M J D Powell

List of Publications by Year in Descending Order

48 papers	12,050 citations	30 h-index	48 g-index
48 ext. papers	13,480 ext. citations	2.4 avg, IF	6.35 L-index

#	Paper	IF	Citations
48	On fast trust region methods for quadratic models with linear constraints. *Mathematical Programming Computation*, **2015**, 7, 237-267	7.8	18
47	Beyond symmetric Broyden for updating quadratic models in minimization without derivatives. *Mathematical Programming*, **2013**, 138, 475-500	2.1	11
46	On the convergence of trust region algorithms for unconstrained minimization without derivatives. *Computational Optimization and Applications*, **2012**, 53, 527-555	1.4	20
45	On nonlinear optimization since 1959 **2009**, 141-160		3
44	Fast evaluation of polyharmonic splines in three dimensions. *IMA Journal of Numerical Analysis*, **2006**, 27, 427-450	1.8	25
43	The NEWUOA software for unconstrained optimization without derivatives. *Nonconvex Optimization and Its Applications*, **2006**, 255-297		163
42	On the use of quadratic models in unconstrained minimization without derivatives. *Optimization Methods and Software*, **2004**, 19, 399-411	1.3	14
41	Direct search algorithms for optimization calculations. *Acta Numerica*, **1998**, 7, 287-336	15.1	317
40	A Direct Search Optimization Method That Models the Objective and Constraint Functions by Linear Interpolation **1994**, 51-67		339
39	Truncated Laurent expansions for the fast evaluation of thin plate splines. *Numerical Algorithms*, **1993**, 5, 99-120	2.1	17
38	Univariate Interpolation on a Regular Finite Grid by a Multiquadric Plus a Linear Polynomial. *IMA Journal of Numerical Analysis*, **1992**, 12, 107-133	1.8	4
37	Univariate multiquadric approximation: Quasi-interpolation to scattered data. *Constructive Approximation*, **1992**, 8, 275-288	1.6	79
36	Tabulation of Thin Plate Splines on a Very Fine Two-Dimensional Grid **1992**, 221-244		14
35	A trust region algorithm for equality constrained optimization. *Mathematical Programming*, **1990**, 49, 189-211	2.1	123
34	Univariate Multiquadric Approximation: Reproduction of Linear Polynomials. *International Series of Numerical Mathematics*, **1990**, 227-240	0.4	14
33	A tolerant algorithm for linearly constrained optimization calculations. *Mathematical Programming*, **1989**, 45, 547-566	2.1	91
32	Updating conjugate directions by the BFGS formula. *Mathematical Programming*, **1987**, 38, 29-46	2.1	38

31	The differential correction algorithm for generalized rational functions. *Constructive Approximation*, **1987**, 3, 249-256	1.6	10
30	A recursive quadratic programming algorithm that uses differentiable exact penalty functions. *Mathematical Programming*, **1986**, 35, 265-278	2.1	81
29	How bad are the BFGS and DFP methods when the objective function is quadratic?. *Mathematical Programming*, **1986**, 34, 34-47	2.1	70
28	Convergence Properties of Algorithms for Nonlinear Optimization. *SIAM Review*, **1986**, 28, 487-500	7.4	135
27	On the quadratic programming algorithm of Goldfarb and Idnani. *Mathematical Programming Studies*, **1985**, 46-61		76
26	Conditions for Superlinear Convergence in l1 and l▯Solutions of Overdetermined Non-linear Equations. *IMA Journal of Numerical Analysis*, **1984**, 4, 241-251	1.8	6
25	Nonconvex minimization calculations and the conjugate gradient method. *Lecture Notes in Mathematics*, **1984**, 122-141	0.4	128
24	Variable Metric Methods for Constrained Optimization **1983**, 288-311		153
23	The convergence of variable metric matrices in unconstrained optimization. *Mathematical Programming*, **1983**, 27, 123-143	2.1	23
22	The watchdog technique for forcing convergence in algorithms for constrained optimization. *Mathematical Programming Studies*, **1982**, 1-17		187
21	Algorithms for Constrained and Unconstrained Optimization Calculations **1982**, 293-310		1
20	Optimization algorithms in 1979 **1980**, 83-98		1
19	On the Estimation of Sparse Hessian Matrices. *SIAM Journal on Numerical Analysis*, **1979**, 16, 1060-1074	2.4	92
18	Algorithms for nonlinear constraints that use lagrangian functions. *Mathematical Programming*, **1978**, 14, 224-248	2.1	308
17	A fast algorithm for nonlinearly constrained optimization calculations. *Lecture Notes in Mathematics*, **1978**, 144-157	0.4	545
16	Piecewise Quadratic Approximations on Triangles. *ACM Transactions on Mathematical Software*, **1977**, 3, 316-325	2.3	291
15	Restart procedures for the conjugate gradient method. *Mathematical Programming*, **1977**, 12, 241-254	2.1	1168
14	Some convergence properties of the conjugate gradient method. *Mathematical Programming*, **1976**, 11, 42-49	2.1	60

13	A View of Unconstrained Minimization Algorithms that Do Not Require Derivatives. *ACM Transactions on Mathematical Software*, **1975**, 1, 97-107	2.3	19
12	On the Modification of LDL T Factorizations. *Mathematics of Computation*, **1974**, 28, 1067	1.6	40
11	On the Estimation of Sparse Jacobian Matrices. *IMA Journal of Applied Mathematics*, **1974**, 13, 117-119	1	264
10	On search directions for minimization algorithms. *Mathematical Programming*, **1973**, 4, 193-201	2.1	186
9	Quadratic Termination Properties of Minimization Algorithms I. Statement and Discussion of Results. *IMA Journal of Applied Mathematics*, **1972**, 10, 333-342	1	15
8	The Differential Correction Algorithm for Rational $ell _infty $-Approximation. *SIAM Journal on Numerical Analysis*, **1972**, 9, 493-504	2.4	98
7	On the Convergence of the Variable Metric Algorithm. *IMA Journal of Applied Mathematics*, **1971**, 7, 21-36	1	113
6	Recent advances in unconstrained optimization. *Mathematical Programming*, **1971**, 1, 26-57	2.1	121
5	A Survey of Numerical Methods for Unconstrained Optimization. *SIAM Review*, **1970**, 12, 79-97	7.4	65
4	On Best L2 Spline Approximations **1968**, 317-339		7
3	An efficient method for finding the minimum of a function of several variables without calculating derivatives. *Computer Journal*, **1964**, 7, 155-162	1.3	2961
2	A Rapidly Convergent Descent Method for Minimization. *Computer Journal*, **1963**, 6, 163-168	1.3	3390
1	An Iterative Method for Finding Stationary Values of a Function of Several Variables. *Computer Journal*, **1962**, 5, 147-151	1.3	146