Juan Luis Vazquez

List of Publications by Year
in descending order

126 papers	4,984 citations	94433 37 h-index	118850 62 g-index
130 all docs	130 docs citations	130 times ranked	1318 citing authors

#	Article	IF	Citations
1	Growing solutions of the fractional p-Laplacian equation in the Fast Diffusion range. Nonlinear Analysis: Theory, Methods & Applications, 2022, 214, 112575.	1.1	5
2	Infinite-time concentration in aggregation–diffusion equations with a given potential. Journal Des Mathematiques Pures Et Appliquees, 2022, 157, 346-398.	1.6	3
3	Blow-up phenomena in nonlocal eigenvalue problems: When theories of L1 and L2 meet. Journal of Functional Analysis, 2021, 280, 108845.	1.4	8
4	Characterisation of homogeneous fractional Sobolev spaces. Calculus of Variations and Partial Differential Equations, 2021, 60, 1.	1.7	25
5	The fractional p-Laplacian evolution equation in $${\mathbb {R}}^N$$ in the sublinear case. Calculus of Variations and Partial Differential Equations, 2021, 60, 1.	1.7	16
6	Anisotropic ?-Laplacian Evolution of Fast Diffusion Type. Advanced Nonlinear Studies, 2021, 21, 523-555.	1.7	16
7	Three Representations of the Fractional p-Laplacian: Semigroup, Extension and Balakrishnan Formulas. Fractional Calculus and Applied Analysis, 2021, 24, 966-1002.	2.2	12
8	The one-phase fractional Stefan problem. Mathematical Models and Methods in Applied Sciences, 2021, 31, 83-131.	3.3	12
9	Travelling wave behaviour arising in nonlinear diffusion problems posed in tubular domains. Journal of Differential Equations, 2020, 269, 2664-2696.	2.2	4
10	On a fractional thin film equation. Advances in Nonlinear Analysis, 2020, 9, 1516-1558.	2.6	10
11	On the Two-phase Fractional Stefan Problem. Advanced Nonlinear Studies, 2020, 20, 437-458.	1.7	9
12	Existence of Weak Solutions for a General Porous Medium Equation with Nonlocal Pressure. Archive for Rational Mechanics and Analysis, 2019, 233, 451-496.	2.4	15
13	The porous medium equation on Riemannian manifolds with negative curvature: the superquadratic case. Mathematische Annalen, 2019, 373, 119-153.	1.4	9
14	The fractional Schrödinger equation with singular potential and measure data. Discrete and Continuous Dynamical Systems, 2019, 39, 7113-7139.	0.9	12
15	Sharp global estimates for local and nonlocal porous medium-type equations in bounded domains. Analysis and PDE, 2018, 11, 945-982.	1.4	34
16	Flatness implies smoothness for solutions of the porous medium equation. Calculus of Variations and Partial Differential Equations, 2018, 57, 1.	1.7	12
17	Sharp boundary behaviour of solutions to semilinear nonlocal elliptic equations. Calculus of Variations and Partial Differential Equations, 2018, 57, 1.	1.7	24
18	Asymptotic behaviour for the fractional heat equation in the Euclidean space. Complex Variables and Elliptic Equations, 2018, 63, 1216-1231.	0.8	13

