

# Patrick L Combettes

## List of Publications by Year in descending order

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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	Signal Recovery by Proximal Forward-Backward Splitting. Multiscale Modeling and Simulation, 2005, 4, 1168-1200.	0.6	1,957
2	Convex Analysis and Monotone Operator Theory in Hilbert Spaces. CMS Books in Mathematics, 2011, , .	0.8	1,783
3	Proximal Splitting Methods in Signal Processing. Springer Optimization and Its Applications, 2011, , 185-212.	0.6	1,284
4	Convex Analysis and Monotone Operator Theory in Hilbert Spaces. CMS Books in Mathematics, 2017, , .	0.8	784
5	The foundations of set theoretic estimation. Proceedings of the IEEE, 1993, 81, 182-208.	16.4	501
6	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
7	A Douglas-Rachford Splitting Approach to Nonsmooth Convex Variational Signal Recovery. IEEE Journal on Selected Topics in Signal Processing, 2007, 1, 564-574.	7.3	353
8	A Weak-to-Strong Convergence Principle for Fejér-Monotone Methods in Hilbert Spaces. Mathematics of Operations Research, 2001, 26, 248-264.	0.8	331
9	Solving monotone inclusions via compositions of nonexpansive averaged operators. Optimization, 2004, 53, 475-504.	1.0	328
10	The Convex Feasibility Problem in Image Recovery. Advances in Imaging and Electron Physics, 1996, , 155-270.	0.1	279
11	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
12	ESSENTIAL SMOOTHNESS, ESSENTIAL STRICT CONVEXITY, AND LEGENDRE FUNCTIONS IN BANACH SPACES. Communications in Contemporary Mathematics, 2001, 03, 615-647.	0.6	205
13	A proximal decomposition method for solving convex variational inverse problems. Inverse Problems, 2008, 24, 065014.	1.0	191
14	Bregman Monotone Optimization Algorithms. SIAM Journal on Control and Optimization, 2003, 42, 596-636.	1.1	187
15	Hybrid projection-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
16	A Monotone+Skew Splitting Model for Composite Monotone Inclusions in Duality. SIAM Journal on Optimization, 2011, 21, 1230-1250.	1.2	178
17	A variational formulation for frame-based inverse problems. Inverse Problems, 2007, 23, 1495-1518.	1.0	174
18	Convex set theoretic image recovery by extrapolated iterations of parallel subgradient projections. IEEE Transactions on Image Processing, 1997, 6, 493-506.	6.0	157

