

Karlheinz Gräßchenig

List of Publications by Year in descending order

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104
papers

5,968
citations

117571

34
h-index

74108

75
g-index

107
all docs

107
docs citations

107
times ranked

1541
citing authors

| # | ARTICLE | IF | CITATIONS |
|----|--|-----|-----------|
| 1 | Foundations of Time-Frequency Analysis. Applied and Numerical Harmonic Analysis, 2001, , . | 0.1 | 1,556 |
| 2 | Nonuniform Sampling and Reconstruction in Shift-Invariant Spaces. SIAM Review, 2001, 43, 585-620. | 4.2 | 586 |
| 3 | Time-Frequency analysis of localization operators. Journal of Functional Analysis, 2003, 205, 107-131. | 0.7 | 190 |
| 4 | Reconstruction Algorithms in Irregular Sampling. Mathematics of Computation, 1992, 59, 181. | 1.1 | 166 |
| 5 | 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 |
| 6 | Modulation spaces and pseudodifferential operators. Integral Equations and Operator Theory, 1999, 34, 439-457. | 0.4 | 148 |
| 7 | Wiener's lemma for twisted convolution and Gabor frames. Journal of the American Mathematical Society, 2003, 17, 1-18. | 1.9 | 148 |
| 8 | A discrete theory of irregular sampling. Linear Algebra and Its Applications, 1993, 193, 129-150. | 0.4 | 144 |
| 9 | 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 |
| 10 | Time-Frequency Analysis of Sj strand's Class. Revista Matematica Iberoamericana, 2006, 22, 703-724. | 0.4 | 120 |
| 11 | Random Sampling of Multivariate Trigonometric Polynomials. SIAM Journal on Mathematical Analysis, 2005, 36, 773-795. | 0.9 | 117 |
| 12 | Spaces of Test Functions via the STFT. Journal of Function Spaces and Applications, 2004, 2, 25-53. | 0.5 | 98 |
| 13 | 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 |
| 14 | Irregular sampling theorems and series expansions of band-limited functions. Journal of Mathematical Analysis and Applications, 1992, 167, 530-556. | 0.5 | 87 |
| 15 | 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 |
| 16 | Gabor (super)frames with Hermite functions. Mathematische Annalen, 2009, 345, 267-286. | 0.7 | 80 |
| 17 | Intrinsic Localization of Frames. Constructive Approximation, 2005, 22, 395-415. | 1.8 | 77 |
| 18 | Analysis, Optimization, and Implementation of Low-Interference Wireless Multicarrier Systems. IEEE Transactions on Wireless Communications, 2007, 6, 1921-1931. | 6.1 | 73 |

