Juan Soler

List of Publications by Year
in descending order

92	2,292	218677	233421
papers	citations	26 h-index	45 g-index

95	95	95	800
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Vehicular traffic, crowds, and swarms: From kinetic theory and multiscale methods to applications and research perspectives. Mathematical Models and Methods in Applied Sciences, 2019, 29, 1901-2005.	3.3	170
2	MULTISCALE BIOLOGICAL TISSUE MODELS AND FLUX-LIMITED CHEMOTAXIS FOR MULTICELLULAR GROWING SYSTEMS. Mathematical Models and Methods in Applied Sciences, 2010, 20, 1179-1207.	3.3	143
3	ON THE MATHEMATICAL THEORY OF THE DYNAMICS OF SWARMS VIEWED AS COMPLEX SYSTEMS. Mathematical Models and Methods in Applied Sciences, 2012, 22, 1140006.	3.3	125
4	ON THE DIFFICULT INTERPLAY BETWEEN LIFE, "COMPLEXITY", AND MATHEMATICAL SCIENCES. Mathematical Models and Methods in Applied Sciences, 2013, 23, 1861-1913.	3.3	116
5	Long-Time Dynamics of the SchrÃ¶dingerâ€“Poissonâ€“Slater System. Journal of Statistical Physics, 2004, 114, 179-204.	1.2	94
6	MULTICELLULAR BIOLOGICAL GROWING SYSTEMS: HYPERBOLIC LIMITS TOWARDS MACROSCOPIC DESCRIPTION. Mathematical Models and Methods in Applied Sciences, 2007, 17, 1675-1692.	3.3	89
7	High-Field Limit for the Vlasov-Poisson-Fokker-Planck System. Archive for Rational Mechanics and Analysis, 2001, 158, 29-59.	2.4	85
8	ON THE ASYMPTOTIC THEORY FROM MICROSCOPIC TO MACROSCOPIC GROWING TISSUE MODELS: AN OVERVIEW WITH PERSPECTIVES. Mathematical Models and Methods in Applied Sciences, 2012, 22, .	3.3	80
9	PARABOLIC LIMIT AND STABILITY OF THE VLASOVâ€“FOKKERâ€“PLANCK SYSTEM. Mathematical Models and Methods in Applied Sciences, 2000, 10, 1027-1045.	3.3	71
10	Euler-type equations and commutators in singular and hyperbolic limits of kinetic Cuckerâ€“Smale models. Mathematical Models and Methods in Applied Sciences, 2017, 27, 1089-1152.	3.3	56
11	On the multiscale modeling of vehicular traffic: From kinetic to hydrodynamics. Discrete and Continuous Dynamical Systems - Series B, 2014, 19, 1869-1888.	0.9	52
12	On the initial value problem for the Vlasov-Poisson-Fokker-Planck system with initial data inLp spaces. Mathematical Methods in the Applied Sciences, 1995, 18, 825-839.	2.3	51
13	Morphogenetic action through flux-limited spreading. Physics of Life Reviews, 2013, 10, 457-475.	2.8	51
14	Multidimensional high-field limit of the electrostatic Vlasovâ€“Poissonâ€“Fokkerâ€“Planck system. Journal of Differential Equations, 2005, 213, 418-442.	2.2	50
15	From a systems theory of sociology to modeling the onset and evolution of criminality. Networks and Heterogeneous Media, 2015, 10, 421-441.	1.1	47
16	Asymptotic Behaviour and Self-Similarity for the Three Dimensional Vlasovâ€“Poissonâ€“Fokkerâ€“Planck System. Journal of Functional Analysis, 1996, 141, 99-132.	1.4	46
17	Asymptotic Behavior of an Initial-Boundary Value Problem for the Vlasov--Poisson--Fokker--Planck System. SIAM Journal on Applied Mathematics, 1997, 57, 1343-1372.	1.8	45
18	HIGH-FIELD LIMIT OF THE VLASOVâ€“POISSONâ€“FOKKERâ€“PLANCK SYSTEM: A COMPARISON OF DIFFERENT PERTURBATION METHODS. Mathematical Models and Methods in Applied Sciences, 2001, 11, 1457-1468.	3.3	45

