

# David James Silvester

## List of Publications by Citations

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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.

57  
papers

2,341  
citations

23  
h-index

48  
g-index

60  
ext. papers

2,526  
ext. citations

2.4  
avg, IF

5.02  
L-index

#	Paper	IF	Citations
57	Fast Iterative Solution of Stabilised Stokes Systems Part II: Using General Block Preconditioners. <i>SIAM Journal on Numerical Analysis</i> , <b>1994</b> , 31, 1352-1367	2.4	298
56	Algorithm 866. <i>ACM Transactions on Mathematical Software</i> , <b>2007</b> , 33, 14	2.3	177
55	Fast Iterative Solution of Stabilised Stokes Systems. Part I: Using Simple Diagonal Preconditioners. <i>SIAM Journal on Numerical Analysis</i> , <b>1993</b> , 30, 630-649	2.4	165
54	Finite Elements and Fast Iterative Solvers <b>2014</b> ,		164
53	Performance and analysis of saddle point preconditioners for the discrete steady-state Navier-Stokes equations. <i>Numerische Mathematik</i> , <b>2002</b> , 90, 665-688	2.2	151
52	Fast Nonsymmetric Iterations and Preconditioning for Navier-Stokes Equations. <i>SIAM Journal of Scientific Computing</i> , <b>1996</b> , 17, 33-46	2.6	145
51	Minimum residual methods for augmented systems. <i>BIT Numerical Mathematics</i> , <b>1998</b> , 38, 527-543	1.7	141
50	Efficient preconditioning of the linearized Navier-Stokes equations for incompressible flow. <i>Journal of Computational and Applied Mathematics</i> , <b>2001</b> , 128, 261-279	2.4	131
49	Analysis of locally stabilized mixed finite element methods for the Stokes problem. <i>Mathematics of Computation</i> , <b>1992</b> , 58, 1-1	1.6	101
48	Stabilised bilinear-constant velocity-pressure finite elements for the conjugate gradient solution of the stokes problem. <i>Computer Methods in Applied Mechanics and Engineering</i> , <b>1990</b> , 79, 71-86	5.7	96
47	IFISS: A Computational Laboratory for Investigating Incompressible Flow Problems. <i>SIAM Review</i> , <b>2014</b> , 56, 261-273	7.4	63
46	A Posteriori Error Estimation for Stabilized Mixed Approximations of the Stokes Equations. <i>SIAM Journal of Scientific Computing</i> , <b>1999</b> , 21, 1321-1336	2.6	56
45	Optimal low order finite element methods for incompressible flow. <i>Computer Methods in Applied Mechanics and Engineering</i> , <b>1994</b> , 111, 357-368	5.7	56
44	Efficient Solvers for a Linear Stochastic Galerkin Mixed Formulation of Diffusion Problems with Random Data. <i>SIAM Journal of Scientific Computing</i> , <b>2009</b> , 31, 1424-1447	2.6	43
43	The convergence rate of the minimal residual method for the Stokes problem. <i>Numerische Mathematik</i> , <b>1995</b> , 71, 121-134	2.2	36
42	Adaptive Time-Stepping for Incompressible Flow Part II: Navier-Stokes Equations. <i>SIAM Journal of Scientific Computing</i> , <b>2010</b> , 32, 111-128	2.6	34
41	On parameter choice and iterative convergence for stabilised discretisations of advection-diffusion problems. <i>Computer Methods in Applied Mechanics and Engineering</i> , <b>1999</b> , 179, 179-195	5.7	33

40	Least Squares Preconditioners for Stabilized Discretizations of the Navier-Stokes Equations. <i>SIAM Journal of Scientific Computing</i> , <b>2008</b> , 30, 290-311	2.6	31
39	Optimal Preconditioning for Raviart-Thomas Mixed Formulation of Second-Order Elliptic Problems. <i>SIAM Journal on Matrix Analysis and Applications</i> , <b>2003</b> , 25, 718-738	1.5	31
38	Energy Norm A Posteriori Error Estimation for Parametric Operator Equations. <i>SIAM Journal of Scientific Computing</i> , <b>2014</b> , 36, A339-A363	2.6	30
37	Stabilised vs. stable mixed methods for incompressible flow. <i>Computer Methods in Applied Mechanics and Engineering</i> , <b>1998</b> , 166, 131-141	5.7	29
36	Adaptive Time-Stepping for Incompressible Flow Part I: Scalar Advection-Diffusion. <i>SIAM Journal of Scientific Computing</i> , <b>2008</b> , 30, 2018-2054	2.6	24
35	Preconditioning Steady-State Navier-Stokes Equations with Random Data. <i>SIAM Journal of Scientific Computing</i> , <b>2012</b> , 34, A2482-A2506	2.6	23
34	An Efficient Reduced Basis Solver for Stochastic Galerkin Matrix Equations. <i>SIAM Journal of Scientific Computing</i> , <b>2017</b> , 39, A141-A163	2.6	22
33	Fast iterative solvers for buoyancy driven flow problems. <i>Journal of Computational Physics</i> , <b>2011</b> , 230, 3900-3914	4.1	22
32	Implicit algorithms and their linearization for the transient incompressible Navier-Stokes equations. <i>IMA Journal of Numerical Analysis</i> , <b>1997</b> , 17, 527-545	1.8	22
31	Iterative methods for stabilized mixed velocity-pressure finite elements. <i>International Journal for Numerical Methods in Fluids</i> , <b>1992</b> , 14, 71-81	1.9	19
30	A Black-Box Multigrid Preconditioner for the Biharmonic Equation. <i>BIT Numerical Mathematics</i> , <b>2004</b> , 44, 151-163	1.7	17
29	The reliability of local error estimators for convection-diffusion equations. <i>IMA Journal of Numerical Analysis</i> , <b>2001</b> , 21, 107-122	1.8	17
28	An Optimal Iterative Solver for Symmetric Indefinite Systems Stemming from Mixed Approximation. <i>ACM Transactions on Mathematical Software</i> , <b>2011</b> , 37, 1-22	2.3	16
27	Efficient Adaptive Stochastic Galerkin Methods for Parametric Operator Equations. <i>SIAM Journal of Scientific Computing</i> , <b>2016</b> , 38, A2118-A2140	2.6	13
26	Block preconditioners for the discrete incompressible Navier-Stokes equations. <i>International Journal for Numerical Methods in Fluids</i> , <b>2002</b> , 40, 333-344	1.9	13
25	The specification and numerical solution of a benchmark swirling laminar flow problem. <i>Computers and Fluids</i> , <b>1984</b> , 12, 281-292	2.8	13
24	A Priori Error Analysis of Stochastic Galerkin Mixed Approximations of Elliptic PDEs with Random Data. <i>SIAM Journal on Numerical Analysis</i> , <b>2012</b> , 50, 2039-2063	2.4	12
23	Efficient parallel solvers for the biharmonic equation. <i>Parallel Computing</i> , <b>2004</b> , 30, 35-55	1	11

