Per Christian Hansen

List of Publications by Year in Descending Order

92 papers	12,099 citations	32 h-index	99 g-index
99 ext. papers	13,767 ext. citations	2 avg, IF	7 L-index

#	Paper	IF	Citations
92	GMRES methods for tomographic reconstruction with an unmatched back projector. *Journal of Computational and Applied Mathematics*, **2022**, 413, 114352	2.4	
91	Computed tomography with view angle estimation using uncertainty quantification. *Inverse Problems*, **2021**, 37, 065007	2.3	1
90	Computed Tomography Reconstruction with Uncertain View Angles by Iteratively Updated Model Discrepancy. *Journal of Mathematical Imaging and Vision*, **2021**, 63, 133-143	1.6	2
89	MCMC Algorithms for Computational UQ of Nonnegativity Constrained Linear Inverse Problems. *SIAM Journal of Scientific Computing*, **2020**, 42, A1269-A1288	2.6	2
88	Fixing Nonconvergence of Algebraic Iterative Reconstruction with an Unmatched Backprojector. *SIAM Journal of Scientific Computing*, **2019**, 41, A1822-A1839	2.6	6
87	Hybrid enriched bidiagonalization for discrete ill-posed problems. *Numerical Linear Algebra With Applications*, **2019**, 26, e2230	1.6	3
86	IR Tools: a MATLAB package of iterative regularization methods and large-scale test problems. *Numerical Algorithms*, **2019**, 81, 773-811	2.1	52
85	Unmatched Projector/Backprojector Pairs: Perturbation and Convergence Analysis. *SIAM Journal of Scientific Computing*, **2018**, 40, A573-A591	2.6	11
84	Limited-data x-ray CT for underwater pipeline inspection. *Inverse Problems*, **2018**, 34, 034002	2.3	8
83	Computing segmentations directly from x-ray projection data via parametric deformable curves. *Measurement Science and Technology*, **2018**, 29, 014003	2	4
82	Joint CT Reconstruction and Segmentation With Discriminative Dictionary Learning. *IEEE Transactions on Computational Imaging*, **2018**, 4, 528-536	4.5	5
81	AIR Tools II: algebraic iterative reconstruction methods, improved implementation. *Numerical Algorithms*, **2018**, 79, 107-137	2.1	77
80	Tomographic image reconstruction using training images. *Journal of Computational and Applied Mathematics*, **2017**, 313, 243-258	2.4	7
79	Convergence analysis for column-action methods in image reconstruction. *Numerical Algorithms*, **2017**, 74, 905-924	2.1	9
78	User-Friendly Simultaneous Tomographic Reconstruction and Segmentation with Class Priors. *Lecture Notes in Computer Science*, **2017**, 260-270	0.9	4
77	A tensor-based dictionary learning approach to tomographic image reconstruction. *BIT Numerical Mathematics*, **2016**, 56, 1425-1454	1.7	26
76	Simultaneous tomographic reconstruction and segmentation with class priors. *Inverse Problems in Science and Engineering*, **2016**, 24, 1432-1453	1.3	10

75	Noise robustness of a combined phase retrieval and reconstruction method for phase-contrast tomography. *Journal of the Optical Society of America A: Optics and Image Science, and Vision*, **2016**, 33, 447-54	1.8	1
74	EMPIRICAL AVERAGE-CASE RELATION BETWEEN UNDERSAMPLING AND SPARSITY IN X-RAY CT. *Inverse Problems and Imaging*, **2015**, 9, 431-446	2.1	14
73	Generalized row-action methods for tomographic imaging. *Numerical Algorithms*, **2014**, 67, 121-144	2.1	17
72	Multilevel Fast Multipole Method for Higher Order Discretizations. *IEEE Transactions on Antennas and Propagation*, **2014**, 62, 4695-4705	4.9	17
71	Rotational image deblurring with sparse matrices. *BIT Numerical Mathematics*, **2014**, 54, 649-671	1.7	4
70	Gaussian translation operator for Multi-Level Fast Multipole Method **2014**,		1
69	A computationally efficient tool for assessing the depth resolution in large-scale potential-field inversion. *Geophysics*, **2014**, 79, A33-A38	3.1	25
68	Multicore Performance of Block Algebraic Iterative Reconstruction Methods. *SIAM Journal of Scientific Computing*, **2014**, 36, C524-C546	2.6	19
67	Semi-convergence properties of Kaczmarz□ method. *Inverse Problems*, **2014**, 30, 055007	2.3	32
66	Improved Multilevel Fast Multipole Method for Higher-Order discretizations **2014**,		3
65	Reflector antenna analysis using physical optics on Graphics Processing Units **2014**,		2
64	Adaptive grouping for the higher-order multilevel fast multipole method. *Microwave and Optical Technology Letters*, **2014**, 56, 2451-2456	1.2	2
63	Oblique projections and standard-form transformations for discrete inverse problems. *Numerical Linear Algebra With Applications*, **2013**, 20, 250-258	1.6	17
62	Semiconvergence and Relaxation Parameters for Projected SIRT Algorithms. *SIAM Journal of Scientific Computing*, **2012**, 34, A2000-A2017	2.6	34
61	AIR Tools □A MATLAB package of algebraic iterative reconstruction methods. *Journal of Computational and Applied Mathematics*, **2012**, 236, 2167-2178	2.4	189
60	Electrical impedance tomography: 3D reconstructions using scattering transforms. *Applicable Analysis*, **2012**, 91, 737-755	0.8	12
59	A direct numerical reconstruction algorithm for the 3D Calderó□ problem. *Journal of Physics: Conference Series*, **2011**, 290, 012003	0.3	2
58	Algorithms and software for total variation image reconstruction via first-order methods. *Numerical Algorithms*, **2010**, 53, 67-92	2.1	114

