Gabriel N Gatica

List of Publications by Year
in descending order

113 papers	2,506 citations	186265 28 h-index	254184 43 g-index
114 all docs	114 docs citations	114 times ranked	518 citing authors

#	Article	IF	Citations
1	A Simple Introduction to the Mixed Finite Element Method. SpringerBriefs in Mathematics, 2014, , .	0.3	124
2	A mixed virtual element method for the pseudostressâ€“velocity formulation of the Stokes problem. IMA Journal of Numerical Analysis, 2017, 37, 296-331.	2.9	79
3	A Residual-Based A Posteriori Error Estimator for the Stokesâ€“Darcy Coupled Problem. SIAM Journal on Numerical Analysis, 2010, 48, 498-523.	2.3	78
4	Analysis of a velocityâ€“pressureâ€“pseudostress formulation for the stationary Stokes equations. Computer Methods in Applied Mechanics and Engineering, 2010, 199, 1064-1079.	6.6	77
5	On the coupled BEM and FEM for a nonlinear exterior Dirichlet problem in R2. Numerische Mathematik, 1992, 61, 171-214.	1.9	76
6	Analysis of fully-mixed finite element methods for the Stokes-Darcy coupled problem. Mathematics of Computation, 2011, 80, 1911-1948.	2.1	75
7	Analysis of a new augmented mixed finite element method for linear elasticity allowing $mathbb{RT}_0$-$mathbb{P}_1$-$mathbb{P}_0$ approximations. ESAIM: Mathematical Modelling and Numerical Analysis, 2006, 40, 1-28.	1.9	64
8	A mixed virtual element method for the Brinkman problem. Mathematical Models and Methods in Applied Sciences, 2017, 27, 707-743.	3.3	61
9	A residual-based a posteriori error estimator for a fully-mixed formulation of the Stokesâ€“Darcy coupled problem. Computer Methods in Applied Mechanics and Engineering, 2011, 200, 1877-1891.	6.6	59
10	On the mixed finite element method with Lagrange multipliers. Numerical Methods for Partial Differential Equations, 2003, 19, 192-210.	3.6	52
11	An A Posteriori Error Estimate for the Local Discontinuous Galerkin Method Applied to Linear and Nonlinear Diffusion Problems. Journal of Scientific Computing, 2005, 22-23, 147-185.	2.3	52
12	A mixed virtual element method for the Navierâ€“Stokes equations. Mathematical Models and Methods in Applied Sciences, 2018, 28, 2719-2762.	3.3	52
13	Coupling of mixed finite elements and boundary elements for linear and nonlinear elliptic problems. Applicable Analysis, 1996, 63, 39-75.	1.3	50
14	Analysis of an augmented mixedâ€primal formulation for the stationary <scp>B</scp>oussinesq problem. Numerical Methods for Partial Differential Equations, 2016, 32, 445-478.	3.6	49
15	New fully-mixed finite element methods for the Stokesâ€“Darcy coupling. Computer Methods in Applied Mechanics and Engineering, 2015, 295, 362-395.	6.6	48
16	A Local Discontinuous Galerkin Method for Nonlinear Diffusion Problems with Mixed Boundary Conditions. SIAM Journal of Scientific Computing, 2004, 26, 152-177.	2.8	47
17	A low-order mixed finite element method for a class of quasi-Newtonian Stokes flows. Part I: a priori error analysis. Computer Methods in Applied Mechanics and Engineering, 2004, 193, 881-892.	6.6	46
18	A priori and a posteriori error analyses of a velocity-pseudostress formulation for a class of quasi-Newtonian Stokes flows. Computer Methods in Applied Mechanics and Engineering, 2011, 200, 1619-1636.	6.6	45