| # | ARTICLE | IF | CITATIONS |
|----|---|-----|-----------|
| 19 | Generalized Anti-Wick Operators with Symbols in Distributional Sobolev spaces. <i>Integral Equations and Operator Theory</i> , 2004, 48, 427-442. | 0.4 | 72 |
| 20 | Convergence Analysis of the Finite Section Method and Banach Algebras of Matrices. <i>Integral Equations and Operator Theory</i> , 2010, 67, 183-202. | 0.4 | 68 |
| 21 | Gabor frames and totally positive functions. <i>Duke Mathematical Journal</i> , 2013, 162, . | 0.8 | 67 |
| 22 | Hardy's Theorem and the Short-Time Fourier Transform of Schwartz Functions. <i>Journal of the London Mathematical Society</i> , 2001, 63, 205-214. | 0.5 | 66 |
| 23 | Banach algebras of pseudodifferential operators and their almost diagonalization. <i>Annales De L'Institut Fourier</i> , 2008, 58, 2279-2314. | 0.2 | 57 |
| 24 | Irregular sampling of wavelet and short-time Fourier transforms. <i>Constructive Approximation</i> , 1993, 9, 283-297. | 1.8 | 55 |
| 25 | Localized Frames Are Finite Unions of Riesz Sequences. <i>Advances in Computational Mathematics</i> , 2003, 18, 149-157. | 0.8 | 51 |
| 26 | Wiener algebras of Fourier integral operators. <i>Journal Des Mathematiques Pures Et Appliquees</i> , 2013, 99, 219-233. | 0.8 | 50 |
| 27 | On accumulated spectrograms. <i>Transactions of the American Mathematical Society</i> , 2015, 368, 3629-3649. | 0.5 | 47 |
| 28 | Noncommutative Approximation: Inverse-Closed Subalgebras and Off-Diagonal Decay of Matrices. <i>Constructive Approximation</i> , 2010, 32, 429-466. | 1.8 | 46 |
| 29 | Pseudospectral Fourier reconstruction with the modified Inverse Polynomial Reconstruction Method. <i>Journal of Computational Physics</i> , 2010, 229, 933-946. | 1.9 | 45 |
| 30 | Irregular sampling, Toeplitz matrices, and the approximation of entire functions of exponential type. <i>Mathematics of Computation</i> , 1999, 68, 749-766. | 1.1 | 43 |
| 31 | The Balian-Lo theorem for symplectic lattices in higher dimensions. <i>Applied and Computational Harmonic Analysis</i> , 2002, 13, 169-176. | 1.1 | 43 |
| 32 | Sampling theorems for shift-invariant spaces, Gabor frames, and totally positive functions. <i>Inventiones Mathematicae</i> , 2018, 211, 1119-1148. | 1.3 | 43 |
| 33 | The Mystery of Gabor Frames. <i>Journal of Fourier Analysis and Applications</i> , 2014, 20, 865-895. | 0.5 | 39 |
| 34 | Error analysis in regular and irregular sampling theory. <i>Applicable Analysis</i> , 1993, 50, 167-189. | 0.6 | 35 |
| 35 | Composition and spectral invariance of pseudodifferential Operators on Modulation Spaces. <i>Journal D'Analyse Mathematique</i> , 2006, 98, 65-82. | 0.4 | 35 |
| 36 | Deformation of Gabor systems. <i>Advances in Mathematics</i> , 2015, 277, 388-425. | 0.5 | 35 |

| # | ARTICLE | IF | CITATIONS |
|----|---|-----|-----------|
| 37 | Generalized metaplectic operators and the Schrödinger equation with a potential in the SjÅstrand class. Journal of Mathematical Physics, 2014, 55, . | 0.5 | 34 |
| 38 | 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 |
| 39 | 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 |
| 40 | Time-frequency partitions for the Gelfand triple (S_0, L^2, S_0') . Mathematica Scandinavica, 2006, 98, 81. | 0.1 | 32 |
| 41 | Localization of frames II. Applied and Computational Harmonic Analysis, 2004, 17, 29-47. | 1.1 | 31 |
| 42 | Necessary conditions for Schatten class localization operators. Proceedings of the American Mathematical Society, 2005, 133, 3573-3579. | 0.4 | 31 |
| 43 | 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 |
| 44 | Banach Gabor frames with Hermite functions: polyanalytic spaces from the Heisenberg group. Applicable Analysis, 2012, 91, 1981-1997. | 0.6 | 30 |
| 45 | Density of sampling and interpolation in reproducing kernel Hilbert spaces. Journal of the London Mathematical Society, 2017, 96, 663-686. | 0.5 | 30 |
| 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 | Approximation of Fourier Integral Operators by Gabor Multipliers. Journal of Fourier Analysis and Applications, 2012, 18, 661-684. | 0.5 | 29 |
| 48 | Random sampling of bandlimited functions. Israel Journal of Mathematics, 2010, 177, 1-28. | 0.4 | 28 |
| 49 | Gabor Analysis in Weighted Amalgam Spaces. Sampling Theory in Signal and Information Processing, 2002, 1, 225-259. | 0.2 | 28 |
| 50 | Gabor frames with Hermite functions. Comptes Rendus Mathematique, 2007, 344, 157-162. | 0.1 | 27 |
| 51 | Relevant sampling of band-limited functions. Illinois Journal of Mathematics, 2013, 57, . | 0.1 | 25 |
| 52 | Symbolic Calculus and Fredholm Property for Localization Operators. Journal of Fourier Analysis and Applications, 2006, 12, 371-392. | 0.5 | 24 |
| 53 | A new approach to interpolating scaling functions. Applicable Analysis, 1999, 72, 485-500. | 0.6 | 23 |
| 54 | SYMMETRY OF WEIGHTED L^1 -ALGEBRAS AND THE GRS-CONDITION. Bulletin of the London Mathematical Society, 2006, 38, 625-635. | 0.4 | 23 |

