

# Willem Hundsdorfer

## List of Publications by Year in descending order

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49  
papers

2,882  
citations

257450

24  
h-index

206112

48  
g-index

50  
all docs

50  
docs citations

50  
times ranked

1819  
citing authors

#	ARTICLE	IF	CITATIONS
1	Extrapolation-based super-convergent implicit-explicit Peier methods with A-stable implicit part. <i>Journal of Computational Physics</i> , 2018, 367, 121-133.	3.8	11
2	On Multistep Stabilizing Correction Splitting Methods with Applications to the Heston Model. <i>SIAM Journal of Scientific Computing</i> , 2018, 40, A1408-A1429.	2.8	6
3	Extrapolation-based implicit-explicit Peier methods with optimised stability regions. <i>Journal of Computational Physics</i> , 2017, 337, 203-215.	3.8	9
4	Modified Douglas splitting methods for reaction-diffusion equations. <i>BIT Numerical Mathematics</i> , 2017, 57, 261-285.	2.0	13
5	Error Analysis of Explicit Partitioned Runge-Kutta Schemes for Conservation Laws. <i>Journal of Scientific Computing</i> , 2015, 63, 633-653.	2.3	8
6	Comparison of boundedness and monotonicity properties of one-leg and linear multistep methods. <i>Journal of Computational and Applied Mathematics</i> , 2015, 279, 159-172.	2.0	0
7	Monotonicity Conditions for Multirate and Partitioned Explicit Runge-Kutta Schemes. <i>Notes on Numerical Fluid Mechanics and Multidisciplinary Design</i> , 2013, , 177-195.	0.3	6
8	Spatially hybrid computations for streamer discharges : II. Fully 3D simulations. <i>Journal of Computational Physics</i> , 2012, 231, 1020-1050.	3.8	53
9	Stepsize Restrictions for Boundedness and Monotonicity of Multistep Methods. <i>Journal of Scientific Computing</i> , 2012, 50, 265-286.	2.3	14
10	Simulated Avalanche Formation Around Streamers in an Overvolted Air Gap. <i>IEEE Transactions on Plasma Science</i> , 2011, 39, 2256-2257.	1.3	7
11	Boundedness and strong stability of Runge-Kutta methods. <i>Mathematics of Computation</i> , 2011, 80, 863-863.	2.1	8
12	Special boundedness properties in numerical initial value problems. <i>BIT Numerical Mathematics</i> , 2011, 51, 909-936.	2.0	7
13	Spatially hybrid computations for streamer discharges with generic features of pulled fronts: I. Planar fronts. <i>Journal of Computational Physics</i> , 2010, 229, 200-220.	3.8	58
14	Analysis of a multirate theta-method for stiff ODEs. <i>Applied Numerical Mathematics</i> , 2009, 59, 693-706.	2.1	18
15	Stepsize Conditions for Boundedness in Numerical Initial Value Problems. <i>SIAM Journal on Numerical Analysis</i> , 2009, 47, 3797-3819.	2.3	9
16	3D hybrid computations for streamer discharges and production of runaway electrons. <i>Journal Physics D: Applied Physics</i> , 2009, 42, 202003.	2.8	68
17	A note on iterated splitting schemes. <i>Journal of Computational and Applied Mathematics</i> , 2007, 201, 146-152.	2.0	7
18	A multirate time stepping strategy for stiff ordinary differential equations. <i>BIT Numerical Mathematics</i> , 2007, 47, 137-155.	2.0	85

