

Heinz Bauschke

List of Publications by Year in descending order

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papers

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142
all docs

142
docs citations

142
times ranked

2934
citing authors

#	ARTICLE	IF	CITATIONS
1	Convex Analysis and Monotone Operator Theory in Hilbert Spaces. CMS Books in Mathematics, 2011, , .	0.8	1,783
2	On Projection Algorithms for Solving Convex Feasibility Problems. SIAM Review, 1996, 38, 367-426.	8.4	1,277
3	Convex Analysis and Monotone Operator Theory in Hilbert Spaces. CMS Books in Mathematics, 2017, , .	0.8	784
4	Phase retrieval, error reduction algorithm, and Fienup variants: a view from convex optimization. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2002, 19, 1334.	1.5	409
5	A Weak-to-Strong Convergence Principle for FejÅ©r-Monotone Methods in Hilbert Spaces. Mathematics of Operations Research, 2001, 26, 248-264.	1.3	331
6	The Approximation of Fixed Points of Compositions of Nonexpansive Mappings in Hilbert Space. Journal of Mathematical Analysis and Applications, 1996, 202, 150-159.	1.0	271
7	ESSENTIAL SMOOTHNESS, ESSENTIAL STRICT CONVEXITY, AND LEGENDRE FUNCTIONS IN BANACH SPACES. Communications in Contemporary Mathematics, 2001, 03, 615-647.	1.2	205
8	Projection and proximal point methods: convergence results and counterexamples. Nonlinear Analysis: Theory, Methods & Applications, 2004, 56, 715-738.	1.1	189
9	Bregman Monotone Optimization Algorithms. SIAM Journal on Control and Optimization, 2003, 42, 596-636.	2.1	187
10	On the convergence of von Neumann's alternating projection algorithm for two sets. Set-Valued and Variational Analysis, 1993, 1, 185-212.	0.5	186
11	Hybrid projectionâ€“reflection method for phase retrieval. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2003, 20, 1025.	1.5	180
12	A Descent Lemma Beyond Lipschitz Gradient Continuity: First-Order Methods Revisited and Applications. Mathematics of Operations Research, 2017, 42, 330-348.	1.3	159
13	Strong conical hull intersection property, bounded linear regularity, Jameson's property (G), and error bounds in convex optimization. Mathematical Programming, 1999, 86, 135-160.	2.4	154
14	Dykstraâ€™s Alternating Projection Algorithm for Two Sets. Journal of Approximation Theory, 1994, 79, 418-443.	0.8	128
15	Finding best approximation pairs relative to two closed convex sets in Hilbert spaces. Journal of Approximation Theory, 2004, 127, 178-192.	0.8	128
16	The Proximal Average: Basic Theory. SIAM Journal on Optimization, 2008, 19, 766-785.	2.0	71
17	The asymptotic behavior of the composition of two resolvents. Nonlinear Analysis: Theory, Methods & Applications, 2005, 60, 283-301.	1.1	70
18	Linear and strong convergence of algorithms involving averaged nonexpansive operators. Journal of Mathematical Analysis and Applications, 2015, 421, 1-20.	1.0	68

