

Peter Hansbo

List of Publications by Year in descending order

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104
papers

6,774
citations

109137

35
h-index

60497

81
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104
all docs

104
docs citations

104
times ranked

2458
citing authors

#	ARTICLE	IF	CITATIONS
1	An unfitted finite element method, based on Nitsche's method, for elliptic interface problems. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2002, 191, 5537-5552.	3.4	677
2	A finite element method for the simulation of strong and weak discontinuities in solid mechanics. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2004, 193, 3523-3540.	3.4	646
3	CutFEM: Discretizing geometry and partial differential equations. <i>International Journal for Numerical Methods in Engineering</i> , 2015, 104, 472-501.	1.5	479
4	Introduction to Adaptive Methods for Differential Equations. <i>Acta Numerica</i> , 1995, 4, 105-158.	6.3	411
5	Fictitious domain finite element methods using cut elements: II. A stabilized Nitsche method. <i>Applied Numerical Mathematics</i> , 2012, 62, 328-341.	1.2	301
6	Adaptive finite element methods in computational mechanics. <i>Computer Methods in Applied Mechanics and Engineering</i> , 1992, 101, 143-181.	3.4	287
7	Discontinuous Galerkin methods for incompressible and nearly incompressible elasticity by Nitsche's method. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2002, 191, 1895-1908.	3.4	252
8	Edge stabilization for Galerkin approximations of convection-diffusion-reaction problems. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2004, 193, 1437-1453.	3.4	247
9	Fictitious domain finite element methods using cut elements: I. A stabilized Lagrange multiplier method. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2010, 199, 2680-2686.	3.4	185
10	A velocity-pressure streamline diffusion finite element method for the incompressible Navier-Stokes equations. <i>Computer Methods in Applied Mechanics and Engineering</i> , 1990, 84, 175-192.	3.4	172
11	A finite element method for domain decomposition with non-matching grids. <i>ESAIM: Mathematical Modelling and Numerical Analysis</i> , 2003, 37, 209-225.	0.8	166
12	Nitsche's method for interface problems in computational mechanics. <i>GAMM Mitteilungen</i> , 2005, 28, 183-206.	2.7	161
13	A cut finite element method for a Stokes interface problem. <i>Applied Numerical Mathematics</i> , 2014, 85, 90-114.	1.2	144
14	On the convergence of shock-capturing streamline diffusion finite element methods for hyperbolic conservation laws. <i>Mathematics of Computation</i> , 1990, 54, 107-129.	1.1	143
15	A unified stabilized method for Stokes and Darcy's equations. <i>Journal of Computational and Applied Mathematics</i> , 2007, 198, 35-51.	1.1	143
16	Continuous Interior Penalty Finite Element Method for Oseen's Equations. <i>SIAM Journal on Numerical Analysis</i> , 2006, 44, 1248-1274.	1.1	131
17	A Nitsche extended finite element method for incompressible elasticity with discontinuous modulus of elasticity. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2009, 198, 3352-3360.	3.4	115
18	Discontinuous Galerkin and the Crouzeix-Raviart element: Application to elasticity. <i>ESAIM: Mathematical Modelling and Numerical Analysis</i> , 2003, 37, 63-72.	0.8	106