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19	Porous medium equation with nonlocal pressure in a bounded domain. Communications in Partial Differential Equations, 2018, 43, 1502-1539.	2.2	10
20	Porous Medium Equation with Nonlocal Pressure. Springer Optimization and Its Applications, 2018, , 277-308.	0.9	4
21	The Fisher–KPP problem with doubly nonlinear "fast" diffusion. Nonlinear Analysis: Theory, Methods & Applications, 2017, 157, 212-248.	1.1	20
22	Symmetrization for fractional elliptic and parabolic equations and an isoperimetric application. Chinese Annals of Mathematics Series B, 2017, 38, 661-686.	0.4	12
23	Nonlocal and Nonlinear Diffusions and Interactions: New Methods and Directions. Lecture Notes in Mathematics, 2017, , .	0.2	5
24	The porous medium equation on Riemannian manifolds with negative curvature. The large-time behaviour. Advances in Mathematics, 2017, 314, 328-377.	1.1	25
25	Optimal existence and uniqueness theory for the fractional heat equation. Nonlinear Analysis: Theory, Methods & Applications, 2017, 153, 142-168.	1.1	70
26	Classical solutions and higher regularity for nonlinear fractional diffusion equations. Journal of the European Mathematical Society, 2017, 19, 1949-1975.	1.4	37
27	The Mathematical Theories of Diffusion: Nonlinear and Fractional Diffusion. Lecture Notes in Mathematics, 2017, , 205-278.	0.2	54
28	The Fisher-KPP problem with doubly nonlinear diffusion. Journal of Differential Equations, 2017, 263, 7647-7708.	2.2	28
29	Existence of maximal solutions for some very singular nonlinear fractional diffusion equations in 1D. Journal of Evolution Equations, 2016, 16, 723-758.	1.1	4
30	Non-existence and instantaneous extinction of solutions for singular nonlinear fractional diffusion equations. Calculus of Variations and Partial Differential Equations, 2016, 55, 1.	1.7	7
31	The Dirichlet problem for the fractional p-Laplacian evolution equation. Journal of Differential Equations, 2016, 260, 6038-6056.	2.2	51
32	Fractional nonlinear degenerate diffusion equations on bounded domains part I. Existence, uniqueness and upper bounds. Nonlinear Analysis: Theory, Methods & Applications, 2016, 131, 363-398.	1.1	30
33	Finite and infinite speed of propagation for porous medium equations with nonlocal pressure. Journal of Differential Equations, 2016, 260, 1154-1199.	2.2	29
34	The mesa problem for the fractional porous medium equation. Interfaces and Free Boundaries, 2015, 17, 263-288.	0.8	4
35	Existence, uniqueness and asymptotic behaviour for fractional porous medium equations on bounded domains. Discrete and Continuous Dynamical Systems, 2015, 35, 5725-5767.	0.9	114
36	Some free boundary problems involving non-local diffusion and aggregation. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2015, 373, 20140275.	3.4	13

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37	Transformations of self-similar solutions for porous medium equations of fractional type. Nonlinear Analysis: Theory, Methods & Applications, 2015, 119, 62-73.	1.1	17
38	Fundamental solution and long time behavior of the Porous Medium Equation in hyperbolic space. Journal Des Mathematiques Pures Et Appliquees, 2015, 104, 454-484.	1.6	35
39	A Priori Estimates for Fractional Nonlinear Degenerate Diffusion Equations on Bounded Domains. Archive for Rational Mechanics and Analysis, 2015, 218, 317-362.	2.4	64
40	Optimal estimates for fractional fast diffusion equations. Journal Des Mathematiques Pures Et Appliquees, 2015, 103, 535-556.	1.6	23
41	Symmetrization for linear and nonlinear fractional parabolic equations of porous medium type. Journal Des Mathematiques Pures Et Appliquees, 2014, 101, 553-582.	1.6	30
42	A mean field equation as limit of nonlinear diffusions with fractional Laplacian operators. Calculus of Variations and Partial Differential Equations, 2014, 49, 1091-1120.	1.7	37
43	Quantitative local and global a priori estimates for fractional nonlinear diffusion equations. Advances in Mathematics, 2014, 250, 242-284.	1.1	76
44	Finite and infinite speed of propagation for porous medium equations with fractional pressure. Comptes Rendus Mathematique, 2014, 352, 123-128.	0.3	20
45	Classical solutions for a logarithmic fractional diffusion equation. Journal Des Mathematiques Pures Et Appliquees, 2014, 101, 901-924.	1.6	15
46	The Fisher-KPP Equation with Nonlinear Fractional Diffusion. SIAM Journal on Mathematical Analysis, 2014, 46, 3241-3276.	1.9	32
47	The Hele–Shaw Asymptotics for Mechanical Models of Tumor Growth. Archive for Rational Mechanics and Analysis, 2014, 212, 93-127.	2.4	92
48	Degenerate homogeneous parabolic equations associated with the infinity-Laplacian. Calculus of Variations and Partial Differential Equations, 2013, 46, 705-724.	1.7	13
49	Classification of radial solutions to the Emden–Fowler equation on the hyperbolic space. Calculus of Variations and Partial Differential Equations, 2013, 46, 375-401.	1.7	27
50	Asymptotic behaviour of the doubly nonlinear diffusion equation on bounded domains. Nonlinear Analysis: Theory, Methods & Applications, 2013, 77, 1-32.	1.1	23
51	A Porous Medium Equation Involving the Infinity-Laplacian. Viscosity Solutions and Asymptotic Behavior. Communications in Partial Differential Equations, 2012, 37, 753-793.	2.2	8
52	Nonlinear Diffusion with Fractional Laplacian Operators. Abel Symposia, 2012, , 271-298.	0.3	95
53	Functional aspects of the Hardy inequality: appearance of a hidden energy. Journal of Evolution Equations, 2012, 12, 713-739.	1.1	15
54	Quantitative Local Bounds for Subcritical Semilinear Elliptic Equations. Milan Journal of Mathematics, 2012, 80, 65-118.	1.1	6