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19	Extrapolation algorithm for affine-convex feasibility problems. <i>Numerical Algorithms</i> , 2006, 41, 239-274.	1.9	67
20	The rate of linear convergence of the Douglas-Rachford algorithm for subspaces is the cosine of the Friedrichs angle. <i>Journal of Approximation Theory</i> , 2014, 185, 63-79.	0.8	65
21	Dykstras algorithm with bregman projections: A convergence proof. <i>Optimization</i> , 2000, 48, 409-427.	1.7	59
22	Hyperbolic Polynomials and Convex Analysis. <i>Canadian Journal of Mathematics</i> , 2001, 53, 470-488.	0.6	59
23	Accelerating the convergence of the method of alternating projections. <i>Transactions of the American Mathematical Society</i> , 2003, 355, 3433-3461.	0.9	59
24	Joint and Separate Convexity of the Bregman Distance. <i>Studies in Computational Mathematics</i> , 2001, 8, 23-36.	0.2	50
25	Fitzpatrick functions, cyclic monotonicity and Rockafellar's antiderivative. <i>Nonlinear Analysis: Theory, Methods & Applications</i> , 2007, 66, 1198-1223.	1.1	48
26	Construction of best Bregman approximations in reflexive Banach spaces. <i>Proceedings of the American Mathematical Society</i> , 2003, 131, 3757-3766.	0.8	47
27	Recompression of JPEG images by requantization. <i>IEEE Transactions on Image Processing</i> , 2003, 12, 843-849.	9.8	46
28	Working memory impairment in a transgenic amyloid precursor protein TgCRND8 mouse model of Alzheimer's disease. <i>Genes, Brain and Behavior</i> , 2005, 4, 197-208.	2.2	44
29	On the Douglas-Rachford algorithm. <i>Mathematical Programming</i> , 2017, 164, 263-284.	2.4	41
30	A norm convergence result on random products of relaxed projections in Hilbert space. <i>Transactions of the American Mathematical Society</i> , 1995, 347, 1365-1373.	0.9	41
31	Restricted Normal Cones and the Method of Alternating Projections: Theory. <i>Set-Valued and Variational Analysis</i> , 2013, 21, 431-473.	1.1	39
32	Fitzpatrick Functions and Continuous Linear Monotone Operators. <i>SIAM Journal on Optimization</i> , 2007, 18, 789-809.	2.0	38
33	Firmly Nonexpansive Mappings and Maximally Monotone Operators: Correspondence and Duality. <i>Set-Valued and Variational Analysis</i> , 2012, 20, 131-153.	1.1	36
34	The kernel average for two convex functions and its application to the extension and representation of monotone operators. <i>Transactions of the American Mathematical Society</i> , 2009, 361, 5947-5965.	0.9	35
35	Restricted Normal Cones and Sparsity Optimization with Affine Constraints. <i>Foundations of Computational Mathematics</i> , 2014, 14, 63-83.	2.5	34
36	Reflection-Projection Method for Convex Feasibility Problems with an Obtuse Cone. <i>Journal of Optimization Theory and Applications</i> , 2004, 120, 503-531.	1.5	31

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37	A new proximal point iteration that converges weakly but not in norm. Proceedings of the American Mathematical Society, 2005, 133, 1829-1835.	0.8	31
38	On the local convergence of the Douglas-Rachford algorithm. Archiv Der Mathematik, 2014, 102, 589-600.	0.5	31
39	An EM algorithm for dynamic SPECT. IEEE Transactions on Medical Imaging, 1999, 18, 252-261.	8.9	30
40	Optimal Rates of Linear Convergence of Relaxed Alternating Projections and Generalized Douglas-Rachford Methods for Two Subspaces. Numerical Algorithms, 2016, 73, 33-76.	1.9	30
41	How to Transform One Convex Function Continuously into Another. SIAM Review, 2008, 50, 115-132.	8.4	29
42	Bregman distances and Chebyshev sets. Journal of Approximation Theory, 2009, 159, 3-25.	0.8	29
43	Attouch-Théra duality revisited: Paramonotonicity and operator splitting. Journal of Approximation Theory, 2012, 164, 1065-1084.	0.8	29
44	Characterizing arbitrarily slow convergence in the method of alternating projections. International Transactions in Operational Research, 2009, 16, 413-425.	2.7	28
45	The composition of projections onto closed convex sets in Hilbert space is asymptotically regular. Proceedings of the American Mathematical Society, 2002, 131, 141-146.	0.8	27
46	A strongly convergent reflection method for finding the projection onto the intersection of two closed convex sets in a Hilbert space. Journal of Approximation Theory, 2006, 141, 63-69.	0.8	27
47	Restricted Normal Cones and the Method of Alternating Projections: Applications. Set-Valued and Variational Analysis, 2013, 21, 475-501.	1.1	27
48	Projection Algorithms: Results and Open Problems. Studies in Computational Mathematics, 2001, , 11-22.	0.2	25
49	The asymptotic behavior of the composition of two resolvents. Nonlinear Analysis: Theory, Methods & Applications, 2005, 60, 283-301.	1.1	25
50	Primal-Dual Symmetric Intrinsic Methods for Finding Antiderivatives of Cyclically Monotone Operators. SIAM Journal on Control and Optimization, 2007, 46, 2031-2051.	2.1	25
51	Iterating Bregman Retractions. SIAM Journal on Optimization, 2003, 13, 1159-1173.	2.0	24
52	The Douglas-Rachford Algorithm for Two (Not Necessarily Intersecting) Affine Subspaces. SIAM Journal on Optimization, 2016, 26, 968-985.	2.0	24
53	The piecewise linear-quadratic model for computational convex analysis. Computational Optimization and Applications, 2009, 43, 95-118.	1.6	23
54	Maximal monotonicity of dense type, local maximal monotonicity, and monotonicity of the conjugate are all the same for continuous linear operators. Pacific Journal of Mathematics, 1999, 189, 1-20.	0.5	23