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19	A finite element method on composite grids based on Nitsche's method. ESAIM: Mathematical Modelling and Numerical Analysis, 2003, 37, 495-514.	0.8	102
20	Energy norm a posteriori error estimation for discontinuous Galerkin methods. Computer Methods in Applied Mechanics and Engineering, 2003, 192, 723-733.	3.4	101
21	A Lagrange multiplier method for the finite element solution of elliptic interface problems using non-matching meshes. Numerische Mathematik, 2005, 100, 91-115.	0.9	83
22	Edge stabilization for the generalized Stokes problem: A continuous interior penalty method. Computer Methods in Applied Mechanics and Engineering, 2006, 195, 2393-2410.	3.4	82
23	Stabilized Crouzeix-Raviart element for the Darcy-Stokes problem. Numerical Methods for Partial Differential Equations, 2005, 21, 986-997.	2.0	77
24	The characteristic streamline diffusion method for the time-dependent incompressible Navier-Stokes equations. Computer Methods in Applied Mechanics and Engineering, 1992, 99, 171-186.	3.4	71
25	On advancing front mesh generation in three dimensions. International Journal for Numerical Methods in Engineering, 1995, 38, 3551-3569.	1.5	71
26	Shape optimization using the cut finite element method. Computer Methods in Applied Mechanics and Engineering, 2018, 328, 242-261.	3.4	66
27	Strategies for computing goal-oriented a posteriori error measures in non-linear elasticity. International Journal for Numerical Methods in Engineering, 2002, 55, 879-894.	1.5	63
28	A stabilized cut finite element method for partial differential equations on surfaces: The Laplace-Beltrami operator. Computer Methods in Applied Mechanics and Engineering, 2015, 285, 188-207.	3.4	62
29	A cut finite element method for coupled bulk-surface problems on time-dependent domains. Computer Methods in Applied Mechanics and Engineering, 2016, 307, 96-116.	3.4	50
30	Nitsche's method combined with space-time finite elements for ALE fluid-structure interaction problems. Computer Methods in Applied Mechanics and Engineering, 2004, 193, 4195-4206.	3.4	48
31	Stabilized Lagrange multiplier methods for bilateral elastic contact with friction. Computer Methods in Applied Mechanics and Engineering, 2006, 195, 4323-4333.	3.4	47
32	A cut finite element method with boundary value correction. Mathematics of Computation, 2017, 87, 633-657.	1.1	44
33	Adaptive streamline diffusion methods for compressible flow using conservation variables. Computer Methods in Applied Mechanics and Engineering, 1991, 87, 267-280.	3.4	41
34	The characteristic streamline diffusion method for convection-diffusion problems. Computer Methods in Applied Mechanics and Engineering, 1992, 96, 239-253.	3.4	40
35	Cut finite element methods for coupled bulk-surface problems. Numerische Mathematik, 2016, 133, 203-231.	0.9	39
36	A simple pressure stabilization method for the Stokes equation. Communications in Numerical Methods in Engineering, 2008, 24, 1421-1430.	1.3	36

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37	Adaptive strategies and error control for computing material forces in fracture mechanics. <i>International Journal for Numerical Methods in Engineering</i> , 2004, 60, 1287-1299.	1.5	34
38	Characteristic cut finite element methods for convection-diffusion problems on time dependent surfaces. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2015, 293, 431-461.	3.4	34
39	A cut discontinuous Galerkin method for the Laplace-Beltrami operator. <i>IMA Journal of Numerical Analysis</i> , 2017, 37, 138-169.	1.5	34
40	Explicit Streamline Diffusion Finite Element Methods for the Compressible Euler Equations in Conservation Variables. <i>Journal of Computational Physics</i> , 1993, 109, 274-288.	1.9	32
41	Cut finite element methods for partial differential equations on embedded manifolds of arbitrary codimensions. <i>ESAIM: Mathematical Modelling and Numerical Analysis</i> , 2018, 52, 2247-2282.	0.8	32
42	A stabilized non-conforming finite element method for incompressible flow. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2006, 195, 2881-2899.	3.4	30
43	Solving ill-posed control problems by stabilized finite element methods: an alternative to Tikhonov regularization. <i>Inverse Problems</i> , 2018, 34, 035004.	1.0	26
44	A posteriori error estimates for continuous/discontinuous Galerkin approximations of the Kirchhoff-Love plate. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2011, 200, 3289-3295.	3.4	25
45	Tangential differential calculus and the finite element modeling of a large deformation elastic membrane problem. <i>Computational Mechanics</i> , 2015, 56, 87-95.	2.2	25
46	A new approach to quadrature for finite elements incorporating hourglass control as a special case. <i>Computer Methods in Applied Mechanics and Engineering</i> , 1998, 158, 301-309.	3.4	24
47	Finite element modeling of a linear membrane shell problem using tangential differential calculus. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2014, 270, 1-14.	3.4	24
48	Full gradient stabilized cut finite element methods for surface partial differential equations. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2016, 310, 278-296.	3.4	24
49	Analysis of finite element methods for vector Laplacians on surfaces. <i>IMA Journal of Numerical Analysis</i> , 2020, 40, 1652-1701.	1.5	24
50	A finite element method with discontinuous rotations for the Mindlin-Reissner plate model. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2011, 200, 638-648.	3.4	21
51	Aspects of conservation in finite element flow computations. <i>Computer Methods in Applied Mechanics and Engineering</i> , 1994, 117, 423-437.	3.4	20
52	Time finite elements and error computation for (visco)plasticity with hardening or softening. <i>International Journal for Numerical Methods in Engineering</i> , 2003, 56, 2213-2232.	1.5	20
53	Cut finite elements for convection in fractured domains. <i>Computers and Fluids</i> , 2019, 179, 726-734.	1.3	18
54	Variational formulation of curved beams in global coordinates. <i>Computational Mechanics</i> , 2014, 53, 611-623.	2.2	16