57	Discrete Inverse Problems **2010**,		431
56	Reconstruction of Single-Grain Orientation Distribution Functions for Crystalline Materials. *SIAM Journal on Imaging Sciences*, **2009**, 2, 593-613	1.9	20
55	A hybrid method for the parallel computation of Green's functions. *Journal of Computational Physics*, **2009**, 228, 5020-5039	4.1	29
54	Efficient wave-function matching approach for quantum transport calculations. *Physical Review B*, **2009**, 79,	3.3	42
53	Krylov subspace method for evaluating the self-energy matrices in electron transport calculations. *Physical Review B*, **2008**, 77,	3.3	30
52	Block tridiagonal matrix inversion and fast transmission calculations. *Journal of Computational Physics*, **2008**, 227, 3174-3190	4.1	22
51	An adaptive pruning algorithm for the discrete L-curve criterion. *Journal of Computational and Applied Mathematics*, **2007**, 198, 483-492	2.4	117
50	A parameter-choice method that exploits residual information. *Proceedings in Applied Mathematics and Mechanics*, **2007**, 7, 1021705-1021706	0.2	0
49	Regularization Tools version 4.0 for Matlab 7.3. *Numerical Algorithms*, **2007**, 46, 189-194	2.1	502
48	Subspace-Based Noise Reduction for Speech Signals via Diagonal and Triangular Matrix Decompositions: Survey and Analysis. *Eurasip Journal on Advances in Signal Processing*, **2007**, 2007, 1	1.9	25
47	Deblurring Images: Matrices, Spectra and Filtering. *Journal of Electronic Imaging*, **2007**, 17, 019901	0.7	6
46	Smoothing-Norm Preconditioning for Regularizing Minimum-Residual Methods. *SIAM Journal on Matrix Analysis and Applications*, **2007**, 29, 1-14	1.5	29
45	A Projection-Based Approach to General-Form Tikhonov Regularization. *SIAM Journal of Scientific Computing*, **2007**, 29, 315-330	2.6	63
44	Deblurring Images **2006**,		370
43	Large-Scale Methods in Image Deblurring **2006**, 24-35		6
42	UTV Expansion Pack: Special-purpose rank-revealing algorithms. *Numerical Algorithms*, **2005**, 40, 47-66	2.1	8
41	Analysis of depth resolution in potential-field inversion. *Geophysics*, **2005**, 70, A1-A11	3.1	57
40	Sound source reconstruction using inverse boundary element calculations. *Journal of the Acoustical Society of America*, **2003**, 113, 114-27	2.2	102