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55	Projecting onto the Intersection of a Cone and a Sphere. SIAM Journal on Optimization, 2018, 28, 2158-2188.	2.0	22
56	The resolvent average for positive semidefinite matrices. Linear Algebra and Its Applications, 2010, 432, 1757-1771.	0.9	21
57	On Linear Convergence of Non-Euclidean Gradient Methods without Strong Convexity and Lipschitz Gradient Continuity. Journal of Optimization Theory and Applications, 2019, 182, 1068-1087.	1.5	20
58	A Note on the Paper by Eckstein and Svaiter on "General Projective Splitting Methods for Sums of Maximal Monotone Operators". SIAM Journal on Control and Optimization, 2009, 48, 2513-2515.	2.1	19
59	Fenchel duality, Fitzpatrick functions and the extension of firmly nonexpansive mappings. Proceedings of the American Mathematical Society, 2006, 135, 135-139.	0.8	18
60	Generalized monotone operators and their averaged resolvents. Mathematical Programming, 2021, 189, 55-74.	2.4	18
61	Near equality, near convexity, sums of maximally monotone operators, and averages of firmly nonexpansive mappings. Mathematical Programming, 2013, 139, 55-70.	2.4	17
62	On Slater's condition and finite convergence of the Douglas-Rachford algorithm for solving convex feasibility problems in Euclidean spaces. Journal of Global Optimization, 2016, 65, 329-349.	1.8	17
63	On the Finite Convergence of the Douglas-Rachford Algorithm for Solving (Not Necessarily Convex) Feasibility Problems in Euclidean Spaces. SIAM Journal on Optimization, 2017, 27, 507-537.	2.0	17
64	Regularizing with Bregman-Moreau Envelopes. SIAM Journal on Optimization, 2018, 28, 3208-3228.	2.0	17
65	Generalized Solutions for the Sum of Two Maximally Monotone Operators. SIAM Journal on Control and Optimization, 2014, 52, 1034-1047.	2.1	16
66	Compositions and convex combinations of asymptotically regular firmly nonexpansive mappings are also asymptotically regular. Fixed Point Theory and Applications, 2012, 2012, .	1.1	15
67	The Douglas-Rachford algorithm in the affine-convex case. Operations Research Letters, 2016, 44, 379-382.	0.7	15
68	Autoconjugate representers for linear monotone operators. Mathematical Programming, 2010, 123, 5-24.	2.4	13
69	On Borwein-Wiersma Decompositions of Monotone Linear Relations. SIAM Journal on Optimization, 2010, 20, 2636-2652.	2.0	13
70	Rectangularity and paramonotonicity of maximally monotone operators. Optimization, 2014, 63, 487-504.	1.7	13
71	The Method of Alternating Relaxed Projections for Two Nonconvex Sets. Vietnam Journal of Mathematics, 2014, 42, 421-450.	0.8	13
72	On Subgradient Projectors. SIAM Journal on Optimization, 2015, 25, 1064-1082.	2.0	13

