

# William W Hager

## List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

105  
papers

5,505  
citations

34  
h-index

73  
g-index

107  
ext. papers

6,437  
ext. citations

2  
avg, IF

6.09  
L-index

#	Paper	IF	Citations
105	An inexact accelerated stochastic ADMM for separable convex optimization. <i>Computational Optimization and Applications</i> , <b>2022</b> , 81, 479-518	1.4	2
104	Mesh refinement method for solving optimal control problems with nonsmooth solutions using jump function approximations. <i>Optimal Control Applications and Methods</i> , <b>2021</b> , 42, 1119-1140	1.7	2
103	The Switch Point Algorithm. <i>SIAM Journal on Control and Optimization</i> , <b>2021</b> , 59, 2570-2593	1.9	1
102	Mesh Refinement Method for Solving Bang-Bang Optimal Control Problems Using Direct Collocation <b>2020</b> ,		4
101	Convergence rates for an inexact ADMM applied to separable convex optimization. <i>Computational Optimization and Applications</i> , <b>2020</b> , 77, 729-754	1.4	1
100	Bounds for integration matrices that arise in Gauss and Radau collocation. <i>Computational Optimization and Applications</i> , <b>2019</b> , 74, 259-273	1.4	10
99	Inexact alternating direction methods of multipliers for separable convex optimization. <i>Computational Optimization and Applications</i> , <b>2019</b> , 73, 201-235	1.4	7
98	Convergence rate for a Radau hp collocation method applied to constrained optimal control. <i>Computational Optimization and Applications</i> , <b>2019</b> , 74, 275-314	1.4	12
97	Computational Method for Optimal Guidance and Control Using Adaptive Gaussian Quadrature Collocation. <i>Journal of Guidance, Control, and Dynamics</i> , <b>2019</b> , 42, 2026-2041	2.1	8
96	Convergence Rate for a Gauss Collocation Method Applied to Constrained Optimal Control. <i>SIAM Journal on Control and Optimization</i> , <b>2018</b> , 56, 1386-1411	1.9	15
95	Mesh-Generation Method for Real-Time Optimal Control Using Adaptive Gaussian Quadrature Collocation <b>2018</b> ,		2
94	Adaptive Mesh Refinement Method for Optimal Control Using Decay Rates of Legendre Polynomial Coefficients. <i>IEEE Transactions on Control Systems Technology</i> , <b>2018</b> , 26, 1475-1483	4.8	30
93	A multilevel bilinear programming algorithm for the vertex separator problem. <i>Computational Optimization and Applications</i> , <b>2018</b> , 69, 189-223	1.4	11
92	Modified Radau Collocation method for Solving Optimal Control Problems with Nonsmooth Solutions Part I: Lavrentiev Phenomenon and the Search Space <b>2018</b> ,		1
91	A pseudospectral method for optimal control based on collocation at the Gauss points <b>2018</b> ,		1
90	Modified Radau Collocation Method for Solving Optimal Control Problems with Nonsmooth Solutions Part II: Costate Estimation and the Transformed Adjoint System <b>2018</b> ,		1
89	Mesh Refinement Method for Optimal Control Problems with Discontinuous Control Profiles <b>2017</b> ,		1

