Vickie E Lynch

List of Publications by Year
in descending order

128 papers	7,211 citations	101543 36 h-index	58581 82 g-index
136 all docs	136 docs citations	136 times ranked	5800 citing authors

#	ARTICLE	IF	CITATIONS
1	End-to-end online performance data capture and analysis for scientific workflows. Future Generation Computer Systems, 2021, 117, 387-400.	7.5	13
2	Volumetric Segmentation via Neural Networks Improves Neutron Crystallography Data Analysis. , 2019, 2019, 549-555.		3
3	BraggNet: integrating Bragg peaks using neural networks. Journal of Applied Crystallography, 2019, 52, 854-863.	4.5	25
4	Improving the accuracy and resolution of neutron crystallographic data by three-dimensional profile fitting of Bragg peaks in reciprocal space. Acta Crystallographica Section D: Structural Biology, 2018, 74, 1085-1095.	2.3	27
5	PANORAMA: An approach to performance modeling and diagnosis of extreme-scale workflows. International Journal of High Performance Computing Applications, 2017, 31, 4-18.	3.7	24
6	An automated analysis workflow for optimization of force-field parameters using neutron scattering data. Journal of Computational Physics, 2017, 340, 128-137.	3.8	10
7	Distributed workflows for modeling experimental data. , 2017, , .		1
8	Workflow Performance Profiles: Development and Analysis. Lecture Notes in Computer Science, 2017, , 108-120.	1.3	0
9	Expanding Lorentz and spectrum corrections to large volumes of reciprocal space for single-crystal time-of-flight neutron diffraction. Journal of Applied Crystallography, 2016, 49, 497-506.	4.5	34
10	Toward an End-to-End Framework for Modeling, Monitoring and Anomaly Detection for Scientific Workflows. , 2016, , .		13
11	Networking and Leisure Talk at ACNS 2016. Neutron News, 2016, 27, 11-12.	0.2	0
12	Molecular Dynamics Force-Field Refinement against Quasi-Elastic Neutron Scattering Data. Journal of Chemical Theory and Computation, 2016, 12, 9-17.	5.3	9
13	Thresholds and Complex Dynamics of Interdependent Cascading Infrastructure Systems. Understanding Complex Systems, 2014, , 95-114.	0.6	3
14	Mantidâ€"Data analysis and visualization package for neutron scattering and μ SR experiments. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2014, 764, 156-166.	1.6	1,257
15	Integration of neutron time-of-flight single-crystal Bragg peaks in reciprocal space. Journal of Applied Crystallography, 2014, 47, 915-921.	4.5	82
16	Integrating Advanced Materials Simulation Techniques into an Automated Data Analysis Workflow at the Spallation Neutron Source. , 2014, , 297-308.		1
17	Analyzing diffuse scattering with supercomputers. Journal of Applied Crystallography, 2013, 46, 1616-1625.	4.5	12
18	Exploring Complex Systems Aspects of Blackout Risk and Mitigation. IEEE Transactions on Reliability, 2011, 60, 134-143.	4.6	107

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19	The SNS/HFIR Web Portal System â€" How Can it Help Me?. Journal of Physics: Conference Series, 2010, 251, 012096.	0.4	2
20	Neutron Science TeraGrid Gateway. Journal of Physics: Conference Series, 2010, 251, 012097.	0.4	0
21	The SNS/HFIR Web Portal System for SANS. Journal of Physics: Conference Series, 2010, 247, 012013.	0.4	3
22	BCYCLIC: A parallel block tridiagonal matrix cyclic solver. Journal of Computational Physics, 2010, 229, 6392-6404.	3.8	37
23	Advances in simulation of wave interactions with extended MHD phenomena. Journal of Physics: Conference Series, 2009, 180, 012054.	0.4	2
24	Evaluating the Effect of Upgrade, Control and Development Strategies on Robustness and Failure Risk of the Power Transmission Grid. , 2008, , .		7
25	Simulation of wave interactions with MHD. Journal of Physics: Conference Series, 2008, 125, 012039.	0.4	2
26	Pulse propagation in a simple probabilistic transport model. Nuclear Fusion, 2007, 47, 189-195.	3.5	5
27	Interdependent Risk in Interacting Infrastructure Systems. , 2007, , .		44
28	Complex systems analysis of series of blackouts: Cascading failure, critical points, and self-organization. Chaos, 2007, 17, 026103.	2.5	683
29	Renormalization of tracer turbulence leading to fractional differential equations. Physical Review E, 2006, 74, 016305.	2.1	43
30	Quasilinear evolution of non-thermal distributions in ion cyclotron resonance heating of tokamak plasmas. Journal of Physics: Conference Series, 2006, 46, 82-86.	0.4	2
31	Criticality in a cascading failure blackout model. International Journal of Electrical Power and Energy Systems, 2006, 28, 627-633.	5.5	265
32	An Estimator of Propagation of Cascading Failure. , 2006, , .		41
33	On the use of critical gradient models in fusion plasma transport studies. Physics of Plasmas, 2006, 13, 062301.	1.9	9
34	Determination of long-range correlations by quiet-time statistics. Physics of Plasmas, 2005, 12, 052304.	1.9	3
35	Additional evidence for the universality of the probability distribution of turbulent fluctuations and fluxes in the scrape-off layer region of fusion plasmas. Physics of Plasmas, 2005, 12, 052507.	1.9	58
36	Topological instability along invariant surfaces and pseudochaotic transport. Physical Review E, 2005, 72, 026227.	2.1	9