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19	Analysis of a pseudostress-based mixed finite element method for the Brinkman model of porous media flow. Numerische Mathematik, 2014, 126, 635-677.	1.9	45
20	Augmented Mixed Finite Element Methods for the Stationary Stokes Equations. SIAM Journal of Scientific Computing, 2009, 31, 1082-1119.	2.8	43
21	The Coupling of Boundary Element and Finite Element Methods for a Nonlinear Exterior Boundary Value Problem. Zeitschrift Fur Analysis Und Ihre Anwendung, 1989, 8, 377-387.	0.6	38
22	A Dual-Dual Formulation for the Coupling of Mixed-FEM and BEM in Hyperelasticity. SIAM Journal on Numerical Analysis, 2000, 38, 380-400.	2.3	37
23	A residual basedA POSTERIORIerror estimator for an augmented mixed finite element method in linear elasticity. ESAIM: Mathematical Modelling and Numerical Analysis, 2006, 40, 843-869.	1.9	37
24	An augmented velocityâ€“vorticityâ€“pressure formulation for the Brinkman equations. International Journal for Numerical Methods in Fluids, 2015, 79, 109-137.	1.6	36
25	A Mixed Virtual Element Method for Quasi-Newtonian Stokes Flows. SIAM Journal on Numerical Analysis, 2018, 56, 317-343.	2.3	36
26	Analysis of the Coupling of Primal and Dual-Mixed Finite Element Methods for a Two-Dimensional Fluid-Solid Interaction Problem. SIAM Journal on Numerical Analysis, 2007, 45, 2072-2097.	2.3	33
27	An augmented mixed-primal finite element method for a coupled flow-transport problem. ESAIM: Mathematical Modelling and Numerical Analysis, 2015, 49, 1399-1427.	1.9	33
28	A priori and a posteriori error analyses of a pseudostress-based mixed formulation for linear elasticity. Computers and Mathematics With Applications, 2016, 71, 585-614.	2.7	32
29	A mixed virtual element method for a nonlinear Brinkman model of porous media flow. Calcolo, 2018, 55, 1.	1.1	30
30	A Banach spaces-based analysis of a new fully-mixed finite element method for the Boussinesq problem. ESAIM: Mathematical Modelling and Numerical Analysis, 2020, 54, 1525-1568.	1.9	30
31	An augmented fully-mixed finite element method for the stationary Boussinesq problem. Calcolo, 2017, 54, 167-205.	1.1	27
32	Analysis of an Augmented HDG Method for a Class of Quasi-Newtonian Stokes Flows. Journal of Scientific Computing, 2015, 65, 1270-1308.	2.3	26
33	A residual-based a posteriori error estimator for a two-dimensional fluidâ€“solid interaction problem. Numerische Mathematik, 2009, 114, 63-106.	1.9	25
34	An Augmented Mixed Finite Element Method for the Navier--Stokes Equations with Variable Viscosity. SIAM Journal on Numerical Analysis, 2016, 54, 1069-1092.	2.3	24
35	A mixed local discontinuous Galerkin method for a class of nonlinear problems in fluid mechanics. Journal of Computational Physics, 2005, 207, 427-456.	3.8	23
36	Analysis of the HDG method for the stokesâ€“darcy coupling. Numerical Methods for Partial Differential Equations, 2017, 33, 885-917.	3.6	23

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37	An augmented mixed finite element method for 3D linear elasticity problems. Journal of Computational and Applied Mathematics, 2009, 231, 526-540.	2.0	22
38	A Coupled Mixed Finite Element Method for the Interaction Problem between an Electromagnetic Field and an Elastic Body. SIAM Journal on Numerical Analysis, 2010, 48, 1338-1368.	2.3	22
39	<i>A posteriori</i>error analysis for a viscous flow-transport problem. ESAIM: Mathematical Modelling and Numerical Analysis, 2016, 50, 1789-1816.	1.9	22
40	Relaxing the hypotheses of Bielakâ€“MacCamyâ€™s BEMâ€“FEM coupling. Numerische Mathematik, 2012, 120, 465-487.	1.9	21
41	A priori and a posteriori error analyses of augmented twofold saddle point formulations for nonlinear elasticity problems. Computer Methods in Applied Mechanics and Engineering, 2013, 264, 23-48.	6.6	21
42	Analysis of an augmented fully-mixed approach for the coupling of quasi-Newtonian fluids and porous media. Computer Methods in Applied Mechanics and Engineering, 2014, 270, 76-112.	6.6	20
43	A posteriori error analysis of an augmented mixed method for the Navierâ€“Stokes equations with nonlinear viscosity. Computers and Mathematics With Applications, 2016, 72, 2289-2310.	2.7	20
44	A fully-mixed finite element method for the Navierâ€“Stokes/Darcy coupled problem with nonlinear viscosity. Journal of Numerical Mathematics, 2017, 25, .	3.5	20
45	A mixed virtual element method for a pseudostress-based formulation of linear elasticity. Applied Numerical Mathematics, 2019, 135, 423-442.	2.1	20
46	A new dual-mixed finite element method for the plane linear elasticity problem with pure traction boundary conditions. Computer Methods in Applied Mechanics and Engineering, 2008, 197, 1115-1130.	6.6	18
47	Analysis of the Coupling of Lagrange and Arnold--Falk--Winther Finite Elements for a Fluid-Solid Interaction Problem in Three Dimensions. SIAM Journal on Numerical Analysis, 2012, 50, 1648-1674.	2.3	18
48	A vorticity-based fully-mixed formulation for the 3D Brinkmanâ€“Darcy problem. Computer Methods in Applied Mechanics and Engineering, 2016, 307, 68-95.	6.6	18
49	A mixed-primal finite element approximation of a sedimentationâ€“consolidation system. Mathematical Models and Methods in Applied Sciences, 2016, 26, 867-900.	3.3	18
50	A mixed finite element method for Darcyâ€™s equations with pressure dependent porosity. Mathematics of Computation, 2015, 85, 1-33.	2.1	17
51	Fixed point strategies for mixed variational formulations of the stationary Boussinesq problem. Comptes Rendus Mathematique, 2016, 354, 57-62.	0.3	17
52	A priori and a posteriori error analysis of an augmented mixed finite element method for incompressible fluid flows. Computer Methods in Applied Mechanics and Engineering, 2008, 198, 280-291.	6.6	16
53	A mixedâ€“primal finite element method for the Boussinesq problem with temperature-dependent viscosity. Calcolo, 2018, 55, 1.	1.1	16
54	The coupling of boundary integral and finite element methods for nonmonotone nonlinear problemsâˆ—. Numerical Functional Analysis and Optimization, 1992, 13, 431-447.	1.4	15