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19	Image Restoration Subject to a Total Variation Constraint. IEEE Transactions on Image Processing, 2004, 13, 1213-1222.	6.0	156
20	Inconsistent signal feasibility problems: least-squares solutions in a product space. IEEE Transactions on Signal Processing, 1994, 42, 2955-2966.	3.2	150
21	Proximal Thresholding Algorithm for Minimization over Orthonormal Bases. SIAM Journal on Optimization, 2008, 18, 1351-1376.	1.2	130
22	Finding best approximation pairs relative to two closed convex sets in Hilbert spaces. Journal of Approximation Theory, 2004, 127, 178-192.	0.5	128
23	Variable metric forward-backward splitting with applications to monotone inclusions in duality. Optimization, 2014, 63, 1289-1318.	1.0	124
24	Quasi-Fejrian Analysis of Some Optimization Algorithms. Studies in Computational Mathematics, 2001, 8, 115-152.	0.2	122
25	A block-iterative surrogate constraint splitting method for quadratic signal recovery. IEEE Transactions on Signal Processing, 2003, 51, 1771-1782.	3.2	118
26	Stochastic Quasi-Fejrian Block-Coordinate Fixed Point Iterations with Random Sweeping. SIAM Journal on Optimization, 2015, 25, 1221-1248.	1.2	117
27	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
28	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
29	Hilbertian convex feasibility problem: Convergence of projection methods. Applied Mathematics and Optimization, 1997, 35, 311-330.	0.8	97
30	Compositions and convex combinations of averaged nonexpansive operators. Journal of Mathematical Analysis and Applications, 2015, 425, 55-70.	0.5	72
31	The asymptotic behavior of the composition of two resolvents. Nonlinear Analysis: Theory, Methods & Applications, 2005, 60, 283-301.	0.6	70
32	Dualization of Signal Recovery Problems. Set-Valued and Variational Analysis, 2010, 18, 373-404.	0.5	70
33	A Parallel Splitting Method for Coupled Monotone Inclusions. SIAM Journal on Control and Optimization, 2010, 48, 3246-3270.	1.1	70
34	Extrapolation algorithm for affine-convex feasibility problems. Numerical Algorithms, 2006, 41, 239-274.	1.1	67
35	Hard-constrained inconsistent signal feasibility problems. IEEE Transactions on Signal Processing, 1999, 47, 2460-2468.	3.2	66
36	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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37	Variable metric quasi-Fejér monotonicity. <i>Nonlinear Analysis: Theory, Methods &amp; Applications</i> , 2013, 78, 17-31.	0.6	59
38	An adaptive level set method for nondifferentiable constrained image recovery. <i>IEEE Transactions on Image Processing</i> , 2002, 11, 1295-1304.	6.0	58
39	Deep Neural Network Structures Solving Variational Inequalities. <i>Set-Valued and Variational Analysis</i> , 2020, 28, 491-518.	0.5	58
40	The use of noise properties in set theoretic estimation. <i>IEEE Transactions on Signal Processing</i> , 1991, 39, 1630-1641.	3.2	56
41	Signal detection via spectral theory of large dimensional random matrices. <i>IEEE Transactions on Signal Processing</i> , 1992, 40, 2100-2105.	3.2	56
42	Asynchronous block-iterative primal-dual decomposition methods for monotone inclusions. <i>Mathematical Programming</i> , 2018, 168, 645-672.	1.6	49
43	A forward-backward view of some primal-dual optimization methods in image recovery. , 2014, , .		48
44	Methods for digital restoration of signals degraded by a stochastic impulse response. <i>IEEE Transactions on Acoustics, Speech, and Signal Processing</i> , 1989, 37, 393-401.	2.0	47
45	Construction of best Bregman approximations in reflexive Banach spaces. <i>Proceedings of the American Mathematical Society</i> , 2003, 131, 3757-3766.	0.4	47
46	Proximal Algorithms for Multicomponent Image Recovery Problems. <i>Journal of Mathematical Imaging and Vision</i> , 2011, 41, 3-22.	0.8	44
47	Systems of Structured Monotone Inclusions: Duality, Algorithms, and Applications. <i>SIAM Journal on Optimization</i> , 2013, 23, 2420-2447.	1.2	44
48	Proximity for sums of composite functions. <i>Journal of Mathematical Analysis and Applications</i> , 2011, 380, 680-688.	0.5	43
49	Fixed Point Strategies in Data Science. <i>IEEE Transactions on Signal Processing</i> , 2021, 69, 3878-3905.	3.2	43
50	Signal recovery by best feasible approximation. <i>IEEE Transactions on Image Processing</i> , 1993, 2, 269-271.	6.0	39
51	Quasi-Nonexpansive Iterations on the Affine Hull of Orbits: From Mann's Mean Value Algorithm to Inertial Methods. <i>SIAM Journal on Optimization</i> , 2017, 27, 2356-2380.	1.2	38
52	The foundations of set theoretic estimation. , 1991, , .		36
53	Generalized Mann iterates for constructing fixed points in Hilbert spaces. <i>Journal of Mathematical Analysis and Applications</i> , 2002, 275, 521-536.	0.5	36
54	Solving Coupled Composite Monotone Inclusions by Successive Fejér Approximations of their Kuhn-Tucker Set. <i>SIAM Journal on Optimization</i> , 2014, 24, 2076-2095.	1.2	36

