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	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
2	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
3	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
4	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
5	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
6	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
7	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
8	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
9	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
10	A mixed finite element method with reduced symmetry for the standard model in linear viscoelasticity. Calcolo, 2021, 58, 1.	1.1	4
11	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
12	Further developments on boundary-field equation methods for nonlinear transmission problems. Journal of Mathematical Analysis and Applications, 2021, 502, 125262.	1.0	1
13	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
14	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
15	A note on stable Helmholtz decompositions in 3D. Applicable Analysis, 2020, 99, 1110-1121.	1.3	12
16	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
17	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
18	Ultra-weak symmetry of stress for augmented mixed finite element formulations in continuum mechanics. Calcolo, 2020, 57, 1.	1.1	4

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19	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
20	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
21	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
22	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
23	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
24	An augmented fully-mixed finite element method for a coupled flow-transport problem. Calcolo, 2020, 57, 1.	1.1	10
25	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
26	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
27	On the Coupling of VEM and BEM in Two and Three Dimensions. SIAM Journal on Numerical Analysis, 2019, 57, 2493-2518.	2.3	7
28	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
29	A mixed virtual element method for a pseudostress-based formulation of linear elasticity. Applied Numerical Mathematics, 2019, 135, 423-442.	2.1	20
30	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
31	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
32	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
33	Formulation and analysis of fully-mixed methods for stress-assisted diffusion problems. Computers and Mathematics With Applications, 2019, 77, 1312-1330.	2.7	5
34	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
35	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
36	A Mixed Virtual Element Method for Quasi-Newtonian Stokes Flows. SIAM Journal on Numerical Analysis, 2018, 56, 317-343.	2.3	36

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37	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
38	A mixed virtual element method for the Navierâ€"Stokes equations. Mathematical Models and Methods in Applied Sciences, 2018, 28, 2719-2762.	3.3	52
39	Primal and Mixed Finite Element Methods for Deformable Image Registration Problems. SIAM Journal on Imaging Sciences, 2018, 11, 2529-2567.	2.2	5
40	A mixed virtual element method for a nonlinear Brinkman model of porous media flow. Calcolo, 2018, 55, 1.	1.1	30
41	A mixedâ€"primal finite element method for the Boussinesq problem with temperature-dependent viscosity. Calcolo, 2018, 55, 1.	1.1	16
42	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
43	An augmented fully-mixed finite element method for the stationary Boussinesq problem. Calcolo, 2017, 54, 167-205.	1.1	27
44	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
45	A New Mixed Finite Element Method for Elastodynamics with Weak Symmetry. Journal of Scientific Computing, 2017, 72, 1049-1079.	2.3	7
46	Analysis of the HDG method for the stokesâ€"darcy coupling. Numerical Methods for Partial Differential Equations, 2017, 33, 885-917.	3.6	23
47	A posteriori error analysis of an augmented mixed-primal formulation for the stationary Boussinesq model. Calcolo, 2017, 54, 1055-1095.	1.1	12
48	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
49	A mixed virtual element method for the Brinkman problem. Mathematical Models and Methods in Applied Sciences, 2017, 27, 707-743.	3.3	61
50	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
51	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
52	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
53	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
54	<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

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55	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
56	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
57	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
58	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
59	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
60	A new mixed finite element analysis of the elastodynamic equations. Applied Mathematics Letters, 2016, 59, 48-55.	2.7	3
61	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
62	Fixed point strategies for mixed variational formulations of the stationary Boussinesq problem. Comptes Rendus Mathematique, 2016, 354, 57-62.	0.3	17
63	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
64	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
65	A mixed finite element method for Darcyâ€™s equations with pressure dependent porosity. Mathematics of Computation, 2015, 85, 1-33.	2.1	17
66	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
67	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
68	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
69	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
70	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
71	An augmented velocityâ€"vorticityâ€"pressure formulation for the Brinkman equations. International Journal for Numerical Methods in Fluids, 2015, 79, 109-137.	1.6	36
72	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

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73	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
74	A Simple Introduction to the Mixed Finite Element Method. SpringerBriefs in Mathematics, 2014, , .	0.3	124
75	Mixed Finite Element Methods. SpringerBriefs in Mathematics, 2014, , 93-126.	0.3	7
76	BabuÅ¡kaâ€“Brezzi Theory. SpringerBriefs in Mathematics, 2014, , 27-60.	0.3	0
77	Raviart-Thomas Spaces. SpringerBriefs in Mathematics, 2014, , 61-91.	0.3	0
78	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
79	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
80	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
81	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
82	Relaxing the hypotheses of Bielakâ€“MacCamyâ€™s BEMâ€“FEM coupling. Numerische Mathematik, 2012, 120, 465-487.	1.9	21
83	Analysis of fully-mixed finite element methods for the Stokes-Darcy coupled problem. Mathematics of Computation, 2011, 80, 1911-1948.	2.1	75
84	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
85	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
86	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
87	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
88	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
89	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
90	A residual-based a posteriori error estimator for a two-dimensional fluidâ€“solid interaction problem. Numerische Mathematik, 2009, 114, 63-106.	1.9	25

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91	An augmented mixed finite element method for 3D linear elasticity problems. Journal of Computational and Applied Mathematics, 2009, 231, 526-540.	2.0	22
92	Augmented Mixed Finite Element Methods for the Stationary Stokes Equations. SIAM Journal of Scientific Computing, 2009, 31, 1082-1119.	2.8	43
93	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
94	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
95	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
96	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
97	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
98	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
99	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
100	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
101	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
102	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
103	A mixed finite element method for the generalized Stokes problem. International Journal for Numerical Methods in Fluids, 2005, 49, 877-903.	1.6	12
104	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
105	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
106	On the mixed finite element method with Lagrange multipliers. Numerical Methods for Partial Differential Equations, 2003, 19, 192-210.	3.6	52
107	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
108	Coupling of mixed finite elements and boundary elements for linear and nonlinear elliptic problems. Applicable Analysis, 1996, 63, 39-75.	1.3	50

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109	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
110	On the coupled BEM and FEM for a nonlinear exterior Dirichlet problem in R2. Numerische Mathematik, 1992, 61, 171-214.	1.9	76
111	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
112	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
113	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