Pep Mulet

List of Publications by Year
in descending order

66 papers	2,407 citations	393982 19 h-index	214527 47 g-index
66 all docs	66 docs citations	66 times ranked	1533 citing authors

#	ARTICLE	IF	CITATIONS
1	A Nonlinear Primal-Dual Method for Total Variation-Based Image Restoration. SIAM Journal of Scientific Computing, 1999, 20, 1964-1977.	1.3	630
2	High-Order Total Variation-Based Image Restoration. SIAM Journal of Scientific Computing, 2000, 22, 503-516.	1.3	625
3	On the Convergence of the Lagged Diffusivity Fixed Point Method in Total Variation Image Restoration. SIAM Journal on Numerical Analysis, 1999, 36, 354-367.	1.1	157
4	A flux-split algorithm applied to conservative models for multicomponent compressible flows. Journal of Computational Physics, 2003, 185, 120-138.	1.9	112
5	Analysis of WENO Schemes for Full and Global Accuracy. SIAM Journal on Numerical Analysis, 2011, 49, 893-915.	1.1	91
6	Total variation image restoration: numerical methods and extensions. , 0, , .		80
7	Adaptive mesh refinement techniques for high-order shock capturing schemes for multi-dimensional hydrodynamic simulations. International Journal for Numerical Methods in Fluids, 2006, 52, 455-471.	0.9	52
8	Faster minimization of linear wirelength for global placement. IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 1998, 17, 3-13.	1.9	40
9	Point-Value WENO Multiresolution Applications toÂStable Image Compression. Journal of Scientific Computing, 2010, 43, 158-182.	1.1	40
10	Linearly Implicit IMEX Runge--Kutta Methods for a Class of Degenerate Convection-Diffusion Problems. SIAM Journal of Scientific Computing, 2015, 37, B305-B331.	1.3	36
11	An Approximate Laxâ€“Wendroff-Type Procedure for High Order Accurate Schemes for Hyperbolic Conservation Laws. Journal of Scientific Computing, 2017, 71, 246-273.	1.1	29
12	A secular equation for the Jacobian matrix of certain multispecies kinematic flow models. Numerical Methods for Partial Differential Equations, 2010, 26, 159-175.	2.0	28
13	Adaptive interpolation of images. Signal Processing, 2003, 83, 459-464.	2.1	27
14	A Spatial-Temporal Model for the Evolution of the COVID-19 Pandemic in Spain Including Mobility. Mathematics, 2020, 8, 1677.	1.1	26
15	On the implementation of WENO schemes for a class of polydisperse sedimentation models. Journal of Computational Physics, 2011, 230, 2322-2344.	1.9	25
16	Extensions to total variation denoising. , 1997, 3162, 367.		24
17	Well-Balanced Adaptive Mesh Refinement for shallow water flows. Journal of Computational Physics, 2014, 257, 937-953.	1.9	23
18	Weights Design For Maximal Order WENO Schemes. Journal of Scientific Computing, 2014, 60, 641-659.	1.1	22

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19	High Order Boundary Extrapolation Technique for Finite Difference Methods on Complex Domains with Cartesian Meshes. Journal of Scientific Computing, 2016, 66, 761-791.	1.1	21
20	Hyperbolicity Analysis of Polydisperse Sedimentation Models via a Secular Equation for the Flux Jacobian. SIAM Journal on Applied Mathematics, 2010, 70, 2186-2213.	0.8	20
21	On the Efficient Computation of Smoothness Indicators for a Class of WENO Reconstructions. Journal of Scientific Computing, 2019, 80, 1240-1263.	1.1	20
22	Characteristic-Based Schemes for Multi-Class Lighthill-Whitham-Richards Traffic Models. Journal of Scientific Computing, 2008, 37, 233-250.	1.1	18
23	Regularized Nonlinear Solvers for IMEX Methods Applied to Diffusively Corrected Multispecies Kinematic Flow Models. SIAM Journal of Scientific Computing, 2013, 35, B751-B777.	1.3	16
24	An Efficient Third-Order WENO Scheme with Unconditionally Optimal Accuracy. SIAM Journal of Scientific Computing, 2020, 42, A1028-A1051.	1.3	15
25	Numerical solution of a spatio-temporal predator-prey model with infected prey. Mathematical Biosciences and Engineering, 2019, 16, 438-473.	1.0	14
26	High Order Weighted Extrapolation for Boundary Conditions for Finite Difference Methods on Complex Domains with Cartesian Meshes. Journal of Scientific Computing, 2016, 69, 170-200.	1.1	13
27	Numerical solution of a spatio-temporal gender-structured model for hantavirus infection in rodents. Mathematical Biosciences and Engineering, 2017, 15, 95-123.	1.0	13
28	Adaptation based on interpolation errors for high order mesh refinement methods applied to conservation laws. Applied Numerical Mathematics, 2012, 62, 278-296.	1.2	12
29	On linearly implicit IMEX Runge-Kutta methods for degenerate convection-diffusion problems modeling polydisperse sedimentation. Bulletin of the Brazilian Mathematical Society, 2016, 47, 171-185.	0.3	12
30	On Compatibility II. Communications in Algebra, 1992, 20, 1897-1905.	0.3	11
31	Lossless and near-lossless image compression based on multiresolution analysis. Journal of Computational and Applied Mathematics, 2013, 242, 70-81.	1.1	10
32	WENO Reconstructions of Unconditionally Optimal High Order. SIAM Journal on Numerical Analysis, 2019, 57, 2760-2784.	1.1	10
33	Modelling the spatial-temporal progression of the 2009 A/H1N1 influenza pandemic in Chile. Mathematical Biosciences and Engineering, 2016, 13, 43-65.	1.0	10
34	Implicitâ€“explicit methods for models for vertical equilibrium multiphase flow. Computers and Mathematics With Applications, 2014, 68, 363-383.	1.4	9
35	Central WENO Schemes Through a Global Average Weight. Journal of Scientific Computing, 2019, 78, 499-530.	1.1	9
36	Implicit-Explicit Methods for a Convection-Diffusion-Reaction Model of the Propagation of Forest Fires. Mathematics, 2020, 8, 1034.	1.1	9

