Patrick L Combettes

List of Publications by Year
in descending order

138 papers	13,085 citations	61857 43 h-index	32761 100 g-index
140 all docs	140 docs citations	140 times ranked	4696 citing authors

#	Article	IF	Citations
1	A Variational Inequality Model for the Construction of Signals from Inconsistent Nonlinear Equations. SIAM Journal on Imaging Sciences, 2022, 15, 84-109.	1.3	6
2	Signal Recovery from Inconsistent Nonlinear Observations. , 2022, , .		0
3	Block-Activated Algorithms For Multicomponent Fully Nonsmooth Minimization. , 2022, , .		0
4	Regression Models for Compositional Data: General Log-Contrast Formulations, Proximal Optimization, and Microbiome Data Applications. Statistics in Biosciences, 2021, 13, 217-242.	0.6	15
5	Bregman Forward-Backward Operator Splitting. Set-Valued and Variational Analysis, 2021, 29, 583-603.	0.5	11
6	Fixed Point Strategies in Data Science. IEEE Transactions on Signal Processing, 2021, 69, 3878-3905.	3.2	43
7	Solving Composite Fixed Point Problems with Block Updates. Advances in Nonlinear Analysis, 2021, 10, 1154-1177.	1.3	8
8	A Fixed Point Framework for Recovering Signals from Nonlinear Transformations. , 2021, , .		1
9	Reconstruction of functions from prescribed proximal points. Journal of Approximation Theory, 2021, 268, 105606.	0.5	4
10	Lipschitz Certificates for Layered Network Structures Driven by Averaged Activation Operators. SIAM Journal on Mathematics of Data Science, 2020, 2, 529-557.	1.0	36
11	Warped proximal iterations for monotone inclusions. Journal of Mathematical Analysis and Applications, 2020, 491, 124315.	0.5	17
12	Deep Neural Network Structures Solving Variational Inequalities. Set-Valued and Variational Analysis, 2020, 28, 491-518.	0.5	58
13	The Douglas–Rachford Algorithm Converges Only Weakly. SIAM Journal on Control and Optimization, 2020, 58, 1118-1120.	1.1	5
14	Perspective maximum likelihood-type estimation via proximal decomposition. Electronic Journal of Statistics, 2020, 14, .	0.4	14
15	Stochastic quasi-FejÃ©r block-coordinate fixed point iterations with random sweeping II: mean-square and linear convergence. Mathematical Programming, 2019, 174, 433-451.	1.6	12
16	Learning with optimal interpolation norms. Numerical Algorithms, 2019, 81, 695-717.	1.1	3
17	Proximal Activation of Smooth Functions in Splitting Algorithms for Convex Image Recovery. SIAM Journal on Imaging Sciences, 2019, 12, 1905-1935.	1.3	15
18	Fully Proximal Splitting Algorithms In Image Recovery. , 2019, , .		2

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19	Correction to: Convex Analysis and Monotone Operator Theory in Hilbert Spaces. CMS Books in Mathematics, 2019, , C1-C4.	0.8	7
20	Asynchronous block-iterative primal-dual decomposition methods for monotone inclusions. Mathematical Programming, 2018, 168, 645-672.	1.6	49
21	Perspective Functions: Properties, Constructions, and Examples. Set-Valued and Variational Analysis, 2018, 26, 247-264.	0.5	31
22	Perspective functions: Proximal calculus and applications in high-dimensional statistics. Journal of Mathematical Analysis and Applications, 2018, 457, 1283-1306.	0.5	33
23	Consistent learning by composite proximal thresholding. Mathematical Programming, 2018, 167, 99-127.	1.6	9
24	Regularized learning schemes in feature Banach spaces. Analysis and Applications, 2018, 16, 1-54.	1.2	13
25	Linear Convergence of Stochastic Block-Coordinate Fixed Point Algorithms. , 2018, , .		1
26	Monotone operator theory in convex optimization. Mathematical Programming, 2018, 170, 177-206.	1.6	33
27	Convex Analysis and Monotone Operator Theory in Hilbert Spaces. CMS Books in Mathematics, 2017, , .	0.8	784
28	Classification and Regression Using an Outer Approximation Projection-Gradient Method. IEEE Transactions on Signal Processing, 2017, 65, 4635-4644.	3.2	14
29	Quasi-Nonexpansive Iterations on the Affine Hull of Orbits: From Mann's Mean Value Algorithm to Inertial Methods. SIAM Journal on Optimization, 2017, 27, 2356-2380.	1.2	38
30	Stochastic forward-backward and primal-dual approximation algorithms with application to online image restoration. , 2016, , .		6
31	A strongly convergent primalâ€“dual method for nonoverlapping domain decomposition. Numerische Mathematik, 2016, 133, 443-470.	0.9	9
32	Kolmogorov n-Widths of Function Classes Induced by a Non-Degenerate Differential Operator: A Convex Duality Approach. Set-Valued and Variational Analysis, 2016, 24, 83-99.	0.5	0
33	Best Approximation from the Kuhn-Tucker Set of Composite Monotone Inclusions. Numerical Functional Analysis and Optimization, 2015, 36, 1513-1532.	0.6	11
34	Compositions and convex combinations of averaged nonexpansive operators. Journal of Mathematical Analysis and Applications, 2015, 425, 55-70.	0.5	72
35	Stochastic Quasi-FejÃ©r Block-Coordinate Fixed Point Iterations with Random Sweeping. SIAM Journal on Optimization, 2015, 25, 1221-1248.	1.2	117
36	A forward-backward view of some primal-dual optimization methods in image recovery. , 2014, , .		48