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19	On an Exchange Interaction Model for Quantum Transport: The SchrÃ¶dingerâ€“Poissonâ€“Slater System. Mathematical Models and Methods in Applied Sciences, 2003, 13, 1397-1412.	3.3	45
20	An analysis of quantum Fokkerâ€“Planck models: A Wigner function approach. Revista Matematica Iberoamericana, 2004, 20, 771-814.	0.9	39
21	Complexity and mathematical tools toward the modelling of multicellular growing systems. Mathematical and Computer Modelling, 2010, 51, 441-451.	2.0	39
22	EXISTENCE OF STEADY STATES FOR THE MAXWELLâ€“SCHRÃ–DINGERâ€“POISSON SYSTEM: EXPLORING THE APPLICABILITY OF THE CONCENTRATIONâ€“COMPACTNESS PRINCIPLE. Mathematical Models and Methods in Applied Sciences, 2013, 23, 1915-1938.	3.3	38
23	Asymptotic behaviour for the 3-D SchrÃ¶dinger-Poisson System in the attractive case with positive energy. Applied Mathematics Letters, 1999, 12, 1-6.	2.7	35
24	QUALITATIVE PROPERTIES OF THE SOLUTIONS OF A NONLINEAR FLUX-LIMITED EQUATION ARISING IN THE TRANSPORT OF MORPHOGENS. Mathematical Models and Methods in Applied Sciences, 2011, 21, 893-937.	3.3	32
25	Exactly Solvable Phase Oscillator Models with Synchronization Dynamics. Physical Review Letters, 1998, 81, 3643-3646.	7.8	30
26	Flux-saturated porous media equations and applications. EMS Surveys in Mathematical Sciences, 2015, 2, 131-218.	1.4	28
27	Pattern formation in a flux limited reactionâ€“diffusion equation of porous media type. Inventiones Mathematicae, 2016, 206, 57-108.	2.5	28
28	Title is missing!. Journal of Statistical Physics, 2001, 103, 1069-1105.	1.2	27
29	Asymptotic Behaviour for the Vlasov-Poisson System in the Stellar-Dynamics Case. Archive for Rational Mechanics and Analysis, 2004, 171, 301-327.	2.4	27
30	On the Vlasovâ€“Poissonâ€“Fokkerâ€“Planck Equations with Measures in Morrey Spaces as Initial Data. Journal of Mathematical Analysis and Applications, 1997, 207, 475-495.	1.0	26
31	On the analysis of traveling waves to a nonlinear flux limited reactionâ€“diffusion equation. Annales De L'Institut Henri Poincare (C) Analyse Non Lineaire, 2013, 30, 141-155.	1.4	26
32	ASYMPTOTIC BEHAVIOR TO THE 3-D SCHRÃ–DINGER/HARTREEâ€“POISSON AND WIGNERâ€“POISSON SYSTEMS. Mathematical Models and Methods in Applied Sciences, 2000, 10, 923-943.	3.3	24
33	Orbital stability for polytropic galaxies. Annales De L'Institut Henri Poincare (C) Analyse Non Lineaire, 2006, 23, 781-802.	1.4	21
34	Radially Symmetric Solutions of a Tempered Diffusion Equation. A Porous Media, Flux-Limited Case. SIAM Journal on Mathematical Analysis, 2012, 44, 1019-1049.	1.9	21
35	Cross-diffusion and traveling waves in porous-media flux-saturated Kellerâ€“Segel models. Mathematical Models and Methods in Applied Sciences, 2018, 28, 2103-2129.	3.3	21
36	Time rescaling and asymptotic behavior of some fourth-order degenerate diffusion equations. Computers and Mathematics With Applications, 2002, 43, 721-736.	2.7	18

