David James Silvester

List of Publications by Year in Descending Order

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	Robust a posteriori error estimation for mixed finite element approximation of linear poroelasticity. *IMA Journal of Numerical Analysis*, **2021**, 41, 2000-2025	1.8	0
56	T-IFISS: a toolbox for adaptive FEM computation. *Computers and Mathematics With Applications*, **2021**, 81, 373-390	2.7	4
55	Robust a posteriori error estimators for mixed approximation of nearly incompressible elasticity. *International Journal for Numerical Methods in Engineering*, **2019**, 119, 18-37	2.4	3
54	Balanced Iterative Solvers for Linear Nonsymmetric Systems and Nonlinear Systems with PDE Origins: Efficient Black-Box Stopping Criteria. *Journal of Scientific Computing*, **2019**, 81, 271-290	2.3	1
53	Robust Preconditioning for Stochastic Galerkin Formulations of Parameter-Dependent Nearly Incompressible Elasticity Equations. *SIAM Journal of Scientific Computing*, **2019**, 41, A402-A421	2.6	3
52	Refined saddle-point preconditioners for discretized Stokes problems. *Numerische Mathematik*, **2018**, 138, 331-363	2.2	9
51	Collocation Methods for Exploring Perturbations in Linear Stability Analysis. *SIAM Journal of Scientific Computing*, **2018**, 40, A2667-A2693	2.6	1
50	An Efficient Reduced Basis Solver for Stochastic Galerkin Matrix Equations. *SIAM Journal of Scientific Computing*, **2017**, 39, A141-A163	2.6	22
49	An Optimal Solver for Linear Systems Arising from Stochastic FEM Approximation of Diffusion Equations with Random Coefficients. *SIAM-ASA Journal on Uncertainty Quantification*, **2016**, 4, 298-311	1.8	3
48	Efficient Adaptive Stochastic Galerkin Methods for Parametric Operator Equations. *SIAM Journal of Scientific Computing*, **2016**, 38, A2118-A2140	2.6	13
47	Erratum to Robust stabilized Stokes approximation methods for highly stretched grids *IMA Journal of Numerical Analysis*, **2016**, 36, 984-984	1.8	
46	Essential Partial Differential Equations. *Springer Undergraduate Mathematics Series*, **2015**,	0.7	4
45	IFISS: A Computational Laboratory for Investigating Incompressible Flow Problems. *SIAM Review*, **2014**, 56, 261-273	7.4	63
44	Energy Norm A Posteriori Error Estimation for Parametric Operator Equations. *SIAM Journal of Scientific Computing*, **2014**, 36, A339-A363	2.6	30
43	Fast solvers for discretized Navier-Stokes problems using vector extrapolation. *Numerical Algorithms*, **2014**, 66, 89-104	2.1	7
42	Finite Elements and Fast Iterative Solvers **2014**,		164
41	Implicit solvers using stabilized mixed approximation. *International Journal for Numerical Methods in Fluids*, **2013**, 71, 991-1006	1.9	1

40	Robust stabilized Stokes approximation methods for highly stretched grids. *IMA Journal of Numerical Analysis*, **2013**, 33, 413-431	1.8	7
39	A Priori Error Analysis of Stochastic Galerkin Mixed Approximations of Elliptic PDEs with Random Data. *SIAM Journal on Numerical Analysis*, **2012**, 50, 2039-2063	2.4	12
38	Preconditioning Steady-State Navier--Stokes Equations with Random Data. *SIAM Journal of Scientific Computing*, **2012**, 34, A2482-A2506	2.6	23
37	A framework for the development of implicit solvers for incompressible flow problems. *Discrete and Continuous Dynamical Systems - Series S*, **2012**, 5, 1195-1221	2.8	3
36	A simple yet effective a posteriori estimator for classical mixed approximation of Stokes equations. *Applied Numerical Mathematics*, **2012**, 62, 1242-1256	2.5	7
35	Fast iterative solvers for buoyancy driven flow problems. *Journal of Computational Physics*, **2011**, 230, 3900-3914	4.1	22
34	An Optimal Iterative Solver for Symmetric Indefinite Systems Stemming from Mixed Approximation. *ACM Transactions on Mathematical Software*, **2011**, 37, 1-22	2.3	16
33	Adaptive Time-Stepping for Incompressible Flow Part II: Navier Stokes Equations. *SIAM Journal of Scientific Computing*, **2010**, 32, 111-128	2.6	34
32	Efficient Solvers for a Linear Stochastic Galerkin Mixed Formulation of Diffusion Problems with Random Data. *SIAM Journal of Scientific Computing*, **2009**, 31, 1424-1447	2.6	43
31	Adaptive Time-Stepping for Incompressible Flow Part I: Scalar Advection-Diffusion. *SIAM Journal of Scientific Computing*, **2008**, 30, 2018-2054	2.6	24
30	Least Squares Preconditioners for Stabilized Discretizations of the Navier Stokes Equations. *SIAM Journal of Scientific Computing*, **2008**, 30, 290-311	2.6	31
29	Algorithm 866. *ACM Transactions on Mathematical Software*, **2007**, 33, 14	2.3	177
28	A Black-Box Multigrid Preconditioner for the Biharmonic Equation. *BIT Numerical Mathematics*, **2004**, 44, 151-163	1.7	17
27	Efficient parallel solvers for the biharmonic equation. *Parallel Computing*, **2004**, 30, 35-55	1	11
26	Efficient solution of the steady-state Navier Stokes equations using a multigrid preconditioned Newton Krylov method. *International Journal for Numerical Methods in Fluids*, **2003**, 43, 1407-1427	1.9	6
25	Optimal Preconditioning for Raviart--Thomas Mixed Formulation of Second-Order Elliptic Problems. *SIAM Journal on Matrix Analysis and Applications*, **2003**, 25, 718-738	1.5	31
24	Black-Box Preconditioning for Mixed Formulation of Self-Adjoint Elliptic PDEs. *Lecture Notes in Computational Science and Engineering*, **2003**, 268-285	0.3	4
23	Block preconditioners for the discrete incompressible Navier Stokes equations. *International Journal for Numerical Methods in Fluids*, **2002**, 40, 333-344	1.9	13

