Karlheinz Gröchenig

List of Publications by Year
in descending order

104 papers	5,968 citations	134610 34 h-index	84171 75 g-index
107 all docs	107 docs citations	107 times ranked	1719 citing authors

#	ARTICLE	IF	CITATIONS
1	Complete interpolating sequences for the Gaussian shift-invariant space. Applied and Computational Harmonic Analysis, 2022, 61, 191-201.	1.1	2
2	Sampling the Flow of a Bandlimited Function. Journal of Geometric Analysis, 2021, 31, 9241-9275.	0.5	9
3	Marcinkiewicz–Zygmund Inequalities for Polynomials in Bergman and Hardy Spaces. Journal of Geometric Analysis, 2021, 31, 7595-7619.	0.5	3
4	THE CRAMÉR–WOLD THEOREM ON QUADRATIC SURFACES AND HEISENBERG UNIQUENESS PAIRS. Journal of the Institute of Mathematics of Jussieu, 2020, 19, 117-135.	0.4	8
5	Sharp Results on Sampling with Derivatives in Shift-Invariant Spaces and Multi-Window Gabor Frames. Constructive Approximation, 2020, 51, 1-25.	1.8	14
6	Sampling of entire functions of several complex variables on a lattice and multivariate Gabor frames. Complex Variables and Elliptic Equations, 2020, 65, 1717-1735.	0.4	3
7	Zeros of the Wigner distribution and the short-time Fourier transform. Revista Matematica Complutense, 2020, 33, 723-744.	0.7	11
8	Sampling, Marcinkiewicz–Zygmund inequalities, approximation, and quadrature rules. Journal of Approximation Theory, 2020, 257, 105455.	0.5	13
9	Balian–Low Type Theorems on Homogeneous Groups. Analysis Mathematica, 2020, 46, 483-515.	0.2	7
10	Phase-Retrieval in Shift-Invariant Spaces with Gaussian Generator. Journal of Fourier Analysis and Applications, 2020, 26, 1.	0.5	13
11	Strict density inequalities for sampling and interpolation in weighted spaces of holomorphic functions. Journal of Functional Analysis, 2019, 277, 108282.	0.7	8
12	Harmonic Analysis in Phase Space and Finite Weyl–Heisenberg Ensembles. Journal of Statistical Physics, 2019, 174, 1104-1136.	0.5	11
13	Sampling and Reconstruction in Distinct Subspaces Using Oblique Projections. Journal of Fourier Analysis and Applications, 2019, 25, 1080-1112.	0.5	4
14	From Heisenberg uniqueness pairs to properties of the Helmholtz and Laplace equations. Journal of Mathematical Analysis and Applications, 2019, 469, 202-219.	0.5	2
15	Gabor Frames: Characterizations and Coarse Structure. Applied and Numerical Harmonic Analysis, 2019, , 93-120.	0.1	7
16	Sampling theorems for shift-invariant spaces, Gabor frames, and totally positive functions. Inventiones Mathematicae, 2018, 211, 1119-1148.	1.3	43
17	Orthonormal bases in the orbit of square-integrable representations of nilpotent Lie groups. Journal of Functional Analysis, 2018, 275, 3338-3379.	0.7	11
18	What Is Variable Bandwidth?. Communications on Pure and Applied Mathematics, 2017, 70, 2039-2083.	1.2	9