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37	ESTIMATING FAILURE PROPAGATION IN MODELS OF CASCADING BLACKOUTS. Probability in the Engineering and Informational Sciences, 2005, 19, 475-488.	0.8	42
38	Nondiffusive Transport in Plasma Turbulence: A Fractional Diffusion Approach. Physical Review Letters, 2005, 94, 065003.	7.8	203
39	High confinement modes with radial structure. Plasma Physics and Controlled Fusion, 2004, 46, A105-A112.	2.1	7
40	Complex dynamics of blackouts in power transmission systems. Chaos, 2004, 14, 643-652.	2.5	190
41	Fractional diffusion in plasma turbulence. Physics of Plasmas, 2004, 11, 3854-3864.	1.9	223
42	Numerical methods for the solution of partial differential equations of fractional order. Journal of Computational Physics, 2003, 192, 406-421.	3.8	213
43	Front Dynamics in Reaction-Diffusion Systems with Levy Flights: A Fractional Diffusion Approach. Physical Review Letters, 2003, 91, 018302.	7.8	175
44	Topological instability along filamented invariant surfaces. Chaos, 2003, 13, 1175-1187.	2.5	19
45	Blackout mitigation assessment in power transmission systems. , 2003, , .		61
46	Nonlinear MHD analysis for LHD plasmas. Nuclear Fusion, 2003, 43, 1101-1109.	3.5	37
47	Effect of Â and collisionality on the vacuum magnetic field islands in stellarators. Nuclear Fusion, 2003, 43, 553-557.	3.5	9
48	Quiet-time statistics: A tool to probe the dynamics of self-organized-criticality systems from within the strong overlapping regime. Physical Review E, 2002, 66, 036124.	2.1	16
49	Avalanche structure in a running sandpile model. Physical Review E, 2002, 66, 011302.	2.1	7
50	Critical points and transitions in an electric power transmission model for cascading failure blackouts. Chaos, 2002, 12, 985-994.	2.5	458
51	Resistive pressure-gradient-driven instabilities in the transition regime to fully developed turbulence. Physics of Plasmas, 2002, 9, 47-54.	1.9	7
52	Front propagation and segregation in a reactionâ€"diffusion model with cross-diffusion. Physica D: Nonlinear Phenomena, 2002, 168-169, 45-60.	2.8	48
53	Structure and properties of the electrostatic fluctuations in the far scrape-off layer region of Alcator C-Mod. Physics of Plasmas, 2001, 8, 3702-3707.	1.9	56
54	Reynolds stress and shear flow generation. Plasma Physics and Controlled Fusion, 2001, 43, 1377-1395.	2.1	11

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55	Linear and nonlinear resistive magnetohydrodynamic stability of tokamak discharges with negative central shear. Physics of Plasmas, 2001, 8, 3358-3366.	1.9	9
56	On the applicability of local asymptotic stability criteria to stellarator stability. Physics of Plasmas, 2001, 8, 990-996.	1.9	7
57	Anomalous diffusion and exit time distribution of particle tracers in plasma turbulence model. Physics of Plasmas, 2001, 8, 5096-5103.	1.9	239
58	Sheared flow amplification by vacuum magnetic islands in stellarator plasmas. Physics of Plasmas, 2001, 8, 4111-4119.	1.9	50
59	Role of rational surfaces on fluctuations and transport in the plasma edge of the TJ-II stellarator. European Physical Journal D, 2000, 50, 1463-1470.	0.4	8
60	Design studies of low aspect ratio quasi-omnigenous stellarators. Nuclear Fusion, 2000, 40, 563-567.	3.5	10
61	Disturbances in a power transmission system. Physical Review E, 2000, 61, 4877-4882.	2.1	208
62	Full torus Landau fluid calculations of ion temperature gradient-driven turbulence in cylindrical geometry. Physics of Plasmas, 2000, 7, 5013-5022.	1.9	15
63	Intermittency of plasma edge fluctuation data: Multifractal analysis. Physics of Plasmas, 2000, 7, 3278-3287.	1.9	68
64	Anomalous diffusion in a running sandpile model. Physical Review E, 1999, 60, 4770-4778.	2.1	52
65	Effect of poloidally asymmetric sheared flow on resistive ballooning turbulence. Physics of Plasmas, 1999, 6, 3910-3917.	1.9	6
66	Spatiotemporal structure of resistive pressure-gradient-driven turbulence. Physics of Plasmas, 1999, 6, 107-115.	1.9	14
67	Internal disruptions in Heliotron E*. Physics of Plasmas, 1998, 5, 3700-3707.	1.9	14
68	J* optimization of small aspect ratio stellarator/tokamak hybrid devices. Physics of Plasmas, 1998, 5, 1752-1758.	1.9	34
69	Transport Optimization and MHD Stability of a Small Aspect Ratio Toroidal Hybrid Stellarator. Physical Review Letters, 1998, 80, 528-531.	7.8	25
70	Numerical Tokamak Turbulence calculations on the CRAY T3E. , 1997, , .		0
71	Resistive pressure gradient-driven turbulence at stellarator plasma edge. Physics of Plasmas, 1997, 4, 3282-3292.	1.9	7
72	A model realization of self€organized criticality for plasma confinement. Physics of Plasmas, 1996, 3, 2903-2911.	1.9	196