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55	Least-squares stabilized augmented Lagrangian multiplier method for elastic contact. <i>Finite Elements in Analysis and Design</i> , 2016, 116, 32-37.	1.7	16
56	Cut finite element modeling of linear membranes. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2016, 310, 98-111.	3.4	16
57	A stabilized cut finite element method for the Darcy problem on surfaces. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2017, 326, 298-318.	3.4	16
58	Galerkin least squares finite element method for the obstacle problem. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2017, 313, 362-374.	3.4	16
59	A Crank-Nicolson Type Space-Time Finite Element Method for Computing on Moving Meshes. <i>Journal of Computational Physics</i> , 2000, 159, 274-289.	1.9	15
60	A note on energy conservation for Hamiltonian systems using continuous time finite elements. <i>Communications in Numerical Methods in Engineering</i> , 2001, 17, 863-869.	1.3	15
61	Piecewise divergence-free discontinuous Galerkin methods for Stokes flow. <i>Communications in Numerical Methods in Engineering</i> , 2006, 24, 355-366.	1.3	15
62	Augmented Lagrangian finite element methods for contact problems. <i>ESAIM: Mathematical Modelling and Numerical Analysis</i> , 2019, 53, 173-195.	0.8	15
63	Adaptive Finite Element Methods for Small Strain Elasto-Plasticity. , 1992, , 273-288.		14
64	A cut finite element method for the Bernoulli free boundary value problem. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2017, 317, 598-618.	3.4	13
65	The Penalty-Free Nitsche Method and Nonconforming Finite Elements for the Signorini Problem. <i>SIAM Journal on Numerical Analysis</i> , 2017, 55, 2523-2539.	1.1	13
66	Cut topology optimization for linear elasticity with coupling to parametric nondesign domain regions. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2019, 350, 462-479.	3.4	13
67	Hybridized CutFEM for Elliptic Interface Problems. <i>SIAM Journal of Scientific Computing</i> , 2019, 41, A3354-A3380.	1.3	12
68	Finite element approximation of the Laplace-Beltrami operator on a surface with boundary. <i>Numerische Mathematik</i> , 2019, 141, 141-172.	0.9	12
69	Cut Bogner-Fox-Schmit elements for plates. <i>Advanced Modeling and Simulation in Engineering Sciences</i> , 2020, 7, .	0.7	12
70	A free-Lagrange finite element method using space-time elements. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2000, 188, 347-361.	3.4	11
71	Stabilized Finite Element Approximation of the Mean Curvature Vector on Closed Surfaces. <i>SIAM Journal on Numerical Analysis</i> , 2015, 53, 1806-1832.	1.1	11
72	Cut Finite Element Methods for Linear Elasticity Problems. <i>Lecture Notes in Computational Science and Engineering</i> , 2017, , 25-63.	0.1	11