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19	Density of sampling and interpolation in reproducing kernel Hilbert spaces. Journal of the London Mathematical Society, 2017, 96, 663-686.	0.5	30
20	A new concept of variable bandwidth. , 2017, , .		1
21	Sharp sampling theorems in shift-invariant spaces. , 2017, , .		0
22	Determining point distributions from their projections. , 2017, , .		1
23	A Guide to Localized Frames and Applications to Galerkin-Like Representations of Operators. Applied and Numerical Harmonic Analysis, 2017, , 47-79.	0.1	8
24	Implementation of Discretized Gabor Frames and Their Duals. IEEE Transactions on Information Theory, 2016, 62, 2759-2771.	1.5	8
25	Stability of Gabor Frames Under Small Time Hamiltonian Evolutions. Letters in Mathematical Physics, 2016, 106, 799-809.	0.5	8
26	Completeness of Gabor systems. Journal of Approximation Theory, 2016, 207, 283-300.	0.5	8
27	On accumulated spectrograms. Transactions of the American Mathematical Society, 2015, 368, 3629-3649.	0.5	47
28	Mobile sampling of bandlimited fields. , 2015, , .		0
29	On minimal trajectories for mobile sampling of bandlimited fields. Applied and Computational Harmonic Analysis, 2015, 39, 487-510.	1.1	23
30	Time–Frequency Localization Operators and a Berezin Transform. Integral Equations and Operator Theory, 2015, 82, 95-117.	0.4	14
31	Deformation of Gabor systems. Advances in Mathematics, 2015, 277, 388-425.	0.5	35
32	Linear independence of time-frequency shifts?. Monatshefte Fur Mathematik, 2015, 177, 67-77.	0.5	9
33	Generalized metaplectic operators and the Schrödinger equation with a potential in the Sjöstrand class. Journal of Mathematical Physics, 2014, 55, .	0.5	34
34	Norm–controlled inversion in smooth Banach algebras, II. Mathematische Nachrichten, 2014, 287, 917-937.	0.4	9
35	Discretized Gabor Frames of Totally Positive Functions. IEEE Transactions on Information Theory, 2014, 60, 159-169.	1.5	11
36	The Mystery of Gabor Frames. Journal of Fourier Analysis and Applications, 2014, 20, 865-895.	0.5	39

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37	Uniqueness and reconstruction theorems for pseudodifferential operators with a bandlimited Kohn-Nirenberg symbol. Advances in Computational Mathematics, 2014, 40, 49-63.	0.8	6
38	Norm-controlled inversion in smooth Banach algebras, I. Journal of the London Mathematical Society, 2013, 88, 49-64.	0.5	13
39	Gabor frames and totally positive functions. Duke Mathematical Journal, 2013, 162, .	0.8	67
40	Wiener algebras of Fourier integral operators. Journal Des Mathematiques Pures Et Appliquees, 2013, 99, 219-233.	0.8	50
41	Relevant sampling of band-limited functions. Illinois Journal of Mathematics, 2013, 57, .	0.1	25
42	Distributed Field Reconstruction in Wireless Sensor Networks Based on Hybrid Shift-Invariant Spaces. IEEE Transactions on Signal Processing, 2012, 60, 5426-5439.	3.2	82
43	Approximation of Fourier Integral Operators by Gabor Multipliers. Journal of Fourier Analysis and Applications, 2012, 18, 661-684.	0.5	29
44	Banach Gabor frames with Hermite functions: polyanalytic spaces from the Heisenberg group. Applicable Analysis, 2012, 91, 1981-1997.	0.6	30
45	Low-Complexity ICI/ISI Equalization in Doubly Dispersive Multicarrier Systems Using a Decision-Feedback LSQR Algorithm. IEEE Transactions on Signal Processing, 2011, 59, 2432-2436.	3.2	31
46	Isomorphism properties of Toeplitz operators and pseudo-differential operators between modulation spaces. Journal D'Analyse Mathematique, 2011, 114, 255-283.	0.4	29
47	Multivariate Gabor frames and sampling of entire functions of several variables. Applied and Computational Harmonic Analysis, 2011, 31, 218-227.	1.1	16
48	Time-frequency partitions and characterizations of modulation spaces with localization operators. Journal of Functional Analysis, 2011, 260, 1903-1924.	0.7	12
49	Representation and approximation of pseudodifferential operators by sums of Gabor multipliers. Applicable Analysis, 2011, 90, 385-401.	0.6	12
50	Convergence Analysis of the Finite Section Method and Banach Algebras of Matrices. Integral Equations and Operator Theory, 2010, 67, 183-202.	0.4	68
51	Noncommutative Approximation: Inverse-Closed Subalgebras and Off-Diagonal Decay of Matrices. Constructive Approximation, 2010, 32, 429-466.	1.8	46
52	Random sampling of bandlimited functions. Israel Journal of Mathematics, 2010, 177, 1-28.	0.4	28
53	Optimal adaptive computations in the Jaffard algebra and localized frames. Journal of Approximation Theory, 2010, 162, 153-185.	0.5	12
54	Pseudospectral Fourier reconstruction with the modified Inverse Polynomial Reconstruction Method. Journal of Computational Physics, 2010, 229, 933-946.	1.9	45