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55	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
56	Perspective functions: Proximal calculus and applications in high-dimensional statistics. Journal of Mathematical Analysis and Applications, 2018, 457, 1283-1306.	0.5	33
57	Monotone operator theory in convex optimization. Mathematical Programming, 2018, 170, 177-206.	1.6	33
58	Proximal Methods for Cohypomonotone Operators. SIAM Journal on Control and Optimization, 2004, 43, 731-742.	1.1	32
59	Perspective Functions: Properties, Constructions, and Examples. Set-Valued and Variational Analysis, 2018, 26, 247-264.	0.5	31
60	Alternating proximal algorithm for blind image recovery. , 2010, , .		28
61	Monotone Operator Methods for Nash Equilibria in Non-potential Games. Springer Proceedings in Mathematics and Statistics, 2013, , 143-159.	0.1	28
62	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
63	A bound for the zeros of polynomials. IEEE Transactions on Circuits and Systems Part 1: Regular Papers, 1992, 39, 476-478.	0.1	26
64	On the numerical robustness of the parallel projection method in signal synthesis. IEEE Signal Processing Letters, 2001, 8, 45-47.	2.1	26
65	WAVELET-CONSTRAINED IMAGE RESTORATION. International Journal of Wavelets, Multiresolution and Information Processing, 2004, 02, 371-389.	0.9	26
66	Iterations of parallel convex projections in hilbert spaces. Numerical Functional Analysis and Optimization, 1994, 15, 225-243.	0.6	25
67	The asymptotic behavior of the composition of two resolvents. Nonlinear Analysis: Theory, Methods & Applications, 2005, 60, 283-301.	0.6	25
68	Iterating Bregman Retractions. SIAM Journal on Optimization, 2003, 13, 1159-1173.	1.2	24
69	Convex Variational Formulation with Smooth Coupling for Multicomponent Signal Decomposition and Recovery. Numerical Mathematics, 2009, 2, 485-508.	0.6	24
70	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
71	Warped proximal iterations for monotone inclusions. Journal of Mathematical Analysis and Applications, 2020, 491, 124315.	0.5	17
72	Wavelet synthesis by alternating projections. IEEE Transactions on Signal Processing, 1996, 44, 728-732.	3.2	16

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73	A primal-dual method of partial inverses for composite inclusions. Optimization Letters, 2014, 8, 2271-2284.	0.9	16
74	Proximal Activation of Smooth Functions in Splitting Algorithms for Convex Image Recovery. SIAM Journal on Imaging Sciences, 2019, 12, 1905-1935.	1.3	15
75	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
76	Classification and Regression Using an Outer Approximation Projection-Gradient Method. IEEE Transactions on Signal Processing, 2017, 65, 4635-4644.	3.2	14
77	Perspective maximum likelihood-type estimation via proximal decomposition. Electronic Journal of Statistics, 2020, 14, .	0.4	14
78	Moreau's decomposition in Banach spaces. Mathematical Programming, 2013, 139, 103-114.	1.6	13
79	Regularized learning schemes in feature Banach spaces. Analysis and Applications, 2018, 16, 1-54.	1.2	13
80	Stochastic quasi-Fejér block-coordinate fixed point iterations with random sweeping II: mean-square and linear convergence. Mathematical Programming, 2019, 174, 433-451.	1.6	12
81	Convex multiresolution analysis. IEEE Transactions on Pattern Analysis and Machine Intelligence, 1998, 20, 1308-1318.	9.7	11
82	Best Approximation from the Kuhn-Tucker Set of Composite Monotone Inclusions. Numerical Functional Analysis and Optimization, 2015, 36, 1513-1532.	0.6	11
83	Bregman Forward-Backward Operator Splitting. Set-Valued and Variational Analysis, 2021, 29, 583-603.	0.5	11
84	A Convex Programming Algorithm for Noisy Discrete Tomography. , 2007, , 207-226.		11
85	A strongly convergent primal-dual method for nonoverlapping domain decomposition. Numerische Mathematik, 2016, 133, 443-470.	0.9	9
86	Consistent learning by composite proximal thresholding. Mathematical Programming, 2018, 167, 99-127.	1.6	9
87	A fast parallel projection algorithm for set theoretic image recovery. , 0, , .		8
88	Combining statistical information in set theoretic estimation. IEEE Signal Processing Letters, 1996, 3, 61-62.	2.1	8
89	Parallel Block-Iterative Reconstruction Algorithms for Binary Tomography. Electronic Notes in Discrete Mathematics, 2005, 20, 263-280.	0.4	8
90	Solving Composite Fixed Point Problems with Block Updates. Advances in Nonlinear Analysis, 2021, 10, 1154-1177.	1.3	8