22	Optimising finite element matrix calculations using the general technique of element vectorisation. <i>Parallel Computing</i> , <b>1988</b> , 6, 157-164	1	10
21	Refined saddle-point preconditioners for discretized Stokes problems. <i>Numerische Mathematik</i> , <b>2018</b> , 138, 331-363	2.2	9
20	Robust stabilized Stokes approximation methods for highly stretched grids. <i>IMA Journal of Numerical Analysis</i> , <b>2013</b> , 33, 413-431	1.8	7
19	Fast solvers for discretized Navier-Stokes problems using vector extrapolation. <i>Numerical Algorithms</i> , <b>2014</b> , 66, 89-104	2.1	7
18	A simple yet effective a posteriori estimator for classical mixed approximation of Stokes equations. <i>Applied Numerical Mathematics</i> , <b>2012</b> , 62, 1242-1256	2.5	7
17	Efficient solution of the steady-state Navier-Stokes equations using a multigrid preconditioned Newton-Krylov method. <i>International Journal for Numerical Methods in Fluids</i> , <b>2003</b> , 43, 1407-1427	1.9	6
16	The effect of the stability of mixed finite element approximations on the accuracy and rate of convergence of solution when solving incompressible flow problems. <i>International Journal for Numerical Methods in Fluids</i> , <b>1986</b> , 6, 841-853	1.9	6
15	Essential Partial Differential Equations. <i>Springer Undergraduate Mathematics Series</i> , <b>2015</b> ,	0.7	4
14	Black-Box Preconditioning for Mixed Formulation of Self-Adjoint Elliptic PDEs. <i>Lecture Notes in Computational Science and Engineering</i> , <b>2003</b> , 268-285	0.3	4
13	T-IFISS: a toolbox for adaptive FEM computation. <i>Computers and Mathematics With Applications</i> , <b>2021</b> , 81, 373-390	2.7	4
12	Robust a posteriori error estimators for mixed approximation of nearly incompressible elasticity. <i>International Journal for Numerical Methods in Engineering</i> , <b>2019</b> , 119, 18-37	2.4	3
11	An Optimal Solver for Linear Systems Arising from Stochastic FEM Approximation of Diffusion Equations with Random Coefficients. <i>SIAM-ASA Journal on Uncertainty Quantification</i> , <b>2016</b> , 4, 298-311	1.8	3
10	A framework for the development of implicit solvers for incompressible flow problems. <i>Discrete and Continuous Dynamical Systems - Series S</i> , <b>2012</b> , 5, 1195-1221	2.8	3
9	Fourier Analysis of Stabilized Q1-Q1 Mixed Finite Element Approximation. <i>SIAM Journal on Numerical Analysis</i> , <b>2001</b> , 39, 817-833	2.4	3
8	Efficient preconditioning of the linearized Navier-Stokes equations for incompressible flow <b>2001</b> , 261-279		3
7	Robust Preconditioning for Stochastic Galerkin Formulations of Parameter-Dependent Nearly Incompressible Elasticity Equations. <i>SIAM Journal of Scientific Computing</i> , <b>2019</b> , 41, A402-A421	2.6	3
6	Balanced Iterative Solvers for Linear Nonsymmetric Systems and Nonlinear Systems with PDE Origins: Efficient Black-Box Stopping Criteria. <i>Journal of Scientific Computing</i> , <b>2019</b> , 81, 271-290	2.3	1
5	Implicit solvers using stabilized mixed approximation. <i>International Journal for Numerical Methods in Fluids</i> , <b>2013</b> , 71, 991-1006	1.9	1

4	DIAGONAL DOMINANCE AND POSITIVE DEFINITENESS OF UPWIND APPROXIMATIONS FOR ADVECTION DIFFUSION PROBLEMS <b>1996</b> , 125-131		1
3	Collocation Methods for Exploring Perturbations in Linear Stability Analysis. <i>SIAM Journal of Scientific Computing</i> , <b>2018</b> , 40, A2667-A2693	2.6	1
2	Robust a posteriori error estimation for mixed finite element approximation of linear poroelasticity. <i>IMA Journal of Numerical Analysis</i> , <b>2021</b> , 41, 2000-2025	1.8	0
1	Erratum to Robust stabilized Stokes approximation methods for highly stretched grids $\square$ <i>IMA Journal of Numerical Analysis</i> , <b>2016</b> , 36, 984-984	1.8	