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55	A General Fractional Porous Medium Equation. Communications on Pure and Applied Mathematics, 2012, 65, 1242-1284.	3.1	131
56	Rate of Convergence to Barenblatt Profiles for the Fast Diffusion Equation. Archive for Rational Mechanics and Analysis, 2012, 204, 599-625.	2.4	21
57	Behaviour near extinction for the Fast Diffusion Equation on bounded domains. Journal Des Mathematiques Pures Et Appliquees, 2012, 97, 1-38.	1.6	40
58	Highly time-oscillating solutions for very fast diffusion equations. Journal of Evolution Equations, 2011, 11, 725-742.	1.1	12
59	Nonlinear Porous Medium Flow with Fractional Potential Pressure. Archive for Rational Mechanics and Analysis, 2011, 202, 537-565.	2.4	149
60	Multiple blow-up for a porous medium equation with reaction. Mathematische Annalen, 2011, 350, 801-827.	1.4	12
61	A fractional porous medium equation. Advances in Mathematics, 2011, 226, 1378-1409.	1.1	161
62	Heat equation with dynamical boundary conditions of reactive–diffusive type. Journal of Differential Equations, 2011, 250, 2143-2161.	2.2	47
63	The Evolution of Singularities in Fast Diffusion Equations: Infinite-Time Blow-Down. SIAM Journal on Mathematical Analysis, 2011, 43, 1499-1535.	1.9	11
64	Special Fast Diffusion with Slow Asymptotics: Entropy Method and Flow on a Riemannian Manifold. Archive for Rational Mechanics and Analysis, 2010, 196, 631-680.	2.4	36
65	Positivity, local smoothing, and Harnack inequalities for very fast diffusion equations. Advances in Mathematics, 2010, 223, 529-578.	1.1	56
66	Local smoothing effects, positivity, and Harnack inequalities for the fast p-Laplacian equation. Advances in Mathematics, 2010, 224, 2151-2215.	1.1	38
67	Long time behavior for the inhomogeneous PME in a medium with rapidly decaying density. Discrete and Continuous Dynamical Systems, 2010, 26, 521-549.	0.9	30
68	Asymptotic analysis of the p-Laplacian flow in an exterior domain. Annales De L'Institut Henri Poincare (C) Analyse Non Lineaire, 2009, 26, 497-520.	1.4	7
69	On the Laplace equation with dynamical boundary conditions of reactive–diffusive type. Journal of Mathematical Analysis and Applications, 2009, 354, 674-688.	1.0	17
70	Asymptotics of the Fast Diffusion Equation via Entropy Estimates. Archive for Rational Mechanics and Analysis, 2009, 191, 347-385.	2.4	97
71	Measure-valued solutions and the phenomenon of blow-down in logarithmic diffusion. Journal of Mathematical Analysis and Applications, 2009, 352, 515-547.	1.0	9
72	Fast diffusion flow on manifolds of nonpositive curvature. Journal of Evolution Equations, 2008, 8, 99-128.	1.1	38