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91	Set theoretic estimation by random search. IEEE Transactions on Signal Processing, 1991, 39, 1669-1671.	3.2	7
92	Deconvolution with bounded uncertainty. International Journal of Adaptive Control and Signal Processing, 1995, 9, 3-17.	2.3	7
93	Functions with prescribed best linear approximations. Journal of Approximation Theory, 2010, 162, 1095-1116.	0.5	7
94	Correction to: Convex Analysis and Monotone Operator Theory in Hilbert Spaces. CMS Books in Mathematics, 2019, , C1-C4.	0.8	7
95	Multivariate Monotone Inclusions in Saddle Form. Mathematics of Operations Research, 0, , .	0.8	7
96	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
97	Volterra filtering and higher order whiteness. IEEE Transactions on Signal Processing, 1995, 43, 2209-2212.	3.2	6
98	Visco-penalization of the sum of two monotone operators. Nonlinear Analysis: Theory, Methods & Applications, 2008, 69, 579-591.	0.6	6
99	Stochastic forward-backward and primal-dual approximation algorithms with application to online image restoration. , 2016, , .		6
100	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
101	Best stable and invertible approximations for ARMA systems. IEEE Transactions on Signal Processing, 1992, 40, 3066-3069.	3.2	5
102	Parallel projection methods for set theoretic signal reconstruction and restoration. , 1993, , .		5
103	Constrained image recovery in a product space. , 0, , .		5
104	Asymptotic behavior of compositions of under-relaxed nonexpansive operators. Journal of Dynamics and Games, 2014, 1, 331-346.	0.6	5
105	The Douglas–Rachford Algorithm Converges Only Weakly. SIAM Journal on Control and Optimization, 2020, 58, 1118-1120.	1.1	5
106	A general framework for the incorporation of uncertainty in set theoretic estimation. , 1992, , .		4
107	Adaptive linear filtering with convex constraints. , 0, , .		4
108	Generalized convex set theoretic image recovery. , 0, , .		4

#	ARTICLE	IF	CITATIONS
109	On the structure of some phase retrieval algorithms. , 0, , .		4
110	Reconstruction of functions from prescribed proximal points. Journal of Approximation Theory, 2021, 268, 105606.	0.5	4
111	New methods for the synthesis of set theoretic estimates (digital signal processing). , 0, , .		3
112	Image deconvolution with total variation bounds. , 2003, , .		3
113	Proximal method for geometry and texture image decomposition. , 2010, , .		3
114	Learning with optimal interpolation norms. Numerical Algorithms, 2019, 81, 695-717.	1.1	3
115	Operator theoretic image coding. , 0, , .		2
116	Constraint construction in convex set theoretic signal recovery via Stein's principle [image denoising example]. , 0, , .		2
117	A New Generation of Iterative Transform Algorithms for Phase Contrast Tomography. , 0, , .		2
118	Fully Proximal Splitting Algorithms In Image Recovery. , 2019, , .		2
119	Hard-constrained signal feasibility problems. , 0, , .		1
120	Set theoretic autoregressive spectral estimation. , 1990, , .		1
121	Volterra prediction models and higher order whiteness. , 1993, , .		1
122	Convex set theoretic image recovery with inexact projection algorithms. , 0, , .		1
123	Estimating first-order finite-difference information in image restoration problems. , 0, , .		1
124	Split convex minimization algorithm for signal recovery. , 2009, , .		1
125	Linear Convergence of Stochastic Block-Coordinate Fixed Point Algorithms. , 2018, , .		1
126	A Fixed Point Framework for Recovering Signals from Nonlinear Transformations. , 2021, , .		1



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127	Convex set theoretic image recovery via chaotic iterations of approximate projections. , 0, , .		0
128	Convex multiresolution analysis. , 0, , .		0
129	Nonlinear multiresolution image analysis via convex projections. , 0, , .		0
130	A block-iterative quadratic signal recovery algorithm. , 0, , .		0
131	A parallel constraint disintegration and approximation scheme for quadratic signal recovery. , 0, , .		0
132	A level-set subgradient projection algorithm for non-differentiable signal restoration with multiple constraints. , 0, , .		0
133	Total variation information in image recovery. , 0, , .		0
134	Theoretical analysis of some regularized image denoising methods. , 0, , .		0
135	A Decomposition Method for Nonsmooth Convex Variational Signal Recovery. , 0, , .		0
136	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
137	Signal Recovery from Inconsistent Nonlinear Observations. , 2022, , .		0
138	Block-Activated Algorithms For Multicomponent Fully Nonsmooth Minimization. , 2022, , .		0