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55	Analysis of an augmented pseudostress-based mixed formulation for a nonlinear Brinkman model of porous media flow. Computer Methods in Applied Mechanics and Engineering, 2015, 289, 104-130.	6.6	15
56	A Priori and a Posteriori Error Analyses of an Augmented HDG Method for a Class of Quasi-Newtonian Stokes Flows. Journal of Scientific Computing, 2016, 69, 1192-1250.	2.3	15
57	A posteriori error analysis of a fully-mixed formulation for the Navierâ€“Stokes/Darcy coupled problem with nonlinear viscosity. Computer Methods in Applied Mechanics and Engineering, 2017, 315, 943-971.	6.6	15
58	An augmented stressâ€based mixed finite element method for the steady state Navierâ€Stokes equations with nonlinear viscosity. Numerical Methods for Partial Differential Equations, 2017, 33, 1692-1725.	3.6	15
59	A Fully-Mixed Finite Element Method for the<i>n</i>-Dimensional Boussinesq Problem with Temperature-Dependent Parameters. Computational Methods in Applied Mathematics, 2020, 20, 187-213.	0.8	15
60	A posteriori error estimates for the mixed finite element method with Lagrange multipliers. Numerical Methods for Partial Differential Equations, 2005, 21, 421-450.	3.6	14
61	An augmented mixed finite element method with Lagrange multipliers: A priori and a posteriori error analyses. Journal of Computational and Applied Mathematics, 2007, 200, 653-676.	2.0	14
62	Analysis and mixed-primal finite element discretisations for stress-assisted diffusion problems. Computer Methods in Applied Mechanics and Engineering, 2018, 337, 411-438.	6.6	13
63	A conforming mixed finite element method for the Navierâ€“Stokes/Darcyâ€“Forchheimer coupled problem. ESAIM: Mathematical Modelling and Numerical Analysis, 2020, 54, 1689-1723.	1.9	13
64	A Banach spaces-based analysis of a new mixed-primal finite element method for a coupled flow-transport problem. Computer Methods in Applied Mechanics and Engineering, 2020, 371, 113285.	6.6	13
65	A Fully-Mixed Formulation for the Steady Double-Diffusive Convection System Based upon Brinkmanâ€“Forchheimer Equations. Journal of Scientific Computing, 2020, 85, 1.	2.3	13
66	Banach spaces-based analysis of a fully-mixed finite element method for the steady-state model of fluidized beds. Computers and Mathematics With Applications, 2021, 84, 244-276.	2.7	13
67	A mixed finite element method for the generalized Stokes problem. International Journal for Numerical Methods in Fluids, 2005, 49, 877-903.	1.6	12
68	Pseudostress-Based Mixed Finite Element Methods for the Stokes Problem in â„<i>ⁿ</i>with Dirichlet Boundary Conditions. I: A Priori Error Analysis. Communications in Computational Physics, 2012, 12, 109-134.	1.7	12
69	A posteriori error analysis of an augmented mixed-primal formulation for the stationary Boussinesq model. Calcolo, 2017, 54, 1055-1095.	1.1	12
70	A note on stable Helmholtz decompositions in 3D. Applicable Analysis, 2020, 99, 1110-1121.	1.3	12
71	Augmented mixed finite element methods for a vorticityâ€based velocityâ€“pressureâ€“stress formulation of the Stokes problem in 2D. International Journal for Numerical Methods in Fluids, 2011, 67, 450-477.	1.6	11
72	A posteriori error estimation for an augmented mixed-primal method applied to sedimentationâ€“consolidation systems. Journal of Computational Physics, 2018, 367, 322-346.	3.8	11