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73	Radial equivalence for the two basic nonlinear degenerate diffusion equations. Journal Des Mathematiques Pures Et Appliquees, 2008, 89, 1-24.	1.6	27
74	WAVE EQUATION WITH SECOND-ORDER NON-STANDARD DYNAMICAL BOUNDARY CONDITIONS. Mathematical Models and Methods in Applied Sciences, 2008, 18, 2019-2054.	3.3	9
75	Heat Equation with Dynamical Boundary Conditions of Reactive Type. Communications in Partial Differential Equations, 2008, 33, 561-612.	2.2	36
76	POROUS MEDIUM FLOW IN A TUBE: TRAVELING WAVES AND KPP BEHAVIOR. Communications in Contemporary Mathematics, 2007, 09, 731-751.	1.2	8
77	Reverse Smoothing Effects, Fine Asymptotics, and Harnack Inequalities for Fast Diffusion Equations. Boundary Value Problems, 2007, 2007, 1-31.	0.7	3
78	Multiple blowup for nonlinear heat equations at different places and different times. Indiana University Mathematics Journal, 2007, 56, 2859-2886.	0.9	7
79	Heat Equation with Dynamical Boundary Conditions of Locally Reactive Type. Semigroup Forum, 2007, 74, 1-40.	0.6	15
80	Localized Non-diffusive Asymptotic Patterns for Nonlinear Parabolic Equations with Gradient Absorption. Journal of Dynamics and Differential Equations, 2007, 19, 985-1005.	1.9	17
81	Finite-time blow-down in the evolution of point masses by planar logarithmic diffusion. Discrete and Continuous Dynamical Systems, 2007, 19, 1-35.	0.9	10
82	Global positivity estimates and Harnack inequalities for the fast diffusion equation. Journal of Functional Analysis, 2006, 240, 399-428.	1.4	47
83	LACK OF COLLISION IN A SIMPLIFIED 1D MODEL FOR FLUID–SOLID INTERACTION. Mathematical Models and Methods in Applied Sciences, 2006, 16, 637-678.	3.3	34
84	Symmetrization and Mass Comparison for Degenerate Nonlinear Parabolic and Related Elliptic Equations. Advanced Nonlinear Studies, 2005, 5, 87-131.	1.7	32
85	The diffusive limit for Carleman-type kinetic models. Nonlinearity, 2005, 18, 1223-1248.	1.4	62
86	Failure of the Strong Maximum Principle in Nonlinear Diffusion. Existence of Needles. Communications in Partial Differential Equations, 2005, 30, 1263-1303.	2.2	30
87	Viscosity solutions for quasilinear degenerate parabolic equations of porous medium type. Indiana University Mathematics Journal, 2005, 54, 817-860.	0.9	44
88	The Dirichlet Problem for the Porous Medium Equation in Bounded Domains. Asymptotic Behavior. Monatshefte Fur Mathematik, 2004, 142, 81-111.	0.9	64
89	Thermal avalanche for blowup solutions of semilinear heat equations. Communications on Pure and Applied Mathematics, 2004, 57, 59-98.	3.1	12
90	The Dirichlet Problem for the Porous Medium Equation in Bounded Domains. Asymptotic Behavior. , 2004, , 81-111.		1