88	Lebesgue constants arising in a class of collocation methods. <i>IMA Journal of Numerical Analysis</i> , <b>2016</b> , drw060	1.8	3
87	An active set algorithm for nonlinear optimization with polyhedral constraints. <i>Science China Mathematics</i> , <b>2016</b> , 59, 1525-1542	0.8	6
86	An Efficient Hybrid Algorithm for the Separable Convex Quadratic Knapsack Problem. <i>ACM Transactions on Mathematical Software</i> , <b>2016</b> , 42, 1-25	2.3	7
85	An $O(1/k)$ Convergence Rate for the Variable Stepsize Bregman Operator Splitting Algorithm. <i>SIAM Journal on Numerical Analysis</i> , <b>2016</b> , 54, 1535-1556	2.4	14
84	Projection algorithms for nonconvex minimization with application to sparse principal component analysis. <i>Journal of Global Optimization</i> , <b>2016</b> , 65, 657-676	1.5	6
83	Convergence Rate for a Gauss Collocation Method Applied to Unconstrained Optimal Control. <i>Journal of Optimization Theory and Applications</i> , <b>2016</b> , 169, 801-824	1.6	34
82	Projection onto a Polyhedron that Exploits Sparsity. <i>SIAM Journal on Optimization</i> , <b>2016</b> , 26, 1773-1798	2	4
81	Continuous quadratic programming formulations of optimization problems on graphs. <i>European Journal of Operational Research</i> , <b>2015</b> , 240, 328-337	5.6	15
80	Costate approximation in optimal control using integral Gaussian quadrature orthogonal collocation methods. <i>Optimal Control Applications and Methods</i> , <b>2015</b> , 36, 381-397	1.7	30
79	A hp mesh refinement method for optimal control. <i>Optimal Control Applications and Methods</i> , <b>2015</b> , 36, 398-421	1.7	90
78	An Alternating Direction Approximate Newton Algorithm for Ill-Conditioned Inverse Problems with Application to Parallel MRI. <i>Journal of the Operations Research Society of China</i> , <b>2015</b> , 3, 139-162	1.3	22
77	Adaptive mesh refinement method for optimal control using nonsmoothness detection and mesh size reduction. <i>Journal of the Franklin Institute</i> , <b>2015</b> , 352, 4081-4106	4	65
76	An affine scaling method for optimization problems with polyhedral constraints. <i>Computational Optimization and Applications</i> , <b>2014</b> , 59, 163-183	1.4	5
75	Optimality conditions for maximizing a function over a polyhedron. <i>Mathematical Programming</i> , <b>2014</b> , 145, 179-198	2.1	3
74	Error estimation in nonlinear optimization. <i>Journal of Global Optimization</i> , <b>2014</b> , 59, 327-341	1.5	3
73	An efficient gradient method using the Yuan steplength. <i>Computational Optimization and Applications</i> , <b>2014</b> , 59, 541-563	1.4	49
72	An hp mesh refinement method for optimal control using discontinuity detection and mesh size reduction <b>2014</b> ,		9
71	The Limited Memory Conjugate Gradient Method. <i>SIAM Journal on Optimization</i> , <b>2013</b> , 23, 2150-2168	2	65

70	An exact algorithm for graph partitioning. <i>Mathematical Programming</i> , <b>2013</b> , 137, 531-556	2.1	23
69	Bregman operator splitting with variable stepsize for total variation image reconstruction. <i>Computational Optimization and Applications</i> , <b>2013</b> , 54, 317-342	1.4	41
68	Electric Field Reversal in Sprite Electric Field Signature. <i>Monthly Weather Review</i> , <b>2013</b> , 141, 1731-1735	2.4	7
67	Costate estimation of state-inequality path constrained optimal control problems using collocation at Legendre-Gauss-Radau points <b>2013</b> ,		1
66	Charge rearrangement deduced from nearby electric field measurements of an intracloud flash with K-changes. <i>Journal of Geophysical Research D: Atmospheres</i> , <b>2013</b> , 118, 10,313-10,331	4.4	1
65	An investigation of feasible descent algorithms for estimating the condition number of a matrix. <i>Top</i> , <b>2012</b> , 20, 791-809	1.3	
64	Charge rearrangement by sprites over a north Texas mesoscale convective system. <i>Journal of Geophysical Research</i> , <b>2012</b> , 117, n/a-n/a		10
63	Convergence of a Gauss Pseudospectral Method for Optimal Control <b>2012</b> ,		8
62	Partially parallel MR image reconstruction using sensitivity encoding <b>2012</b> ,		5
61	Fast Algorithms for Image Reconstruction with Application to Partially Parallel MR Imaging. <i>SIAM Journal on Imaging Sciences</i> , <b>2012</b> , 5, 90-118	1.9	42
60	Gradient-Based Methods for Sparse Recovery. <i>SIAM Journal on Imaging Sciences</i> , <b>2011</b> , 4, 146-165	1.9	32
59	Direct trajectory optimization and costate estimation of finite-horizon and infinite-horizon optimal control problems using a Radau pseudospectral method. <i>Computational Optimization and Applications</i> , <b>2011</b> , 49, 335-358	1.4	207
58	An hp-adaptive pseudospectral method for solving optimal control problems. <i>Optimal Control Applications and Methods</i> , <b>2011</b> , 32, 476-502	1.7	239
57	Direct Trajectory Optimization Using a Variable Low-Order Adaptive Pseudospectral Method. <i>Journal of Spacecraft and Rockets</i> , <b>2011</b> , 48, 433-445	1.5	151
56	Pseudospectral methods for solving infinite-horizon optimal control problems. <i>Automatica</i> , <b>2011</b> , 47, 829-837	5.7	190
55	An Affine-Scaling Interior-Point Method for Continuous Knapsack Constraints with Application to Support Vector Machines. <i>SIAM Journal on Optimization</i> , <b>2011</b> , 21, 361-390	2	15
54	Three-dimensional charge structure of a mountain thunderstorm. <i>Journal of Geophysical Research</i> , <b>2010</b> , 115,		6
53	Gauss Pseudospectral Method for Solving Infinite-Horizon Optimal Control Problems <b>2010</b> ,		6