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73	Symbolic computation of Fenchel conjugates. <i>ACM Communications in Computer Algebra</i> , 2006, 40, 18-28.	0.4	12
74	Examples of discontinuous maximal monotone linear operators and the solution to a recent problem posed by B.F. Svaiter. <i>Journal of Mathematical Analysis and Applications</i> , 2010, 370, 224-241.	1.0	12
75	On the Range of the Douglas-Rachford Operator. <i>Mathematics of Operations Research</i> , 2016, 41, 884-897.	1.3	11
76	The Resolvent Average of Monotone Operators: Dominant and Recessive Properties. <i>SIAM Journal on Optimization</i> , 2016, 26, 602-634.	2.0	11
77	On the linear convergence of circumcentered isometry methods. <i>Numerical Algorithms</i> , 2021, 87, 263-297.	1.9	11
78	The Douglas-Rachford algorithm for a hyperplane and a doubleton. <i>Journal of Global Optimization</i> , 2019, 74, 79-93.	1.8	10
79	Circumcentered Methods Induced by Isometries. <i>Vietnam Journal of Mathematics</i> , 2020, 48, 471-508.	0.8	10
80	Stronger maximal monotonicity properties of linear operators. <i>Bulletin of the Australian Mathematical Society</i> , 1999, 60, 163-174.	0.5	9
81	On the order of the operators in the Douglas-Rachford algorithm. <i>Optimization Letters</i> , 2016, 10, 447-455.	1.6	9
82	Bregman distances and Klee sets. <i>Journal of Approximation Theory</i> , 2009, 158, 170-183.	0.8	8
83	An Answer to S. Simons's Question on the Maximal Monotonicity of the Sum of a Maximal Monotone Linear Operator and a Normal Cone Operator. <i>Set-Valued and Variational Analysis</i> , 2009, 17, 195-201.	1.1	8
84	Every maximally monotone operator of Fitzpatrick-Phelps type is actually of dense type. <i>Optimization Letters</i> , 2012, 6, 1875-1881.	1.6	8
85	The Brezis-Browder Theorem in a general Banach space. <i>Journal of Functional Analysis</i> , 2012, 262, 4948-4971.	1.4	8
86	A derivative-free comirror algorithm for convex optimization. <i>Optimization Methods and Software</i> , 2015, 30, 706-726.	2.4	8
87	On the asymptotic behaviour of the Aragón-Artacho-Campoy algorithm. <i>Operations Research Letters</i> , 2018, 46, 585-587.	0.7	8
88	Duality for Bregman projections onto translated cones and affine subspaces. <i>Journal of Approximation Theory</i> , 2003, 121, 1-12.	0.8	7
89	Compositions and averages of two resolvents: Relative geometry of fixed points sets and a partial answer to a question by C. Byrne. <i>Nonlinear Analysis: Theory, Methods & Applications</i> , 2011, 74, 4550-4572.	1.1	7
90	On the Finite Convergence of a Projected Cutter Method. <i>Journal of Optimization Theory and Applications</i> , 2015, 165, 901-916.	1.5	7

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91	Stadium Norm and Douglas-Rachford Splitting: A New Approach to Road Design Optimization. <i>Operations Research</i> , 2016, 64, 201-218.	1.9	7
92	Applying FISTA to optimization problems (with or) without minimizers. <i>Mathematical Programming</i> , 2020, 184, 349-381.	2.4	7
93	A Convex-Analytical Approach to Extension Results for n-Cyclically Monotone Operators. <i>Set-Valued and Variational Analysis</i> , 2007, 15, 297-306.	0.5	6
94	An explicit example of a maximal 3-cyclically monotone operator with bizarre properties. <i>Nonlinear Analysis: Theory, Methods & Applications</i> , 2008, 69, 2875-2891.	1.1	6
95	Construction of Pathological Maximally Monotone Operators on Non-reflexive Banach Spaces. <i>Set-Valued and Variational Analysis</i> , 2012, 20, 387-415.	1.1	6
96	A Bregman projection method for approximating fixed points of quasi-Bregman nonexpansive mappings. <i>Applicable Analysis</i> , 2015, 94, 75-84.	1.3	6
97	New Demiclosedness Principles for (Firmly) Nonexpansive Operators. <i>Springer Proceedings in Mathematics and Statistics</i> , 2013, , 19-28.	0.2	6
98	Best approximation mappings in Hilbert spaces. <i>Mathematical Programming</i> , 2022, 195, 855-901.	2.4	6
99	On the convexity of piecewise-defined functions. <i>ESAIM - Control, Optimisation and Calculus of Variations</i> , 2016, 22, 728-742.	1.3	5
100	Affine Nonexpansive Operators, Attouch's Théra Duality and the Douglas-Rachford Algorithm. <i>Set-Valued and Variational Analysis</i> , 2017, 25, 481-505.	1.1	5
101	Constraint Splitting and Projection Methods for Optimal Control of Double Integrator. , 2019, , 45-68.		5
102	A class of multi-marginal c-cyclically monotone sets with explicit c-splitting potentials. <i>Journal of Mathematical Analysis and Applications</i> , 2018, 461, 333-348.	1.0	4
103	The magnitude of the minimal displacement vector for compositions and convex combinations of firmly nonexpansive mappings. <i>Optimization Letters</i> , 2018, 12, 1465-1474.	1.6	4
104	On the Behavior of the Douglas-Rachford Algorithm for Minimizing a Convex Function Subject to a Linear Constraint. <i>SIAM Journal on Optimization</i> , 2020, 30, 2559-2576.	2.0	4
105	Self-Dual Smooth Approximations of Convex Functions via the Proximal Average. <i>Springer Optimization and Its Applications</i> , 2011, , 23-32.	0.9	4
106	Proof of a Conjecture by Deutsch, Li, and Swetits on Duality of Optimization Problems. <i>Journal of Optimization Theory and Applications</i> , 1999, 102, 697-703.	1.5	3
107	Fixed Points of Averages of Resolvents: Geometry and Algorithms. <i>SIAM Journal on Optimization</i> , 2012, 22, 24-40.	2.0	3
108	On a result of Pazy concerning the asymptotic behaviour of nonexpansive mappings. <i>Journal of Fixed Point Theory and Applications</i> , 2016, 18, 297-307.	1.1	3