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73	A posteriori error analysis of an augmented fully-mixed formulation for the stationary Boussinesq model. Computers and Mathematics With Applications, 2019, 77, 693-714.	2.7	11
74	On thea priori anda posteriori error analysis of a two-fold saddle-point approach for nonlinear incompressible elasticity. International Journal for Numerical Methods in Engineering, 2006, 68, 861-892.	2.8	10
75	New Mixed Finite Element Methods for Natural Convection with Phase-Change in Porous Media. Journal of Scientific Computing, 2019, 80, 141-174.	2.3	10
76	A Posteriori Error Analysis of a Mixed-Primal Finite Element Method for the Boussinesq Problem with Temperature-Dependent Viscosity. Journal of Scientific Computing, 2019, 78, 887-917.	2.3	10
77	An augmented fully-mixed finite element method for a coupled flow-transport problem. Calcolo, 2020, 57, 1.	1.1	10
78	An L<i>p</i>spaces-based formulation yielding a new fully mixed finite element method for the coupled Darcy and heat equations. IMA Journal of Numerical Analysis, 2022, 42, 3154-3206.	2.9	9
79	A fully-mixed finite element method for the steady state Oberbeckâ€“Boussinesq system. SMAI Journal of Computational Mathematics, 0, 6, 125-157.	0.0	9
80	A new non-augmented and momentum-conserving fully-mixed finite element method for a coupled flow-transport problem. Calcolo, 2022, 59, 1.	1.1	9
81	Coupling of virtual element and boundary element methods for the solution of acoustic scattering problems. Journal of Numerical Mathematics, 2020, 28, 223-245.	3.5	8
82	A new mixed finite element method for the <i>n</i>-dimensional Boussinesq problem with temperature-dependent viscosity. Networks and Heterogeneous Media, 2020, 15, 215-245.	1.1	8
83	A priorierror analysis of a fully-mixed finite element method for a two-dimensional fluid-solid interaction problem. ESAIM: Mathematical Modelling and Numerical Analysis, 2013, 47, 471-506.	1.9	7
84	A New Mixed Finite Element Method for Elastodynamics with Weak Symmetry. Journal of Scientific Computing, 2017, 72, 1049-1079.	2.3	7
85	Analysis of an augmented fully-mixed formulation for the coupling of the Stokes and heat equations. ESAIM: Mathematical Modelling and Numerical Analysis, 2018, 52, 1947-1980.	1.9	7
86	On the Coupling of VEM and BEM in Two and Three Dimensions. SIAM Journal on Numerical Analysis, 2019, 57, 2493-2518.	2.3	7
87	Mixed Finite Element Methods. SpringerBriefs in Mathematics, 2014, , 93-126.	0.3	7
88	A fully-mixed formulation in Banach spaces for the coupling of the steady Brinkmanâ€“Forchheimer and double-diffusion equations. ESAIM: Mathematical Modelling and Numerical Analysis, 2021, 55, 2725-2758.	1.9	7
89	A<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si9.gif" display="inline" overflow="scroll"><mml:msub><mml:mrow><mml:mi mathvariant="double-struck">R</mml:mi><mml:mi mathvariant="double-struck">T</mml:mi></mml:mrow><mml:mrow><mml:mi>k</mml:mi></mml:mrow></mml:msub><mml:mo>â mathvariant="bold"><mml:mi>P</mml:mi></mml:mstyle></mml:mrow><mml:mrow><mml:mi>k</mml:mi></mml:mrow></mml:msub for linear elasticity yielding a broken<mml. Applied Mathematics Letters, 2015, 49, 133-140.	2.7	6
90	A posteriori error analysis of an augmented fully mixed formulation for the nonisothermal Oldroydâ€“Stokes problem. Numerical Methods for Partial Differential Equations, 2019, 35, 295-324.	3.6	6