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37	Solving Coupled Composite Monotone Inclusions by Successive FejÃ©r Approximations of their Kuhn–Tucker Set. SIAM Journal on Optimization, 2014, 24, 2076-2095.	1.2	36
38	Variable metric forwardâ€“backward splitting with applications to monotone inclusions in duality. Optimization, 2014, 63, 1289-1318.	1.0	124
39	Asymptotic behavior of compositions of under-relaxed nonexpansive operators. Journal of Dynamics and Games, 2014, 1, 331-346.	0.6	5
40	A primal-dual method of partial inverses for composite inclusions. Optimization Letters, 2014, 8, 2271-2284.	0.9	16
41	Moreauâ€™s decomposition in Banach spaces. Mathematical Programming, 2013, 139, 103-114.	1.6	13
42	Variable metric quasi-FejÃ©r monotonicity. Nonlinear Analysis: Theory, Methods & Applications, 2013, 78, 17-31.	0.6	59
43	Systems of Structured Monotone Inclusions: Duality, Algorithms, and Applications. SIAM Journal on Optimization, 2013, 23, 2420-2447.	1.2	44
44	Monotone Operator Methods for Nash Equilibria in Non-potential Games. Springer Proceedings in Mathematics and Statistics, 2013, , 143-159.	0.1	28
45	Primal-Dual Splitting Algorithm for Solving Inclusions with Mixtures of Composite, Lipschitzian, and Parallel-Sum Type Monotone Operators. Set-Valued and Variational Analysis, 2012, 20, 307-330.	0.5	262
46	There is no variational characterization of the cycles in the method of periodic projections. Journal of Functional Analysis, 2012, 262, 400-408.	0.7	18
47	On the effectiveness of projection methods for convex feasibility problems with linear inequality constraints. Computational Optimization and Applications, 2012, 51, 1065-1088.	0.9	111
48	A Monotone+Skew Splitting Model for Composite Monotone Inclusions in Duality. SIAM Journal on Optimization, 2011, 21, 1230-1250.	1.2	178
49	Proximal Algorithms for Multicomponent Image Recovery Problems. Journal of Mathematical Imaging and Vision, 2011, 41, 3-22.	0.8	44
50	Proximity for sums of composite functions. Journal of Mathematical Analysis and Applications, 2011, 380, 680-688.	0.5	43
51	Convex Analysis and Monotone Operator Theory in Hilbert Spaces. CMS Books in Mathematics, 2011, , .	0.8	1,783
52	Proximal Splitting Methods in Signal Processing. Springer Optimization and Its Applications, 2011, , 185-212.	0.6	1,284
53	Dualization of Signal Recovery Problems. Set-Valued and Variational Analysis, 2010, 18, 373-404.	0.5	70
54	Functions with prescribed best linear approximations. Journal of Approximation Theory, 2010, 162, 1095-1116.	0.5	7