| # | ARTICLE | IF | CITATIONS |
|----|---|-----|-----------|
| 55 | On minimal trajectories for mobile sampling of bandlimited fields. Applied and Computational Harmonic Analysis, 2015, 39, 487-510. | 1.1 | 23 |
| 56 | Convolution-Dominated Operators on Discrete Groups. Integral Equations and Operator Theory, 2008, 61, 493-509. | 0.4 | 17 |
| 57 | A Pedestrian's Approach to Pseudodifferential Operators. , 2006, , 139-169. | | 17 |
| 58 | Pseudodifferential operators on locally compact abelian groups and SjÅstrand's symbol class. Journal Fur Die Reine Und Angewandte Mathematik, 2007, 2007, . | 0.4 | 16 |
| 59 | Landau's necessary density conditions for LCA groups. Journal of Functional Analysis, 2008, 255, 1831-1850. | 0.7 | 16 |
| 60 | Multivariate Gabor frames and sampling of entire functions of several variables. Applied and Computational Harmonic Analysis, 2011, 31, 218-227. | 1.1 | 16 |
| 61 | 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 |
| 62 | Time-Frequency Localization Operators and a Berezin Transform. Integral Equations and Operator Theory, 2015, 82, 95-117. | 0.4 | 14 |
| 63 | Sharp Results on Sampling with Derivatives in Shift-Invariant Spaces and Multi-Window Gabor Frames. Constructive Approximation, 2020, 51, 1-25. | 1.8 | 14 |
| 64 | Norm-controlled inversion in smooth Banach algebras, I. Journal of the London Mathematical Society, 2013, 88, 49-64. | 0.5 | 13 |
| 65 | Sampling, Marcinkiewicz-Zygmund inequalities, approximation, and quadrature rules. Journal of Approximation Theory, 2020, 257, 105455. | 0.5 | 13 |
| 66 | Phase-Retrieval in Shift-Invariant Spaces with Gaussian Generator. Journal of Fourier Analysis and Applications, 2020, 26, 1. | 0.5 | 13 |
| 67 | Optimal adaptive computations in the Jaffard algebra and localized frames. Journal of Approximation Theory, 2010, 162, 153-185. | 0.5 | 12 |
| 68 | Time-frequency partitions and characterizations of modulation spaces with localization operators. Journal of Functional Analysis, 2011, 260, 1903-1924. | 0.7 | 12 |
| 69 | Representation and approximation of pseudodifferential operators by sums of Gabor multipliers. Applicable Analysis, 2011, 90, 385-401. | 0.6 | 12 |
| 70 | Gabor Frames without Inequalities. International Mathematics Research Notices, 2007, 2007, . | 0.5 | 11 |
| 71 | LSQR-based ICI equalization for multicarrier communications in strongly dispersive and highly mobile environments. , 2007, , . | | 11 |
| 72 | Frame constants of Gabor frames near the critical density. Journal Des Mathematiques Pures Et Appliquees, 2010, 94, 170-182. | 0.8 | 11 |