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91	Asymptotic behaviour for the porous medium equation posed in the whole space. Journal of Evolution Equations, 2003, 3, 67-118.	1.1	151
92	The Nonlinearly Damped Oscillator. ESAIM - Control, Optimisation and Calculus of Variations, 2003, 9, 231-246.	1.3	4
93	Large Time Behavior for a Simplified 1D Model of Fluidâ€"Solid Interactionâ€. Communications in Partial Differential Equations, 2003, 28, 1705-1738.	2.2	49
94	Asymptotic behaviour for the porous medium equation posed in the whole space. , 2003, , 67-118.		26
95	COMPLETE BLOW-UP AND THERMAL AVALANCHE FOR HEAT EQUATIONS WITH NONLINEAR BOUNDARY CONDITIONS. Communications in Partial Differential Equations, 2002, 27, 395-424.	2.2	12
96	Theory of Extended SolutionsÂ¶for Fast-Diffusion EquationsÂ¶in Optimal Classes of Data.Â¶Radiation from Singularities. Archive for Rational Mechanics and Analysis, 2002, 164, 133-187.	2.4	116
97	Extinction behaviour for fast diffusion equations with absorption. Nonlinear Analysis: Theory, Methods & Applications, 2001, 43, 943-985.	1.1	30
98	The Hardy Inequality and the Asymptotic Behaviour of the Heat Equation with an Inverse-Square Potential. Journal of Functional Analysis, 2000, 173, 103-153.	1.4	292
99	Asymptotic behaviour of a generalized Burgers' equation. Journal Des Mathematiques Pures Et Appliquees, 1999, 78, 633-666.	1.6	32
100	Domain of existence and blowup for the exponential reaction-diffusion equation. Indiana University Mathematics Journal, 1999, 48, 0-0.	0.9	32
101	Mathematical model of the non equilibrium water oil displacement in porous strata. Applicable Analysis, 1997, 65, 19-45.	1.3	73
102	Blow-up solutions of some nonlinear elliptic problems. Revista Matematica Complutense, 1997, 10, 443.	1.2	144
103	Maximal viscosity solutions of the modified porous medium equation and their asymptotic behaviour. European Journal of Applied Mathematics, 1996, 7, 453-471.	2.9	5
104	Non-uniqueness of solutions of nonlinear heat equations of fast diffusion type. Annales De L'Institut Henri Poincare (C) Analyse Non Lineaire, 1995, 12, 173-200.	1.4	19
105	Asymptotic convergence to dipole solutions in nonlinear parabolic equations. Proceedings of the Royal Society of Edinburgh Section A: Mathematics, 1995, 125, 877-900.	1.2	5
106	Geometrical properties of the solutions of one-dimensional nonlinear parabolic equations. Mathematische Annalen, 1995, 303, 741-769.	1.4	51
107	Self-similar solutions of the second kind for the modified porous medium equation. European Journal of Applied Mathematics, 1994, 5, 391-403.	2.9	20
108	Asymptotic behaviour and source-type solutions for a diffusion-convection equation. Archive for Rational Mechanics and Analysis, 1993, 124, 43-65.	2.4	92

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109	Title is missing!. Indiana University Mathematics Journal, 1993, 42, 1413.	0.9	54
110	The propagation of turbulent bursts. European Journal of Applied Mathematics, 1992, 3, 263-272.	2.9	27
111	An overdetermined initial and boundary-value problem for a reaction-diffusion equation. Nonlinear Analysis: Theory, Methods & Applications, 1992, 19, 259-269.	1.1	10
112	Maximal Solutions of Singular Diffusion Equations with General Initial Data. , 1992, , 471-484.		2
113	Regularity of solutions and interfaces of a generalized porous medium equation inR N. Annali Di Matematica Pura Ed Applicata, 1991, 158, 51-74.	1.0	40
114	Travelling waves and finite propagation in a reaction-diffusion equation. Journal of Differential Equations, 1991, 93, 19-61.	2.2	115
115	Asymptotic Behaviour of Solutions of the Porous Medium Equation with Changing Sign. SIAM Journal on Mathematical Analysis, 1991, 22, 34-45.	1.9	93
116	Schrödinger equations with unique positive isolated singularities. Manuscripta Mathematica, 1990, 67, 143-163.	0.6	5
117	A well posed problem in singular Fickian diffusion. Archive for Rational Mechanics and Analysis, 1990, 110, 141-163.	2.4	79
118	The Balance Between Strong Reaction And Slow Diffusion. Communications in Partial Differential Equations, 1990, 15, 159-183.	2.2	41
119	Isolated Singularities of the Schrodinger Equation with a Good Potential. Transactions of the American Mathematical Society, 1989, 315, 711.	0.9	7
120	Thermal waves in absorbing media. Journal of Differential Equations, 1988, 74, 218-233.	2.2	17
121	Isolated singularities of some semilinear elliptic equations. Journal of Differential Equations, 1985, 60, 301-321.	2.2	44
122	Singularities of elliptic equations with an exponential nonlinearity. Mathematische Annalen, 1984, 269, 119-135.	1.4	30
123	Behaviour of the velocity of one-dimensional flows in porous media. Transactions of the American Mathematical Society, 1984, 286, 787-802.	0.9	6
124	Asymptotic Behaviour and Propagation Properties of the One-Dimensional Flow of Gas in a Porous Medium. Transactions of the American Mathematical Society, 1983, 277, 507.	0.9	91
125	On the propagation properties of a nonlinear degenerate parabolic equation. Communications in Partial Differential Equations, 1982, 7, 1381-1402.	2.2	65
126	Monotone perturbations of the laplacian inL 1(R N). Israel Journal of Mathematics, 1982, 43, 255-272.	0.8	30