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37	Some techniques for improving the resolution of finite difference component-wise WENO schemes for polydisperse sedimentation models. Applied Numerical Mathematics, 2014, 78, 1-13.	1.2	8
38	Implicit-explicit methods for a class of nonlinear nonlocal gradient flow equations modelling collective behaviour. Applied Numerical Mathematics, 2019, 144, 234-252.	1.2	8
39	Approximate Taylor methods for ODEs. Computers and Fluids, 2017, 159, 156-166.	1.3	6
40	Implicitâ€“Explicit WENO scheme for the equilibrium dispersive model of chromatography. Applied Numerical Mathematics, 2018, 123, 22-42.	1.2	6
41	A Diffusively Corrected Multiclass Lighthill-Whitham-Richards Traffic Model with Anticipation Lengths and Reaction Times. Advances in Applied Mathematics and Mechanics, 2013, 5, 728-758.	0.7	6
42	Spectral WENO schemes with Adaptive Mesh Refinement for models of polydisperse sedimentation. ZAMM Zeitschrift Fur Angewandte Mathematik Und Mechanik, 2013, 93, 373-386.	0.9	5
43	Solving a model for 1-D, three-phase flow vertical equilibrium processes in a homogeneous porous medium by means of a Weighted Essentially Non Oscillatory numerical scheme. Computers and Mathematics With Applications, 2013, 66, 1284-1298.	1.4	5
44	Numerical solution of a multi-class model for batch settling in water resource recovery facilities. Applied Mathematical Modelling, 2017, 49, 415-436.	2.2	5
45	Reprint of: Approximate Taylor methods for ODEs. Computers and Fluids, 2018, 169, 87-97.	1.3	5
46	IMEX WENO Schemes for Two-phase Flow Vertical Equilibrium Processes in a Homogeneous Porous Medium. Applied Mathematics and Information Sciences, 2013, 7, 1865-1878.	0.7	5
47	Hybrid WENO schemes for polydisperse sedimentation models. International Journal of Computer Mathematics, 2016, 93, 1801-1817.	1.0	4
48	Linearly implicit-explicit schemes for the equilibrium dispersive model of chromatography. Applied Mathematics and Computation, 2018, 317, 172-186.	1.4	4
49	Implicitâ€“explicit schemes for nonlinear nonlocal equations with a gradient flow structure in one space dimension. Numerical Methods for Partial Differential Equations, 2019, 35, 1008-1034.	2.0	4
50	On approximate implicit Taylor methods for ordinary differential equations. Computational and Applied Mathematics, 2020, 39, 1.	1.0	4
51	Exploring a Convectionâ€“Diffusionâ€“Reaction Model of the Propagation of Forest Fires: Computation of Risk Maps for Heterogeneous Environments. Mathematics, 2020, 8, 1674.	1.1	4
52	On the hyperbolicity of certain models of polydisperse sedimentation. Mathematical Methods in the Applied Sciences, 2012, 35, 723-744.	1.2	3
53	WENO schemes applied to the quasi-relativistic Vlasovâ€“Maxwell model for laserâ€“plasma interaction. Comptes Rendus - Mecanique, 2014, 342, 583-594.	2.1	3
54	On a theorem of barou and malliavin. Communications in Algebra, 1992, 20, 2589-2607.	0.3	2

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55	Non-separable two-dimensional weighted ENO interpolation. Applied Numerical Mathematics, 2012, 62, 975-987.	1.2	2
56	A semi-Lagrangian AMR scheme for 2D transport problems in conservation form. Journal of Computational Physics, 2013, 237, 151-176.	1.9	2
57	Polynomial viscosity methods for multispecies kinematic flow models. Numerical Methods for Partial Differential Equations, 2016, 32, 1265-1288.	2.0	2
58	Highly Accurate Conservative Finite Difference Schemes and Adaptive Mesh Refinement Techniques for Hyperbolic Systems of Conservation Laws. , 2006, , 198-206.		2
59	Dualizing bimodules. Communications in Algebra, 1993, 21, 2185-2204.	0.3	1
60	Implicit-Explicit Methods for the Efficient Simulation of the Settling of Dispersions of Droplets and Colloidal Particles. Advances in Applied Mathematics and Mechanics, 2018, 10, 445-467.	0.7	1
61	Weighted Extrapolation Techniques for Finite Difference Methods on Complex Domains with Cartesian Meshes. SEMA SIMAI Springer Series, 2016, , 243-259.	0.4	1
62	Cell average image transform algorithms with exact error control. Numerical Algorithms, 2015, 69, 75-93.	1.1	0
63	WENO Schemes for Multi-Dimensional Porous Media Flow Without Capillarity. SEMA SIMAI Springer Series, 2016, , 301-320.	0.4	0
64	The Two-Jacobian Scheme for Systems of Conservation Laws. , 2006, , 89-108.		0
65	Non-linear Local Polynomial Regression Multiresolution Methods Using $$ell ^1$$ â„“ 1 -norm Minimization with Application to Signal Processing. Lecture Notes in Computer Science, 2015, , 16-31.	1.0	0
66	High Order Extrapolation Techniques for WENO Finite-Difference Schemes Applied to NACA Airfoil Profiles. Mathematics in Industry, 2017, , 47-54.	0.1	0