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37	Qualitative behavior and traveling waves for flux-saturated porous media equations arising in optimal mass transportation. Nonlinear Analysis: Theory, Methods & Applications, 2016, 137, 266-290.	1.1	18
38	On a nonlinear flux-limited equation arising in the transport of morphogens. Journal of Differential Equations, 2012, 252, 5763-5813.	2.2	17
39	Low-Field Limit for a Nonlinear Discrete Drift-Diffusion Model Arising in Semiconductor Superlattices Theory. SIAM Journal on Applied Mathematics, 2004, 64, 1526-1549.	1.8	16
40	On the Relativistic BGK-Boltzmann Model: Asymptotics and Hydrodynamics. Journal of Statistical Physics, 2012, 149, 284-316.	1.2	16
41	Qualitative behaviour for flux-saturated mechanisms: travelling waves, waiting time and smoothing effects. Journal of the European Mathematical Society, 2017, 19, 441-472.	1.4	15
42	Modeling invasion patterns in the glioblastoma battlefield. PLoS Computational Biology, 2021, 17, e1008632.	3.2	15
43	Modeling glioma invasion with anisotropy- and hypoxia-triggered motility enhancement: From subcellular dynamics to macroscopic PDEs with multiple taxis. Mathematical Models and Methods in Applied Sciences, 2021, 31, 177-222.	3.3	14
44	Three-dimensional Navier-Stokes equations for singular filament initial data. Journal of Differential Equations, 1988, 74, 234-253.	2.2	12
45	H-theorem for electrostatic or self-gravitating Vlasov-Poisson-Fokker-Planck systems. Physics Letters, Section A: General, Atomic and Solid State Physics, 1996, 212, 55-59.	2.1	12
46	Nonlinear stochastic discrete drift-diffusion theory of charge fluctuations and domain relocation times in semiconductor superlattices. Physical Review B, 2002, 65, .	3.2	12
47	Hyperbolic versus Parabolic Asymptotics in Kinetic Theory toward Fluid Dynamic Models. SIAM Journal on Applied Mathematics, 2013, 73, 1327-1346.	1.8	12
48	Non uniform Rotating Vortices and Periodic Orbits for the Two-Dimensional Euler Equations. Archive for Rational Mechanics and Analysis, 2020, 238, 929-1085.	2.4	12
49	Asymptotic decay estimates for the repulsive SchrÃ¶dingerâ€“Poisson system. Mathematical Methods in the Applied Sciences, 2004, 27, 371-380.	2.3	10
50	Modeling chemotaxis from L^2--closure moments in kinetic theory of active particles. Discrete and Continuous Dynamical Systems - Series B, 2013, 18, 847-863.	0.9	10
51	On the Evolution of an Angle in a Vortex Patch. Journal of Nonlinear Science, 2000, 10, 23-47.	2.1	9
52	On a unified theory of cold dark matter halos based on collisionless Boltzmannâ€“Poisson polytropes. Physica A: Statistical Mechanics and Its Applications, 2009, 388, 2321-2330.	2.6	9
53	Discrete SchrÃ¶dinger-Poisson systems preserving energy and mass. Applied Mathematics Letters, 2000, 13, 27-32.	2.7	8
54	On the time evolution of the mean-field polaron. Journal of Mathematical Physics, 2000, 41, 4293-4312.	1.1	8

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55	From the mathematical kinetic theory for active particles on the derivation of hyperbolic macroscopic tissue models. Mathematical and Computer Modelling, 2009, 49, 2083-2093.	2.0	8
56	Stability Results, Almost Global Generalized Beltrami Fields and Applications to Vortex Structures in the Euler Equations. Communications in Mathematical Physics, 2018, 360, 197-269.	2.2	8
57	Quantum Transport and Boltzmann Operators. Journal of Statistical Physics, 2006, 122, 417-436.	1.2	7
58	ON A DISPERSIVE MODEL FOR THE UNZIPPING OF DOUBLE-STRANDED DNA MOLECULES. Mathematical Models and Methods in Applied Sciences, 2014, 24, 495-511.	3.3	7
59	Cooperation, competition, organization: The dynamics of interacting living populations. Mathematical Models and Methods in Applied Sciences, 2015, 25, 2407-2415.	3.3	7
60	Hydrodynamic limit of a coupled Cuckerâ€“Smale system with strong and weak internal variable relaxation. Mathematical Models and Methods in Applied Sciences, 2021, 31, 1163-1235.	3.3	7
61	Scaling limits in the 3-D SchrÃ¶dinger-Poisson system. Applied Mathematics Letters, 1997, 10, 61-65.	2.7	6
62	Asymptotic behaviour for the Vlasov-Poisson-Fokker-Planck system. Nonlinear Analysis: Theory, Methods & Applications, 1997, 30, 5217-5228.	1.1	6
63	Asymptotic Behavior and Orbital Stability of Galactic Dynamics in Relativistic Scalar Gravity. Archive for Rational Mechanics and Analysis, 2009, 194, 743-773.	2.4	6
64	A KINETIC DESCRIPTION OF PARTICLE FRAGMENTATION. Mathematical Models and Methods in Applied Sciences, 2006, 16, 933-948.	3.3	5
65	Global weak solutions to the relativistic BGK equation. Communications in Partial Differential Equations, 2020, 45, 191-229.	2.2	5
66	ABOUT UNIQUENESS OF WEAK SOLUTIONS TO FIRST ORDER QUASI-LINEAR EQUATIONS. Mathematical Models and Methods in Applied Sciences, 2002, 12, 1599-1615.	3.3	4
67	Long Time Behaviour to the SchrÃ¶dingerâ€“Poissonâ€“XÎ± Systems. Lecture Notes in Physics, 2006, , 217-232.	0.7	4
68	Active particles methods and challenges in behavioral systems. Mathematical Models and Methods in Applied Sciences, 2020, 30, 653-658.	3.3	4
69	Dispersive behavior in galactic dynamics. Discrete and Continuous Dynamical Systems - Series B, 2010, 14, 1-16.	0.9	4
70	Functional solutions for the Vlasov-Poisson system. Applied Mathematics Letters, 1997, 10, 45-50.	2.7	3
71	EXACT SOLUTIONS AND DYNAMICS OF GLOBALLY COUPLED OSCILLATORS. Mathematical Models and Methods in Applied Sciences, 2006, 16, 1919-1959.	3.3	3
72	A Coupled Boltzmann and Navierâ€“Stokes Fragmentation Model Induced by a Fluid-Particle-Spring Interaction. Multiscale Modeling and Simulation, 2010, 8, 1244-1268.	1.6	3

