127.	1.6	13

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55	On the approximation order of a space data-dependent PH quintic Hermite interpolation scheme. Computer Aided Geometric Design, 2013, 30, 148-158.	1.2	13
56	A local scheme for bivariate co-monotone interpolation. Computer Aided Geometric Design, 1991, 8, 371-391.	1.2	12
57	On the dimension of Tchebycheffian spline spaces over planar T-meshes. Computer Aided Geometric Design, 2016, 45, 151-173.	1.2	12
58	Monotonicity-preserving interpolation of nongridded data. Computer Aided Geometric Design, 1996, 13, 467-495.	1.2	11
59	Constructing C3 shape preserving interpolating space curves. Advances in Computational Mathematics, 2001, 14, 103-127.	1.6	11
60	Application of optimal spline subspaces for the removal of spurious outliers in isogeometric discretizations. Computer Methods in Applied Mechanics and Engineering, 2022, 389, 114260.	6.6	11
61	On a class of polynomial triangular macro-elements. Journal of Computational and Applied Mathematics, 1996, 73, 45-64.	2.0	9
62	On Constrained Nonlinear Hermite Subdivision. Constructive Approximation, 2008, 28, 291-331.	3.0	9
63	A geometric approach for Hermite subdivision. Numerische Mathematik, 2010, 115, 333-369.	1.9	9
64	Curve and surface construction using Hermite subdivision schemes. Journal of Computational and Applied Mathematics, 2010, 233, 1660-1673.	2.0	9
65	Isogeometric analysis for 2D and 3D curl–div problems: Spectral symbols and fast iterative solvers. Computer Methods in Applied Mechanics and Engineering, 2019, 344, 970-997.	6.6	9
66	Local Hierarchical h-Refinements in IgA Based on Generalized B-Splines. Lecture Notes in Computer Science, 2014, , 341-363.	1.3	9
67	Shape-preserving interpolation of spatial data by Pythagorean-hodograph quintic spline curves. IMA Journal of Numerical Analysis, 2015, 35, 478-498.	2.9	8
68	Spectral analysis of matrices in Galerkin methods based on generalized B-splines with high smoothness. Numerische Mathematik, 2017, 135, 169-216.	1.9	8
69	Comonotone parametric C1 interpolation of nongridded data. Journal of Computational and Applied Mathematics, 1996, 75, 147-169.	2.0	7
70	Splines over regular triangulations in numerical simulation. CAD Computer Aided Design, 2017, 82, 100-111.	2.7	7
71	Tchebycheffian spline spaces over planar T-meshes: Dimension bounds and dimension instabilities. Journal of Computational and Applied Mathematics, 2019, 349, 265-278.	2.0	7
72	Shape Constraints and Optimal Bases for C^1 Hermite Interpolatory Subdivision Schemes. SIAM Journal on Numerical Analysis, 2010, 48, 1254-1280.	2.3	6

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73	Two-grid optimality for Galerkin linear systems based on B-splines. Computing and Visualization in Science, 2015, 17, 119-133.	1.2	6
74	A Parametric Cubic Element with Tension Properties. SIAM Journal on Numerical Analysis, 1999, 36, 607-628.	2.3	5
75	A general parametric framework for functional tension schemes. Journal of Computational and Applied Mathematics, 2000, 119, 275-300.	2.0	5
76	Quasi-Interpolants with Tension Properties from and in CAGD. Computing (Vienna/New York), 2004, 72, 143-160.	4.8	5
77	A fully data-dependent criterion for free angles selection in spatial PH cubic biarc Hermite interpolation. Computer Aided Geometric Design, 2014, 31, 398-411.	1.2	5
78	BS2 methods for semi-linear second order boundary value problems. Applied Mathematics and Computation, 2015, 255, 147-156.	2.2	5
79	Design of C^2 Spatial Pythagorean-Hodograph Quintic Spline Curves by Control Polygons. Lecture Notes in Computer Science, 2012, , 253-269.	1.3	5
80	On a model for the temperature distribution in moving bimetallic strips. Meccanica, 1990, 25, 115-123.	2.0	3
81	Geometric construction of quintic parametric B-splines. Journal of Computational and Applied Mathematics, 2008, 221, 355-366.	2.0	3
82	Shape preserving $$HC^2$$ H C 2 interpolatory subdivision. BIT Numerical Mathematics, 2015, 55, 751-779.	2.0	3
83	NURBS in isogeometric discretization methods: A spectral analysis. Numerical Linear Algebra With Applications, 2020, 27, e2318.	1.6	3
84	Tchebycheffian B-Splines Revisited: An Introductory Exposition. Springer INdAM Series, 2019, , 179-216.	0.5	3
85	Construction of $$C^2$$ Cubic Splines on Arbitrary Triangulations. Foundations of Computational Mathematics, 2022, 22, 1309-1350.	2.5	3
86	Sulla ricostruzione tomografica di un corpo convesso. Calcolo, 1986, 23, 139-160.	1.1	2
87	An approximation of the thermal field in a continuous casting process of a thin metal layer. Mathematical Methods in the Applied Sciences, 1991, 14, 217-226.	2.3	2
88	Lebesgue constants for Hermite and Fejér interpolation on equidistant nodes. Calcolo, 1993, 30, 203-218.	1.1	2
89	Numerical approximation of GB-splines by a convolutional approach. Applied Numerical Mathematics, 2017, 116, 273-285.	2.1	2
90	Mathematical Foundations of Isogeometric Analysis. Oberwolfach Reports, 2019, 16, 1981-2032.	0.0	2

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91	Isogeometric discretizations with generalized B-splines: Symbol-based spectral analysis. Applied Numerical Mathematics, 2021, 166, 288-312.	2.1	2
92	Standard and Non-standard CAGD Tools for Isogeometric Analysis: A Tutorial. Lecture Notes in Mathematics, 2016, , 1-69.	0.2	2
93	Generalized B-Splines in Isogeometric Analysis. Springer Proceedings in Mathematics and Statistics, 2017, , 239-267.	0.2	2
94	Refining cubic parametric B-splines. Computing (Vienna/New York), 2007, 79, 291-299.	4.8	1
95	A tension approach to controlling the shape of cubic spline surfaces on FVS triangulations. Journal of Computational and Applied Mathematics, 2010, 233, 1674-1684.	2.0	1
96	Ritz-type projectors with boundary interpolation properties and explicit spline error estimates. Numerische Mathematik, 0, , 1.	1.9	1
97	A Local Scheme for Comonotone Bivariate Interpolation over Contours. , 1993, , .		0
98	Best Low-rank Approximations and Kolmogorov n-widths. SIAM Journal on Matrix Analysis and Applications, 2021, 42, 330-350.	1.4	0
99	Quasi-Interpolants with Tension Properties from and in CAGD. , 2004, , 143-160.		0
100	Spectral Analysis of Isogeometric Discretizations of 2D Curl-Div Problems with General Geometry. Lecture Notes in Computational Science and Engineering, 2020, , 251-262.	0.3	0