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73	Energy norm a posteriori error estimates for discontinuous Galerkin approximations of the linear elasticity problem. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2011, 200, 3026-3030.	3.4	10
74	A discontinuous Galerkin method for cohesive zone modelling. <i>Finite Elements in Analysis and Design</i> , 2015, 102-103, 1-6.	1.7	10
75	Continuous/discontinuous finite element modelling of Kirchhoff plate structures in \mathbb{R}^3 using tangential differential calculus. <i>Computational Mechanics</i> , 2017, 60, 693-702.	2.2	10
76	A nonconforming rotated Q1 approximation on tetrahedra. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2011, 200, 1311-1316.	3.4	9
77	Stabilized CutFEM for the convection problem on surfaces. <i>Numerische Mathematik</i> , 2019, 141, 103-139.	0.9	9
78	A simple finite element method for elliptic bulk problems with embedded surfaces. <i>Computational Geosciences</i> , 2019, 23, 189-199.	1.2	9
79	Locking free quadrilateral continuous/discontinuous finite element methods for the Reissner-Mindlin plate. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2014, 269, 381-393.	3.4	8
80	Minimal surface computation using a finite element method on an embedded surface. <i>International Journal for Numerical Methods in Engineering</i> , 2015, 104, 502-512.	1.5	8
81	A cut finite element method for a model of pressure in fractured media. <i>Numerische Mathematik</i> , 2020, 146, 783-818.	0.9	8
82	A Nitsche method for elliptic problems on composite surfaces. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2017, 326, 505-525.	3.4	7
83	Optimal design of fibre reinforced membrane structures. <i>Structural and Multidisciplinary Optimization</i> , 2017, 56, 781-789.	1.7	7
84	Augmented Lagrangian and Galerkin least-squares methods for membrane contact. <i>International Journal for Numerical Methods in Engineering</i> , 2018, 114, 1179-1191.	1.5	7
85	Dirichlet boundary value correction using Lagrange multipliers. <i>BIT Numerical Mathematics</i> , 2020, 60, 235-260.	1.0	7
86	Adaptive finite element methods for hydrodynamic lubrication with cavitation. <i>International Journal for Numerical Methods in Engineering</i> , 2007, 72, 1584-1604.	1.5	6
87	A Nitsche-type method for Helmholtz equation with an embedded acoustically permeable interface. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2016, 304, 479-500.	3.4	6
88	A stabilized cut streamline diffusion finite element method for convection-diffusion problems on surfaces. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2020, 358, 112645.	3.4	6
89	A linear nonconforming finite element method for Maxwell's equations in two dimensions. Part I: Frequency domain. <i>Journal of Computational Physics</i> , 2010, 229, 6534-6547.	1.9	5
90	Application of a minimal compatible element to incompressible and nearly incompressible continuum mechanics. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2020, 369, 113224.	3.4	5

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91	Finite element procedures for computing normals and mean curvature on triangulated surfaces and their use for mesh refinement. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2020, 372, 113445.	3.4	5
92	Error Estimates for the Smagorinsky Turbulence Model: Enhanced Stability Through Scale Separation and Numerical Stabilization. <i>Journal of Mathematical Fluid Mechanics</i> , 2022, 24, 1.	0.4	5
93	Nonconforming rotated Q_1 tetrahedral element with explicit time stepping for elastodynamics. <i>International Journal for Numerical Methods in Engineering</i> , 2012, 91, 1105-1114.	1.5	4
94	A posteriori error estimates for continuous/discontinuous Galerkin approximations of the Kirchhoff-Love buckling problem. <i>Computational Mechanics</i> , 2015, 56, 815-827.	2.2	4
95	Moving finite element methods by use of space-time elements: I. Scalar problems. <i>Numerical Methods for Partial Differential Equations</i> , 1998, 14, 251-262.	2.0	3
96	A simple approach for finite element simulation of reinforced plates. <i>Finite Elements in Analysis and Design</i> , 2018, 142, 51-60.	1.7	3
97	A cut finite element method for elliptic bulk problems with embedded surfaces. <i>GEM - International Journal on Geomathematics</i> , 2019, 10, 10.	0.7	3
98	A stable cut finite element method for partial differential equations on surfaces: The Helmholtz-Beltrami operator. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2020, 362, 112803.	3.4	3
99	Nitsche's finite element method for model coupling in elasticity. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2022, 392, 114707.	3.4	3
100	A stabilized finite element method for the Darcy problem on surfaces. <i>IMA Journal of Numerical Analysis</i> , 2016, , drw041.	1.5	2
101	A Cut Finite Element Method with Boundary Value Correction for the Incompressible Stokes Equations. <i>Lecture Notes in Computational Science and Engineering</i> , 2019, , 183-192.	0.1	2
102	The nonconforming linear strain tetrahedron for a large deformation elasticity problem. <i>Computational Mechanics</i> , 2016, 58, 929-935.	2.2	1
103	Augmented Lagrangian Method for Thin Plates with Signorini Boundaries. <i>Lecture Notes in Computational Science and Engineering</i> , 2021, , 509-519.	0.1	1
104	Augmented Lagrangian approach to deriving discontinuous Galerkin methods for nonlinear elasticity problems. <i>International Journal for Numerical Methods in Engineering</i> , 0, , .	1.5	0