#	ARTICLE	IF	CITATIONS
19	IMEX extensions of linear multistep methods with general monotonicity and boundedness properties. Journal of Computational Physics, 2007, 225, 2016-2042.	3.8	121
20	The multiscale nature of streamers. Plasma Sources Science and Technology, 2006, 15, S118-S129.	3.1	200
21	An adaptive grid refinement strategy for the simulation of negative streamers. Journal of Computational Physics, 2006, 219, 801-835.	3.8	98
22	Positivity for explicit two-step methods in linear multistep and one-leg form. BIT Numerical Mathematics, 2006, 46, 875-882.	2.0	6
23	High-order linear multistep methods with general monotonicity and boundedness properties. Journal of Computational Physics, 2005, 209, 226-248.	3.8	61
24	On monotonicity and boundedness properties of linear multistep methods. Mathematics of Computation, 2005, 75, 655-673.	2.1	39
25	Numerical simulations and conformal analysis of growing and branching negative discharge streamers. IEEE Transactions on Plasma Science, 2005, 33, 260-261.	1.3	5
26	A note on flux limiting for diffusion discretizations. IMA Journal of Numerical Analysis, 2004, 24, 635-642.	2.9	4
27	RKC time-stepping for advection-diffusion-reaction problems. Journal of Computational Physics, 2004, 201, 61-79.	3.8	110
28	Implicit-explicit time stepping with spatial discontinuous finite elements. Applied Numerical Mathematics, 2003, 45, 231-254.	2.1	19
29	Monotonicity-Preserving Linear Multistep Methods. SIAM Journal on Numerical Analysis, 2003, 41, 605-623.	2.3	78
30	Numerical Solution of Time-Dependent Advection-Diffusion-Reaction Equations. Springer Series in Computational Mathematics, 2003, , .	0.2	708
31	Tunneling-assisted impact ionization fronts in semiconductors. Journal of Applied Physics, 2002, 92, 958-964.	2.5	52
32	Superfast fronts of impact ionization in initially unbiased layered semiconductor structures. Journal of Applied Physics, 2002, 92, 1971-1980.	2.5	45
33	Spontaneous Branching of Anode-Directed Streamers between Planar Electrodes. Physical Review Letters, 2002, 88, 174502.	7.8	142
34	Accuracy and stability of splitting with Stabilizing Corrections. Applied Numerical Mathematics, 2002, 42, 213-233.	2.1	53
35	Partially Implicit BDF2 Blends for Convection Dominated Flows. SIAM Journal on Numerical Analysis, 2001, 38, 1763-1783.	2.3	32
36	Stability of Approximate Factorization with $\hat{I}_j$ -Methods. BIT Numerical Mathematics, 1999, 39, 473-483.	2.0	6

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37	A Second-Order Rosenbrock Method Applied to Photochemical Dispersion Problems. SIAM Journal of Scientific Computing, 1999, 20, 1456-1480.	2.8	156
38	A numerical study for global atmospheric transport-chemistry problems. Mathematics and Computers in Simulation, 1998, 48, 177-204.	4.4	14
39	Trapezoidal and midpoint splittings for initial-boundary value problems. Mathematics of Computation, 1998, 67, 1047-1063.	2.1	22
40	A note on stability of the Douglas splitting method. Mathematics of Computation, 1998, 67, 183-190.	2.1	25
41	On the stability of implicit-explicit linear multistep methods. Applied Numerical Mathematics, 1997, 25, 193-205.	2.1	118
42	An implicit-explicit approach for atmospheric transport-chemistry problems. Applied Numerical Mathematics, 1996, 20, 191-209.	2.1	69
43	An Efficient Horizontal Advection Scheme for the Modeling of Global Transport of Constituents. Monthly Weather Review, 1995, 123, 3554-3564.	1.4	17
44	A Positive Finite-Difference Advection Scheme. Journal of Computational Physics, 1995, 117, 35-46.	3.8	165
45	A note on splitting errors for advection-reaction equations. Applied Numerical Mathematics, 1995, 18, 191-199.	2.1	40
46	On the error of general linear methods for stiff dissipative differential equations. IMA Journal of Numerical Analysis, 1994, 14, 363-379.	2.9	9
47	Stability estimates based on numerical ranges with an application to a spectral method. BIT Numerical Mathematics, 1994, 34, 228-238.	2.0	5
48	Method of lines and direct discretization: a comparison for linear advection. Applied Numerical Mathematics, 1994, 13, 469-490.	2.1	61
49	Unconditional convergence of some Crank-Nicolson LOD methods for initial-boundary value problems. Mathematics of Computation, 1992, 58, 35-35.	2.1	15