| # | ARTICLE | IF | CITATIONS |
|----|--|-----|-----------|
| 73 | Discretized Gabor Frames of Totally Positive Functions. IEEE Transactions on Information Theory, 2014, 60, 159-169. | 1.5 | 11 |
| 74 | Orthonormal bases in the orbit of square-integrable representations of nilpotent Lie groups. Journal of Functional Analysis, 2018, 275, 3338-3379. | 0.7 | 11 |
| 75 | Harmonic Analysis in Phase Space and Finite Weyl-Heisenberg Ensembles. Journal of Statistical Physics, 2019, 174, 1104-1136. | 0.5 | 11 |
| 76 | Zeros of the Wigner distribution and the short-time Fourier transform. Revista Matematica Complutense, 2020, 33, 723-744. | 0.7 | 11 |
| 77 | 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 |
| 78 | Norm-controlled inversion in smooth Banach algebras, II. Mathematische Nachrichten, 2014, 287, 917-937. | 0.4 | 9 |
| 79 | Linear independence of time-frequency shifts?. Monatshefte Fur Mathematik, 2015, 177, 67-77. | 0.5 | 9 |
| 80 | What Is Variable Bandwidth?. Communications on Pure and Applied Mathematics, 2017, 70, 2039-2083. | 1.2 | 9 |
| 81 | Sampling the Flow of a Bandlimited Function. Journal of Geometric Analysis, 2021, 31, 9241-9275. | 0.5 | 9 |
| 82 | LOCALIZATION OPERATORS AND TIME-FREQUENCY ANALYSIS. , 2007, , 83-110. | | 9 |
| 83 | Implementation of Discretized Gabor Frames and Their Duals. IEEE Transactions on Information Theory, 2016, 62, 2759-2771. | 1.5 | 8 |
| 84 | Stability of Gabor Frames Under Small Time Hamiltonian Evolutions. Letters in Mathematical Physics, 2016, 106, 799-809. | 0.5 | 8 |
| 85 | Completeness of Gabor systems. Journal of Approximation Theory, 2016, 207, 283-300. | 0.5 | 8 |
| 86 | Strict density inequalities for sampling and interpolation in weighted spaces of holomorphic functions. Journal of Functional Analysis, 2019, 277, 108282. | 0.7 | 8 |
| 87 | 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 |
| 88 | A Guide to Localized Frames and Applications to Galerkin-Like Representations of Operators. Applied and Numerical Harmonic Analysis, 2017, , 47-79. | 0.1 | 8 |
| 89 | Balian-Low Type Theorems on Homogeneous Groups. Analysis Mathematica, 2020, 46, 483-515. | 0.2 | 7 |
| 90 | Gabor Frames: Characterizations and Coarse Structure. Applied and Numerical Harmonic Analysis, 2019, , 93-120. | 0.1 | 7 |

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|-----|---|-----|-----------|
| 91 | Backward Continued Fractions and their Invariant Measures. Canadian Mathematical Bulletin, 1996, 39, 186-198. | 0.3 | 7 |
| 92 | Sequential LSQR-based ICI equalization and decision-feedback ISI cancellation in pulse-shaped multicarrier systems. , 2009, , . | | 6 |
| 93 | Uniqueness and reconstruction theorems for pseudodifferential operators with a bandlimited Kohn-Nirenberg symbol. Advances in Computational Mathematics, 2014, 40, 49-63. | 0.8 | 6 |
| 94 | Non-Uniform Sampling in Higher Dimensions: From Trigonometric Polynomials to Bandlimited Functions. , 2001, , 155-171. | | 5 |
| 95 | On the Product of Localization Operators. , 2006, , 279-295. | | 5 |
| 96 | Sampling and Reconstruction in Distinct Subspaces Using Oblique Projections. Journal of Fourier Analysis and Applications, 2019, 25, 1080-1112. | 0.5 | 4 |
| 97 | 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 |
| 98 | Marcinkiewiczâ€™Zygmund Inequalities for Polynomials in Bergman and Hardy Spaces. Journal of Geometric Analysis, 2021, 31, 7595-7619. | 0.5 | 3 |
| 99 | 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 |
| 100 | Complete interpolating sequences for the Gaussian shift-invariant space. Applied and Computational Harmonic Analysis, 2022, 61, 191-201. | 1.1 | 2 |
| 101 | A new concept of variable bandwidth. , 2017, , . | | 1 |
| 102 | Determining point distributions from their projections. , 2017, , . | | 1 |
| 103 | Mobile sampling of bandlimited fields. , 2015, , . | | 0 |
| 104 | Sharp sampling theorems in shift-invariant spaces. , 2017, , . | | 0 |