39	Deconvolution and Regularization with Toeplitz Matrices. *Numerical Algorithms*, **2002**, 29, 323-378	2.1	104
38	Recent Developments in Rank Revealing and Lanczos Methods for TLS-Related Problems **2002**, 47-56		
37	Computing Symmetric Rank-Revealing Decompositions via Triangular Factorization. *SIAM Journal on Matrix Analysis and Applications*, **2001**, 23, 443-458	1.5	17
36	Stabilization by Perturbation of a 4n2 Toeplitz Solver. *SIAM Journal on Matrix Analysis and Applications*, **2000**, 21, 849-866	1.5	1
35	UTV Tools: Matlab templates for rank-revealing UTV decompositions. *Numerical Algorithms*, **1999**, 20, 165-194	2.1	26
34	Regularization Tools Version 3.0 for Matlab 5.2. *Numerical Algorithms*, **1999**, 20, 195-196	2.1	33
33	Tikhonov Regularization and Total Least Squares. *SIAM Journal on Matrix Analysis and Applications*, **1999**, 21, 185-194	1.5	571
32	Rank-deficient prewhitening with quotientSVD andULV decompositions. *BIT Numerical Mathematics*, **1998**, 38, 34-43	1.7	9
31	Rank-Deficient and Discrete Ill-Posed Problems **1998**,		1585
30	Low-rank revealing UTV decompositions. *Numerical Algorithms*, **1997**, 15, 37-55	2.1	39
29	Piecewise Polynomial Solutions Without a priori Break Points. *Numerical Linear Algebra With Applications*, **1996**, 3, 513-524	1.6	19
28	Filter model of reduced-rank noise reduction. *Lecture Notes in Computer Science*, **1996**, 379-387	0.9	
27	Implementation of QR up- and downdating on a massively parallel computer. *Parallel Computing*, **1995**, 21, 49-61	1	8
26	Test Matrices for Regularization Methods. *SIAM Journal of Scientific Computing*, **1995**, 16, 506-512	2.6	14
25	Accuracy of TSVD solutions computed from rank-revealing decompositions. *Numerische Mathematik*, **1995**, 70, 453-471	2.2	29
24	The effective condition number applied to error analysis of certain boundary collocation methods. *Journal of Computational and Applied Mathematics*, **1994**, 54, 15-36	2.4	42
23	REGULARIZATION TOOLS: A Matlab package for analysis and solution of discrete ill-posed problems. *Numerical Algorithms*, **1994**, 6, 1-35	2.1	1057
22	Low-rank revealing QR factorizations. *Numerical Linear Algebra With Applications*, **1994**, 1, 33-44	1.6	32

21	Parallel issues of regularization problems. *Lecture Notes in Computer Science*, **1994**, 287-295	0.9	
20	Comparison of massively parallel SIMD computers using air pollution models. *Lecture Notes in Computer Science*, **1994**, 110-126	0.9	
19	The Use of the L-Curve in the Regularization of Discrete Ill-Posed Problems. *SIAM Journal of Scientific Computing*, **1993**, 14, 1487-1503	2.6	1843
18	FORTRAN subroutines for general Toeplitz systems. *ACM Transactions on Mathematical Software*, **1992**, 18, 256-273	2.3	6
17	A Look-Ahead Levinson Algorithm for Indefinite Toeplitz Systems. *SIAM Journal on Matrix Analysis and Applications*, **1992**, 13, 490-506	1.5	33
16	The Modified Truncated SVD Method for Regularization in General Form. *SIAM Journal on Scientific and Statistical Computing*, **1992**, 13, 1142-1150		85
15	Some Applications of the Rank Revealing QR Factorization. *SIAM Journal on Scientific and Statistical Computing*, **1992**, 13, 727-741		121
14	Analysis of Discrete Ill-Posed Problems by Means of the L-Curve. *SIAM Review*, **1992**, 34, 561-580	7.4	2554
13	A block algorithm for computing rank-revealing QR factorizations. *Numerical Algorithms*, **1992**, 2, 371-391	1.1	14
12	Structure-Preserving and Rank-Revealing QR-Factorizations. *SIAM Journal on Scientific and Statistical Computing*, **1991**, 12, 1332-1350		29
11	Regularization and the general Gauss-Markov linear model. *Mathematics of Computation*, **1990**, 55, 613-616	1.6	12
10	The discrete picard condition for discrete ill-posed problems. *BIT Numerical Mathematics*, **1990**, 30, 658-672	1.7	199
9	Relations between SVD and GSVD of Discrete regularization problems in standard and general form. *Linear Algebra and Its Applications*, **1990**, 141, 165-176	0.9	13
8	Computing Truncated Singular Value Decomposition Least Squares Solutions by Rank Revealing QR-Factorizations. *SIAM Journal on Scientific and Statistical Computing*, **1990**, 11, 519-530		60
7	Truncated Singular Value Decomposition Solutions to Discrete Ill-Posed Problems with Ill-Determined Numerical Rank. *SIAM Journal on Scientific and Statistical Computing*, **1990**, 11, 503-518		339
6	Regularization,GSVD and truncatedGSVD. *BIT Numerical Mathematics*, **1989**, 29, 491-504	1.7	113
5	The 2-norm of random matrices. *Journal of Computational and Applied Mathematics*, **1988**, 23, 117-120	2.4	16
4	Detection of near-singularity in Cholesky and LDLT factorizations. *Journal of Computational and Applied Mathematics*, **1987**, 19, 293-299	2.4	3

3	The truncatedSVD as a method for regularization. *BIT Numerical Mathematics*, **1987**, 27, 534-553	1.7	460
2	An SVD analysis of linear algebraic equations derived from first kind integral equations. *Journal of Computational and Applied Mathematics*, **1985**, 12-13, 341-357	2.4	13
1	A Twin Error Gauge for Kaczmarz's Iterations. *SIAM Journal of Scientific Computing*,S173-S199	2.6	1