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55	Frame constants of Gabor frames near the critical density. Journal Des Mathematiques Pures Et Appliquees, 2010, 94, 170-182.	0.8	11
56	Wiener's Lemma: Theme and Variations. An Introduction to Spectral Invariance and Its Applications. Applied and Numerical Harmonic Analysis, 2010, , 175-234.	0.1	32
57	Gabor (super)frames with Hermite functions. Mathematische Annalen, 2009, 345, 267-286.	0.7	80
58	Sequential LSQR-based ICI equalization and decision-feedback ISI cancellation in pulse-shaped multicarrier systems. , 2009, , .		6
59	Convolution-Dominated Operators on Discrete Groups. Integral Equations and Operator Theory, 2008, 61, 493-509.	0.4	17
60	Landau's necessary density conditions for LCA groups. Journal of Functional Analysis, 2008, 255, 1831-1850.	0.7	16
61	The Homogeneous Approximation Property and the Comparison Theorem for Coherent Frames. Sampling Theory in Signal and Information Processing, 2008, 7, 271-279.	0.2	11
62	Banach algebras of pseudodifferential operators and their almost diagonalization. Annales De L'Institut Fourier, 2008, 58, 2279-2314.	0.2	57
63	Gabor Frames without Inequalities. International Mathematics Research Notices, 2007, 2007, .	0.5	11
64	LSQR-based ICI equalization for multicarrier communications in strongly dispersive and highly mobile environments. , 2007, , .		11
65	Pseudodifferential operators on locally compact abelian groups and Sjöstrand's symbol class. Journal Fur Die Reine Und Angewandte Mathematik, 2007, 2007, .	0.4	16
66	Analysis, Optimization, and Implementation of Low-Interference Wireless Multicarrier Systems. IEEE Transactions on Wireless Communications, 2007, 6, 1921-1931.	6.1	73
67	Gabor frames with Hermite functions. Comptes Rendus Mathematique, 2007, 344, 157-162.	0.1	27
68	LOCALIZATION OPERATORS AND TIME-FREQUENCY ANALYSIS. , 2007, , 83-110.		9
69	Time-Frequency Analysis of Sjöstrand's Class. Revista Matematica Iberoamericana, 2006, 22, 703-724.	0.4	120
70	Symbolic Calculus and Fredholm Property for Localization Operators. Journal of Fourier Analysis and Applications, 2006, 12, 371-392.	0.5	24
71	Composition and spectral invariance of pseudodifferential Operators on Modulation Spaces. Journal D'Analyse Mathematique, 2006, 98, 65-82.	0.4	35
72	SYMMETRY OF WEIGHTED $L{uppercase{ootnotesize{L^1}}}$-ALGEBRAS AND THE GRS-CONDITION. Bulletin of the London Mathematical Society, 2006, 38, 625-635.	0.4	23