22	Performance and analysis of saddle point preconditioners for the discrete steady-state Navier-Stokes equations. *Numerische Mathematik*, **2002**, 90, 665-688	2.2	151
21	Efficient preconditioning of the linearized Navier–Stokes equations for incompressible flow. *Journal of Computational and Applied Mathematics*, **2001**, 128, 261-279	2.4	131
20	The reliability of local error estimators for convection-diffusion equations. *IMA Journal of Numerical Analysis*, **2001**, 21, 107-122	1.8	17
19	Fourier Analysis of Stabilized Q1 -Q1 Mixed Finite Element Approximation. *SIAM Journal on Numerical Analysis*, **2001**, 39, 817-833	2.4	3
18	Efficient preconditioning of the linearized Navier–Stokes equations for incompressible flow **2001**, 261-279		3
17	On parameter choice and iterative convergence for stabilised discretisations of advection–diffusion problems. *Computer Methods in Applied Mechanics and Engineering*, **1999**, 179, 179-195	5.7	33
16	A Posteriori Error Estimation for Stabilized Mixed Approximations of the Stokes Equations. *SIAM Journal of Scientific Computing*, **1999**, 21, 1321-1336	2.6	56
15	Minimum residual methods for augmented systems. *BIT Numerical Mathematics*, **1998**, 38, 527-543	1.7	141
14	Stabilised vs. stable mixed methods for incompressible flow. *Computer Methods in Applied Mechanics and Engineering*, **1998**, 166, 131-141	5.7	29
13	Implicit algorithms and their linearization for the transient incompressible Navier-Stokes equations. *IMA Journal of Numerical Analysis*, **1997**, 17, 527-545	1.8	22
12	Fast Nonsymmetric Iterations and Preconditioning for Navier–Stokes Equations. *SIAM Journal of Scientific Computing*, **1996**, 17, 33-46	2.6	145
11	DIAGONAL DOMINANCE AND POSITIVE DEFINITENESS OF UPWIND APPROXIMATIONS FOR ADVECTION DIFFUSION PROBLEMS **1996**, 125-131		1
10	The convergence rate of the minimal residual method for the Stokes problem. *Numerische Mathematik*, **1995**, 71, 121-134	2.2	36
9	Optimal low order finite element methods for incompressible flow. *Computer Methods in Applied Mechanics and Engineering*, **1994**, 111, 357-368	5.7	56
8	Fast Iterative Solution of Stabilised Stokes Systems Part II: Using General Block Preconditioners. *SIAM Journal on Numerical Analysis*, **1994**, 31, 1352-1367	2.4	298
7	Fast Iterative Solution of Stabilised Stokes Systems. Part I: Using Simple Diagonal Preconditioners. *SIAM Journal on Numerical Analysis*, **1993**, 30, 630-649	2.4	165
6	Analysis of locally stabilized mixed finite element methods for the Stokes problem. *Mathematics of Computation*, **1992**, 58, 1-1	1.6	101
5	Iterative methods for stabilized mixed velocity–pressure finite elements. *International Journal for Numerical Methods in Fluids*, **1992**, 14, 71-81	1.9	19

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4	Stabilised bilinear-constant velocity-pressure finite elements for the conjugate gradient solution of the stokes problem. *Computer Methods in Applied Mechanics and Engineering*, **1990**, 79, 71-86	5.7	96
3	Optimising finite element matrix calculations using the general technique of element vectorisation. *Parallel Computing*, **1988**, 6, 157-164	1	10
2	The effect of the stability of mixed finite element approximations on the accuracy and rate of convergence of solution when solving incompressible flow problems. *International Journal for Numerical Methods in Fluids*, **1986**, 6, 841-853	1.9	6
1	The specification and numerical solution of a benchmark swirling laminar flow problem. *Computers and Fluids*, **1984**, 12, 281-292	2.8	13