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55	Alternating proximal algorithm for blind image recovery. , 2010, , .		28
56	Proximal method for geometry and texture image decomposition. , 2010, , .		3
57	A Parallel Splitting Method for Coupled Monotone Inclusions. SIAM Journal on Control and Optimization, 2010, 48, 3246-3270.	1.1	70
58	Split convex minimization algorithm for signal recovery. , 2009, , .		1
59	Convex Variational Formulation with Smooth Coupling for Multicomponent Signal Decomposition and Recovery. Numerical Mathematics, 2009, 2, 485-508.	0.6	24
60	Visco-penalization of the sum of two monotone operators. Nonlinear Analysis: Theory, Methods & Applications, 2008, 69, 579-591.	0.6	6
61	Proximal Thresholding Algorithm for Minimization over Orthonormal Bases. SIAM Journal on Optimization, 2008, 18, 1351-1376.	1.2	130
62	A proximal decomposition method for solving convex variational inverse problems. Inverse Problems, 2008, 24, 065014.	1.0	191
63	A variational formulation for frame-based inverse problems. Inverse Problems, 2007, 23, 1495-1518.	1.0	174
64	A Douglasâ€“Rachford Splitting Approach to Nonsmooth Convex Variational Signal Recovery. IEEE Journal on Selected Topics in Signal Processing, 2007, 1, 564-574.	7.3	353
65	A Convex Programming Algorithm for Noisy Discrete Tomography. , 2007, , 207-226.		11
66	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.	0.5	27
67	Extrapolation algorithm for affine-convex feasibility problems. Numerical Algorithms, 2006, 41, 239-274.	1.1	67
68	The asymptotic behavior of the composition of two resolvents. Nonlinear Analysis: Theory, Methods & Applications, 2005, 60, 283-301.	0.6	25
69	The asymptotic behavior of the composition of two resolvents. Nonlinear Analysis: Theory, Methods & Applications, 2005, 60, 283-301.	0.6	70
70	Parallel Block-Iterative Reconstruction Algorithms for Binary Tomography. Electronic Notes in Discrete Mathematics, 2005, 20, 263-280.	0.4	8
71	Signal Recovery by Proximal Forward-Backward Splitting. Multiscale Modeling and Simulation, 2005, 4, 1168-1200.	0.6	1,957
72	WAVELET-CONSTRAINED IMAGE RESTORATION. International Journal of Wavelets, Multiresolution and Information Processing, 2004, 02, 371-389.	0.9	26

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73	Finding best approximation pairs relative to two closed convex sets in Hilbert spaces. Journal of Approximation Theory, 2004, 127, 178-192.	0.5	128
74	Image Restoration Subject to a Total Variation Constraint. IEEE Transactions on Image Processing, 2004, 13, 1213-1222.	6.0	156
75	Solving monotone inclusions via compositions of nonexpansive averaged operators. Optimization, 2004, 53, 475-504.	1.0	328
76	Proximal Methods for Cohypomonotone Operators. SIAM Journal on Control and Optimization, 2004, 43, 731-742.	1.1	32
77	A block-iterative surrogate constraint splitting method for quadratic signal recovery. IEEE Transactions on Signal Processing, 2003, 51, 1771-1782.	3.2	118
78	Hybrid projectionâ€“reflection method for phase retrieval. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2003, 20, 1025.	0.8	180
79	Iterating Bregman Retractions. SIAM Journal on Optimization, 2003, 13, 1159-1173.	1.2	24
80	Bregman Monotone Optimization Algorithms. SIAM Journal on Control and Optimization, 2003, 42, 596-636.	1.1	187
81	Construction of best Bregman approximations in reflexive Banach spaces. Proceedings of the American Mathematical Society, 2003, 131, 3757-3766.	0.4	47
82	Image deconvolution with total variation bounds. , 2003, , .		3
83	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.	0.8	409
84	An adaptive level set method for nondifferentiable constrained image recovery. IEEE Transactions on Image Processing, 2002, 11, 1295-1304.	6.0	58
85	Generalized Mann iterates for constructing fixed points in Hilbert spaces. Journal of Mathematical Analysis and Applications, 2002, 275, 521-536.	0.5	36
86	Quasi-FejÃ©rian Analysis of Some Optimization Algorithms. Studies in Computational Mathematics, 2001, 8, 115-152.	0.2	122
87	ESSENTIAL SMOOTHNESS, ESSENTIAL STRICT CONVEXITY, AND LEGENDRE FUNCTIONS IN BANACH SPACES. Communications in Contemporary Mathematics, 2001, 03, 615-647.	0.6	205
88	A Weak-to-Strong Convergence Principle for FejÃ©r-Monotone Methods in Hilbert Spaces. Mathematics of Operations Research, 2001, 26, 248-264.	0.8	331
89	On the numerical robustness of the parallel projection method in signal synthesis. IEEE Signal Processing Letters, 2001, 8, 45-47.	2.1	26
90	Strong Convergence of Block-Iterative Outer Approximation Methods for Convex Optimization. SIAM Journal on Control and Optimization, 2000, 38, 538-565.	1.1	59