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73	Symmetry and inverse-closedness of matrix algebras and functional calculus for infinite matrices. Transactions of the American Mathematical Society, 2006, 358, 2695-2711.	0.5	89
74	A Pedestrian's Approach to Pseudodifferential Operators. , 2006, , 139-169.		17
75	On the Product of Localization Operators. , 2006, , 279-295.		5
76	Time-frequency partitions for the Gelfand triple (S_0,L^2,S_0'). Mathematica Scandinavica, 2006, 98, 81.	0.1	32
77	Necessary conditions for Schatten class localization operators. Proceedings of the American Mathematical Society, 2005, 133, 3573-3579.	0.4	31
78	Intrinsic Localization of Frames. Constructive Approximation, 2005, 22, 395-415.	1.8	77
79	Random Sampling of Multivariate Trigonometric Polynomials. SIAM Journal on Mathematical Analysis, 2005, 36, 773-795.	0.9	117
80	Spaces of Test Functions via the STFT. Journal of Function Spaces and Applications, 2004, 2, 25-53.	0.5	98
81	Generalized Anti-Wick Operators with Symbols in Distributional Sobolev spaces. Integral Equations and Operator Theory, 2004, 48, 427-442.	0.4	72
82	Localization of Frames, Banach Frames, and the Invertibility of the Frame Operator. Journal of Fourier Analysis and Applications, 2004, 10, 105-132.	0.5	153
83	Localization of frames II. Applied and Computational Harmonic Analysis, 2004, 17, 29-47.	1.1	31
84	Localized Frames Are Finite Unions of Riesz Sequences. Advances in Computational Mathematics, 2003, 18, 149-157.	0.8	51
85	Time–Frequency analysis of localization operators. Journal of Functional Analysis, 2003, 205, 107-131.	0.7	190
86	Wiener's lemma for twisted convolution and Gabor frames. Journal of the American Mathematical Society, 2003, 17, 1-18.	1.9	148
87	The Balian–Low theorem for symplectic lattices in higher dimensions. Applied and Computational Harmonic Analysis, 2002, 13, 169-176.	1.1	43
88	Gabor Analysis in Weighted Amalgam Spaces. Sampling Theory in Signal and Information Processing, 2002, 1, 225-259.	0.2	28
89	Nonuniform Sampling and Reconstruction in Shift-Invariant Spaces. SIAM Review, 2001, 43, 585-620.	4.2	586
90	Hardy's Theorem and the Short-Time Fourier Transform of Schwartz Functions. Journal of the London Mathematical Society, 2001, 63, 205-214.	0.5	66

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91	Foundations of Time-Frequency Analysis. Applied and Numerical Harmonic Analysis, 2001, , .	0.1	1,556
92	Non-Uniform Sampling in Higher Dimensions: From Trigonometric Polynomials to Bandlimited Functions. , 2001, , 155-171.		5
93	Beurling-Landau-type theorems for non-uniform sampling in shift invariant spline spaces. Journal of Fourier Analysis and Applications, 2000, 6, 93-103.	0.5	126
94	Modulation spaces and pseudodifferential operators. Integral Equations and Operator Theory, 1999, 34, 439-457.	0.4	148
95	Irregular sampling, Toeplitz matrices, and the approximation of entire functions of exponential type. Mathematics of Computation, 1999, 68, 749-766.	1.1	43
96	A new approach to interpolating scaling functions. Applicable Analysis, 1999, 72, 485-500.	0.6	23
97	Backward continued fractions, Hecke groups and invariant measures for transformations of the interval. Ergodic Theory and Dynamical Systems, 1996, 16, 1241-1274.	0.4	15
98	Backward Continued Fractions and their Invariant Measures. Canadian Mathematical Bulletin, 1996, 39, 186-198.	0.3	7
99	A discrete theory of irregular sampling. Linear Algebra and Its Applications, 1993, 193, 129-150.	0.4	144
100	Irregular sampling of wavelet and short-time Fourier transforms. Constructive Approximation, 1993, 9, 283-297.	1.8	55
101	Error analysis in regular and irregular sampling theory. Applicable Analysis, 1993, 50, 167-189.	0.6	35
102	Reconstruction Algorithms in Irregular Sampling. Mathematics of Computation, 1992, 59, 181.	1.1	166
103	Compact open sets in duals and projections in L^1-algebras of certain semi-direct product groups. Mathematical Proceedings of the Cambridge Philosophical Society, 1992, 111, 545-556.	0.3	33
104	Irregular sampling theorems and series expansions of band-limited functions. Journal of Mathematical Analysis and Applications, 1992, 167, 530-556.	0.5	87