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109	The Resolvent Order: A Unification of the Orders by Zarantonello, by Loewner, and by Moreau. SIAM Journal on Optimization, 2017, 27, 466-477.	2.0	3
110	On Douglas-Rachford operators that fail to be proximal mappings. Mathematical Programming, 2018, 168, 55-61.	2.4	3
111	On sums and convex combinations of projectors onto convex sets. Journal of Approximation Theory, 2019, 242, 31-57.	0.8	3
112	On the Minimal Displacement Vector of Compositions and Convex Combinations of Nonexpansive Mappings. Foundations of Computational Mathematics, 2020, 20, 1653-1666.	2.5	3
113	Attouch-Théra Duality, Generalized Cycles, and Gap Vectors. SIAM Journal on Optimization, 2021, 31, 1926-1946.	2.0	3
114	Resolvents and Yosida Approximations of Displacement Mappings of Isometries. Set-Valued and Variational Analysis, 2021, 29, 721.	1.1	3
115	Chebyshev Sets, Klee Sets, and Chebyshev Centers with Respect to Bregman Distances: Recent Results and Open Problems. Springer Optimization and Its Applications, 2011, , 1-21.	0.9	3
116	Directional asymptotics of Fejér monotone sequences. Optimization Letters, 2023, 17, 531-544.	1.6	3
117	A New Generation of Iterative Transform Algorithms for Phase Contrast Tomography. , 0, , .		2
118	Klee sets and Chebyshev centers for the right Bregman distance. Journal of Approximation Theory, 2010, 162, 1225-1244.	0.8	2
119	Subgradient Projectors: Extensions, Theory, and Characterizations. Set-Valued and Variational Analysis, 2018, 26, 1009-1078.	1.1	2
120	The difference vectors for convex sets and a resolution of the geometry conjecture. Open Journal of Mathematical Optimization, 0, 2, 1-18.	0.0	2
121	On Dykstra's algorithm: finite convergence, stalling, and the method of alternating projections. Optimization Letters, 2020, 14, 1975-1987.	1.6	2
122	The Bregman Proximal Average. SIAM Journal on Optimization, 2022, 32, 1379-1401.	2.0	2
123	Multi-marginal maximal monotonicity and convex analysis. Mathematical Programming, 2021, 185, 385-408.	2.4	1
124	On angles between convex sets in Hilbert spaces. Journal of Mathematical Analysis and Applications, 2021, 502, 125239.	1.0	1
125	Finding best approximation pairs for two intersections of closed convex sets. Computational Optimization and Applications, 2022, 81, 289-308.	1.6	1
126	The Projection onto the Cross. Set-Valued and Variational Analysis, 2022, 30, 997-1009.	1.1	1

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127	Projecting onto rectangular matrices with prescribed row and column sums. Fixed Point Theory and Algorithms for Sciences and Engineering, 2021, 2021, .	0.6	1
128	Maximally monotone operators with ranges whose closures are not convex and an answer to a recent question by Stephen Simons. Proceedings of the American Mathematical Society, 2020, 148, 2035-2044.	0.8	0
129	Stronger Notions of Monotonicity. CMS Books in Mathematics, 2017, , 383-392.	0.8	0
130	Intriguing maximally monotone operators derived from nonsunny nonexpansive retractions. Journal of Nonlinear and Variational Analysis, 2018, 2, 123-130.	0.6	0
131	Numerical Explorations of Feasibility Algorithms for Finding Points in the Intersection of Finite Sets. , 2019, , 69-90.		0
132	Edelstein's Astonishing Affine Isometry. American Mathematical Monthly, 2021, 128, 796-809.	0.3	0
133	Roots of the identity operator and proximal mappings: (Classical and phantom) cycles and gap vectors. , 0, , .		0