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91	A fully mixed finite element method for the coupling of the Stokes and Darcyâ€“Forchheimer problems. IMA Journal of Numerical Analysis, 2020, 40, 1454-1502.	2.9	6
92	Residual-based<i>a posteriori</i>error analysis for the coupling of the Navierâ€“Stokes and Darcyâ€“Forchheimer equations. ESAIM: Mathematical Modelling and Numerical Analysis, 2021, 55, 659-687.	1.9	6
93	Primal and Mixed Finite Element Methods for Deformable Image Registration Problems. SIAM Journal on Imaging Sciences, 2018, 11, 2529-2567.	2.2	5
94	Formulation and analysis of fully-mixed methods for stress-assisted diffusion problems. Computers and Mathematics With Applications, 2019, 77, 1312-1330.	2.7	5
95	On the well-posedness of Banach spaces-based mixed formulations for the nearly incompressible Navier-LamÃ© and Stokes equations. Computers and Mathematics With Applications, 2021, 102, 87-94.	2.7	5
96	A residual-based a posteriori error estimator for the plane linear elasticity problem with pure traction boundary conditions. Journal of Computational and Applied Mathematics, 2016, 292, 486-504.	2.0	4
97	Ultra-weak symmetry of stress for augmented mixed finite element formulations in continuum mechanics. Calcolo, 2020, 57, 1.	1.1	4
98	A five-field augmented fully-mixed finite element method for the Navierâ€“Stokes/Darcy coupled problem. Computers and Mathematics With Applications, 2020, 80, 1944-1963.	2.7	4
99	A mixed-primal finite element method for the coupling of Brinkmanâ€“Darcy flow and nonlinear transport. IMA Journal of Numerical Analysis, 2021, 41, 381-411.	2.9	4
100	A mixed finite element method with reduced symmetry for the standard model in linear viscoelasticity. Calcolo, 2021, 58, 1.	1.1	4
101	An Lp spaces-based mixed virtual element method for the two-dimensional Navier-Stokes equations. Mathematical Models and Methods in Applied Sciences, 0, , .	3.3	4
102	A new mixed finite element analysis of the elastodynamic equations. Applied Mathematics Letters, 2016, 59, 48-55.	2.7	3
103	Analysis of an augmented fully-mixed finite element method for a bioconvective flows model. Journal of Computational and Applied Mathematics, 2021, 393, 113504.	2.0	3
104	A primal-mixed formulation for the strong coupling of quasi-Newtonian fluids with porous media. Advances in Computational Mathematics, 2016, 42, 675-720.	1.6	2
105	A fully discrete scheme for the pressureâ€“stress formulation of the time-domain fluidâ€“structure interaction problem. Calcolo, 2017, 54, 1419-1439.	1.1	2
106	A fullyâ€mixed finite element method for the couplingÂof the Navierâ€“Stokes and Darcyâ€“Forchheimer equations. Numerical Methods for Partial Differential Equations, 2021, 37, 2550-2587.	3.6	2
107	A posteriori error analysis of Banach spaces-based fully-mixed finite element methods for Boussinesq-type models. Journal of Numerical Mathematics, 2022, 30, 325-356.	3.5	2
108	A note on weak* convergence and compactness and their connection to the existence of the inverse-adjoint. Applicable Analysis, 2019, 98, 1478-1482.	1.3	1

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109	Further developments on boundary-field equation methods for nonlinear transmission problems. Journal of Mathematical Analysis and Applications, 2021, 502, 125262.	1.0	1
110	Adaptive Mesh Refinement in Deformable Image Registration: A Posteriori Error Estimates for Primal and Mixed Formulations. SIAM Journal on Imaging Sciences, 2021, 14, 1238-1272.	2.2	0
111	BabuÅ¡kaâ€“Brezzi Theory. SpringerBriefs in Mathematics, 2014, , 27-60.	0.3	0
112	Raviart-Thomas Spaces. SpringerBriefs in Mathematics, 2014, , 61-91.	0.3	0
113	A posteriori error analysis of mixed finite element methods for stress-assisted diffusion problems. Journal of Computational and Applied Mathematics, 2022, 409, 114144.	2.0	0