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91	Hard-constrained inconsistent signal feasibility problems. IEEE Transactions on Signal Processing, 1999, 47, 2460-2468.	3.2	66
92	Convex multiresolution analysis. IEEE Transactions on Pattern Analysis and Machine Intelligence, 1998, 20, 1308-1318.	9.7	11
93	Convex set theoretic image recovery by extrapolated iterations of parallel subgradient projections. IEEE Transactions on Image Processing, 1997, 6, 493-506.	6.0	157
94	Hilbertian convex feasibility problem: Convergence of projection methods. Applied Mathematics and Optimization, 1997, 35, 311-330.	0.8	97
95	Wavelet synthesis by alternating projections. IEEE Transactions on Signal Processing, 1996, 44, 728-732.	3.2	16
96	Combining statistical information in set theoretic estimation. IEEE Signal Processing Letters, 1996, 3, 61-62.	2.1	8
97	The Convex Feasibility Problem in Image Recovery. Advances in Imaging and Electron Physics, 1996, , 155-270.	0.1	279
98	Deconvolution with bounded uncertainty. International Journal of Adaptive Control and Signal Processing, 1995, 9, 3-17.	2.3	7
99	Volterra filtering and higher order whiteness. IEEE Transactions on Signal Processing, 1995, 43, 2209-2212.	3.2	6
100	Iterations of parallel convex projections in hilbert spaces. Numerical Functional Analysis and Optimization, 1994, 15, 225-243.	0.6	25
101	Inconsistent signal feasibility problems: least-squares solutions in a product space. IEEE Transactions on Signal Processing, 1994, 42, 2955-2966.	3.2	150
102	Signal recovery by best feasible approximation. IEEE Transactions on Image Processing, 1993, 2, 269-271.	6.0	39
103	Parallel projection methods for set theoretic signal reconstruction and restoration. , 1993, , .		5
104	The foundations of set theoretic estimation. Proceedings of the IEEE, 1993, 81, 182-208.	16.4	501
105	Volterra prediction models and higher order whiteness. , 1993, , .		1
106	A general framework for the incorporation of uncertainty in set theoretic estimation. , 1992, , .		4
107	A bound for the zeros of polynomials. IEEE Transactions on Circuits and Systems Part 1: Regular Papers, 1992, 39, 476-478.	0.1	26
108	Signal detection via spectral theory of large dimensional random matrices. IEEE Transactions on Signal Processing, 1992, 40, 2100-2105.	3.2	56

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109	Best stable and invertible approximations for ARMA systems. IEEE Transactions on Signal Processing, 1992, 40, 3066-3069.	3.2	5
110	Convex set theoretic image recovery: History, current status, and new directions. Journal of Visual Communication and Image Representation, 1992, 3, 307-315.	1.7	6
111	The use of noise properties in set theoretic estimation. IEEE Transactions on Signal Processing, 1991, 39, 1630-1641.	3.2	56
112	Set theoretic estimation by random search. IEEE Transactions on Signal Processing, 1991, 39, 1669-1671.	3.2	7
113	The foundations of set theoretic estimation. , 1991, , .		36
114	Method of successive projections for finding a common point of sets in metric spaces. Journal of Optimization Theory and Applications, 1990, 67, 487-507.	0.8	104
115	Set theoretic autoregressive spectral estimation. , 1990, , .		1
116	Methods for digital restoration of signals degraded by a stochastic impulse response. IEEE Transactions on Acoustics, Speech, and Signal Processing, 1989, 37, 393-401.	2.0	47
117	Hard-constrained signal feasibility problems. , 0, , .		1
118	New methods for the synthesis of set theoretic estimates (digital signal processing). , 0, , .		3
119	Convex set theoretic image recovery via chaotic iterations of approximate projections. , 0, , .		0
120	A fast parallel projection algorithm for set theoretic image recovery. , 0, , .		8
121	Constrained image recovery in a product space. , 0, , .		5
122	Adaptive linear filtering with convex constraints. , 0, , .		4
123	Convex multiresolution analysis. , 0, , .		0
124	Operator theoretic image coding. , 0, , .		2
125	Generalized convex set theoretic image recovery. , 0, , .		4
126	Nonlinear multiresolution image analysis via convex projections. , 0, , .		0

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127	A block-iterative quadratic signal recovery algorithm. , 0, , .		0
128	A parallel constraint disintegration and approximation scheme for quadratic signal recovery. , 0, , .		0
129	A level-set subgradient projection algorithm for non-differentiable signal restoration with multiple constraints. , 0, , .		0
130	Convex set theoretic image recovery with inexact projection algorithms. , 0, , .		1
131	On the structure of some phase retrieval algorithms. , 0, , .		4
132	Total variation information in image recovery. , 0, , .		0
133	Estimating first-order finite-difference information in image restoration problems. , 0, , .		1
134	Theoretical analysis of some regularized image denoising methods. , 0, , .		0
135	Constraint construction in convex set theoretic signal recovery via Stein's principle [image denoising example]. , 0, , .		2
136	A New Generation of Iterative Transform Algorithms for Phase Contrast Tomography. , 0, , .		2
137	A Decomposition Method for Nonsmooth Convex Variational Signal Recovery. , 0, , .		0
138	Multivariate Monotone Inclusions in Saddle Form. Mathematics of Operations Research, 0, , .	0.8	7