52	A differential equation model for functional mapping of a virus-cell dynamic system. <i>Journal of Mathematical Biology</i> , <b>2010</b> , 61, 1-15	2	11
51	A unified framework for the numerical solution of optimal control problems using pseudospectral methods. <i>Automatica</i> , <b>2010</b> , 46, 1843-1851	5.7	415
50	An Ellipsoidal Branch and Bound Algorithm for Global Optimization. <i>SIAM Journal on Optimization</i> , <b>2009</b> , 20, 740-758	2	10
49	An affine-scaling interior-point CBB method for box-constrained optimization. <i>Mathematical Programming</i> , <b>2009</b> , 119, 1-32	2.1	34
48	A generalized eigenproblem for the Laplacian which arises in lightning. <i>Journal of Mathematical Analysis and Applications</i> , <b>2008</b> , 341, 1028-1041	1.1	10
47	Self-adaptive inexact proximal point methods. <i>Computational Optimization and Applications</i> , <b>2008</b> , 39, 161-181	1.4	25
46	Training Signal Design for Estimation of Correlated MIMO Channels With Colored Interference. <i>IEEE Transactions on Signal Processing</i> , <b>2007</b> , 55, 1486-1497	4.8	63
45	Analysis of charge transport during lightning using balloon-borne electric field sensors and Lightning Mapping Array. <i>Journal of Geophysical Research</i> , <b>2007</b> , 112,		14
44	A sparse proximal implementation of the LP dual active set algorithm. <i>Mathematical Programming</i> , <b>2007</b> , 112, 275-301	2.1	6
43	Dual multilevel optimization. <i>Mathematical Programming</i> , <b>2007</b> , 112, 403-425	2.1	4
42	A New Active Set Algorithm for Box Constrained Optimization. <i>SIAM Journal on Optimization</i> , <b>2006</b> , 17, 526-557	2	162
41	The cyclic Barzilai-Borwein method for unconstrained optimization. <i>IMA Journal of Numerical Analysis</i> , <b>2006</b> , 26, 604-627	1.8	134
40	Optimization of generalized mean square error in signal processing and communication. <i>Linear Algebra and Its Applications</i> , <b>2006</b> , 416, 815-834	0.9	3
39	Row Modifications of a Sparse Cholesky Factorization. <i>SIAM Journal on Matrix Analysis and Applications</i> , <b>2005</b> , 26, 621-639	1.5	55
38	A New Conjugate Gradient Method with Guaranteed Descent and an Efficient Line Search. <i>SIAM Journal on Optimization</i> , <b>2005</b> , 16, 170-192	2	604
37	The geometric mean decomposition. <i>Linear Algebra and Its Applications</i> , <b>2005</b> , 396, 373-384	0.9	74
36	The Gradient Projection Method with Exact Line Search. <i>Journal of Global Optimization</i> , <b>2004</b> , 30, 103-118.5		13
35	A Nonmonotone Line Search Technique and Its Application to Unconstrained Optimization. <i>SIAM Journal on Optimization</i> , <b>2004</b> , 14, 1043-1056	2	348