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73	Modeling Hedgehog Signaling Through Flux-Saturated Mechanisms. Methods in Molecular Biology, 2015, 1322, 19-33.	0.9	3
74	Lâˆž Stability for Weak Solutions of the Navier-Stokes Equations in R3 with Singular Initial Data in Morrey Spaces. Journal of Mathematical Analysis and Applications, 1994, 187, 513-525.	1.0	2
75	Virial inequalities for steady states in relativistic galactic dynamics. Nonlinearity, 2010, 23, 1851-1871.	1.4	2
76	Vanishing Viscosity Regimes and Nonstandard Shock Relations for Semiconductor Superlattices Models. SIAM Journal on Applied Mathematics, 2011, 71, 180-199.	1.8	2
77	A Non-Markovian Phase Space Approach to SchrÃ¶dinger Dynamics: The Space-Time Wigner Transform. Multiscale Modeling and Simulation, 2016, 14, 430-451.	1.6	2
78	A Space-Time Wigner Function Approach to Long Time SchrÃ¶dinger--Poisson Dynamics. SIAM Journal on Mathematical Analysis, 2017, 49, 4915-4941.	1.9	2
79	Recent results and challenges in behavioral systems. Mathematical Models and Methods in Applied Sciences, 2020, 30, 1857-1862.	3.3	2
80	Filippov trajectories and clustering in the Kuramoto model with singular couplings. Journal of the European Mathematical Society, 2021, 23, 3193-3278.	1.4	2
81	Modeling Interactions among Migration, Growth and Pressure in Tumor Dynamics. Mathematics, 2021, 9, 1376.	2.2	2
82	Two-dimensional incompressible micropolar fluid models with singular initial data. Physica D: Nonlinear Phenomena, 2022, 430, 133069.	2.8	2
83	On cubature with a minimal number of lines. Journal of Computational and Applied Mathematics, 1987, 19, 223-230.	2.0	1
84	Vortex Filament Method. IMA Journal of Numerical Analysis, 1990, 10, 75-102.	2.9	1
85	Convergence of the contour dynamics method. Numerical Methods for Partial Differential Equations, 1991, 7, 261-276.	3.6	1
86	On functional solutions for the three dimensional kinetic equations of Vlasov-type with bounded measures as initial data. Nonlinear Analysis: Theory, Methods & Applications, 1998, 32, 235-259.	1.1	1
87	On flux-limited morphogenesis. Physics of Life Reviews, 2013, 10, 495-497.	2.8	1
88	Mathematics and Biology: A round trip. Physics of Life Reviews, 2015, 12, 78-80.	2.8	1
89	Modeling social crowds. Physics of Life Reviews, 2016, 18, 50-52.	2.8	1
90	On the evolution of a singular vortex patch in a two-dimensional incompressible fluid flow. Computer Physics Communications, 1999, 121-122, 244-250.	7.5	0

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91	Longâ€“time asymptotics for semiconductor crystals. Nonlinear Analysis: Theory, Methods & Applications, 2001, 47, 5861-5872.	1.1	0
92	A Non-linear Flux-Limited Model for the Transport of Morphogens. Springer Proceedings in Mathematics and Statistics, 2014, , 55-63.	0.2	0