34	Multiset graph partitioning. <i>Mathematical Methods of Operations Research</i> , <b>2002</b> , 55, 1-10	1	6
33	The Dual Active Set Algorithm and Its Application to Linear Programming. <i>Computational Optimization and Applications</i> , <b>2002</b> , 21, 263-275	1.4	34
32	Minimizing the Profile of a Symmetric Matrix. <i>SIAM Journal of Scientific Computing</i> , <b>2002</b> , 23, 1799-1816	2.6	14
31	Minimizing a Quadratic Over a Sphere. <i>SIAM Journal on Optimization</i> , <b>2001</b> , 12, 188-208	2	87
30	Multiple-Rank Modifications of a Sparse Cholesky Factorization. <i>SIAM Journal on Matrix Analysis and Applications</i> , <b>2001</b> , 22, 997-1013	1.5	62
29	Runge-Kutta methods in optimal control and the transformed adjoint system. <i>Numerische Mathematik</i> , <b>2000</b> , 87, 247-282	2.2	279
28	Iterative Methods for Nearly Singular Linear Systems. <i>SIAM Journal of Scientific Computing</i> , <b>2000</b> , 22, 747-766	2.6	24
27	The Wave Annihilation Technique and the Design of Nonreflective Coatings. <i>SIAM Journal on Applied Mathematics</i> , <b>2000</b> , 60, 1388-1424	1.8	4
26	Second-Order Runge-Kutta Approximations in Control Constrained Optimal Control. <i>SIAM Journal on Numerical Analysis</i> , <b>2000</b> , 38, 202-226	2.4	121
25	The Euler approximation in state constrained optimal control. <i>Mathematics of Computation</i> , <b>2000</b> , 70, 173-204	1.6	86
24	Stabilized Sequential Quadratic Programming. <i>Computational Optimization and Applications</i> , <b>1999</b> , 12, 253-273	1.4	61
23	Stability in the presence of degeneracy and error estimation. <i>Mathematical Programming</i> , <b>1999</b> , 85, 181-192		51
22	Graph Partitioning and Continuous Quadratic Programming. <i>SIAM Journal on Discrete Mathematics</i> , <b>1999</b> , 12, 500-523	0.7	35
21	Modifying a Sparse Cholesky Factorization. <i>SIAM Journal on Matrix Analysis and Applications</i> , <b>1999</b> , 20, 606-627	1.5	81
20	A Discrete Model for the Lightning Discharge. <i>Journal of Computational Physics</i> , <b>1998</b> , 144, 137-150	4.1	6
19	A new approach to Lipschitz continuity in state constrained optimal control. <i>Systems and Control Letters</i> , <b>1998</b> , 35, 137-143	2.4	28
18	The Application of Eigenpair Stability to Block Diagonalization. <i>SIAM Journal on Numerical Analysis</i> , <b>1997</b> , 34, 1255-1268	2.4	1
17	Implicit Functions, Lipschitz Maps, and Stability in Optimization. <i>Mathematics of Operations Research</i> , <b>1994</b> , 19, 753-768	1.5	62

16	Lipschitzian Stability in Nonlinear Control and Optimization. <i>SIAM Journal on Control and Optimization</i> , <b>1993</b> , 31, 569-603	1.9	98
15	Application of the dual active set algorithm to quadratic network optimization. <i>Computational Optimization and Applications</i> , <b>1993</b> , 1, 349-373	1.4	22
14	Dual active sets and constrained optimization. <i>Annals of Operations Research</i> , <b>1993</b> , 43, 217-228	3.2	1
13	Multiplier Methods for Nonlinear Optimal Control. <i>SIAM Journal on Numerical Analysis</i> , <b>1990</b> , 27, 1061-1080	2.1	64
12	The evolution and discharge of electric fields within a thunderstorm. <i>Journal of Computational Physics</i> , <b>1989</b> , 82, 193-217	4.1	9
11	Updating the Inverse of a Matrix. <i>SIAM Review</i> , <b>1989</b> , 31, 221-239	7.4	582
10	Simulations of Electric Fields within a Thunderstorm. <i>Journals of the Atmospheric Sciences</i> , <b>1989</b> , 46, 3542-3558	14	14
9	Reflection and refraction of elastic waves for stratified materials. <i>Wave Motion</i> , <b>1988</b> , 10, 333-348	1.8	14
8	Homogenization for degenerate equations of elasticity. <i>Asymptotic Analysis</i> , <b>1988</b> , 1, 283-302	0.7	2
7	Approximations to the Multiplier Method. <i>SIAM Journal on Numerical Analysis</i> , <b>1985</b> , 22, 16-46	2.4	14
6	Dual Approximations in Optimal Control. <i>SIAM Journal on Control and Optimization</i> , <b>1984</b> , 22, 423-465	1.9	38
5	Perturbation in eigenvalues. <i>Linear Algebra and Its Applications</i> , <b>1982</b> , 42, 39-55	0.9	3
4	Rates of Convergence for Discrete Approximations to Unconstrained Control Problems. <i>SIAM Journal on Numerical Analysis</i> , <b>1976</b> , 13, 449-472	2.4	57
3	Free boundaries and finite elements in one dimension. <i>Mathematics of Computation</i> , <b>1975</b> , 29, 1020-1026	0.6	5
2	The Ritz-Trefftz Method for State and Control Constrained Optimal Control Problems. <i>SIAM Journal on Numerical Analysis</i> , <b>1975</b> , 12, 854-867	2.4	32
1	Modified Legendre-Gauss-Radau Collocation Method for Optimal Control Problems with Nonsmooth Solutions. <i>Journal of Optimization Theory and Applications</i> , 1	1.6	0