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73	Fluctuation‐induced flux at the plasma edge in toroidal devices. Physics of Plasmas, 1996, 3, 2664-2672.	1.9	139
74	Ultra Low Aspect Ratio Stellarator or Hybrid Configurations. Fusion Science and Technology, 1996, 30, 1347-1354.	0.6	3
75	Dynamics of second‐order phase transitions in resistive pressure‐gradient‐driven turbulence. Physics of Plasmas, 1995, 2, 2744-2752.	1.9	43
76	Bifurcations and modulational interaction in negative compressibility turbulence. Physics of Plasmas, 1994, 1, 2700-2710.	1.9	22
77	Radiation‐driven turbulence at the plasma edge in toroidal devices. Physics of Plasmas, 1994, 1, 3871-3882.	1.9	13
78	Multi-CPU plasma fluid turbulence calculations on a Cray Y-MP C90. , 1993, , .		1
79	Resistive pressure‐gradient‐driven turbulence with self‐consistent flow profile evolution. Physics of Fluids B, 1993, 5, 1491-1505.	1.7	69
80	Effect of a poloidal shear flow on the probability of accessing the multiple saturated states in the resistive interchange instability. Physics of Fluids B, 1993, 5, 1795-1803.	1.7	15
81	Stability Properties of the URAGAN-2M Torsatron. Fusion Science and Technology, 1993, 23, 71-78.	0.6	6
82	Dissipative trapped electron modes inl=2 torsatrons. Physics of Fluids B, 1992, 4, 2894-2906.	1.7	27
83	Equilibrium, Stability, and Deeply Trapped Energetic Particle Confinement Calculations for l = 2 Torsatron/Heliotron Configurations. Fusion Science and Technology, 1991, 19, 217-233.	0.6	14
84	Recent results from the ATF torsatron. Physics of Fluids B, 1991, 3, 2261-2269.	1.7	19
85	Electron diamagnetic effects on the resistive pressure‐gradient‐driven turbulence and poloidal flow generation. Physics of Fluids B, 1991, 3, 1438-1444.	1.7	91
86	Resistive magnetohydrodynamic stability of stellarators with increasing plasma pressure. Physics of Fluids B, 1991, 3, 2028-2037.	1.7	2
87	Plasma turbulence calculations on the intel iPSC/860 (RX) hypercube. Computing Systems in Engineering: an International Journal, 1991, 2, 299-305.	0.5	1
88	Theoretical analysis of the role of the infernal mode in the stability of peaked pressure profiles in pellet fuelled JET discharges. Nuclear Fusion, 1991, 31, 1835-1842.	3.5	11
89	Bootstrap-current experiments in a toroidal plasma-confinement device. Physical Review Letters, 1991, 66, 707-710.	7.8	46
90	Second stability in the ATF torsatron—Experiment and theory. Physics of Fluids B, 1990, 2, 1353-1358.	1.7	18

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91	Linear and nonlinear properties of infernal modes. Physics of Fluids B, 1990, 2, 1574-1583.	1.7	15
92	Lowâ€nstability calculations for threeâ€dimensional stellarator configurations. Physics of Fluids B, 1990, 2, 2162-2167.	1.7	25
93	Compressible linear and nonlinear resistive MHD calculations in toroidal geometry. Journal of Computational Physics, 1990, 86, 270-293.	3.8	63
94	Full-wave calculations in flux coordinates for toroidal geometry. Journal of Computational Physics, 1990, 88, 183-204.	3.8	0
95	Ideal Mercier stability for the TJ-II flexible Heliac. Nuclear Fusion, 1990, 30, 2597-2609.	3.5	17
96	Plasma Turbulence Calculations On Supercomputers. The International Journal of Supercomputer Applications, 1990, 4, 97-110.	0.5	3
97	Second stability in the ATF torsatron. Physical Review Letters, 1989, 63, 1249-1252.	7.8	54
98	Bootstrap current control in stellarators. Physics of Fluids B, 1989, 1, 1663-1670.	1.7	49
99	Ideal low-n and Mercier mode stability boundaries for â„“ = 2 torsatrons. Nuclear Fusion, 1989, 29, 2079-2091.	3.5	17
100	Tokamak m=1 magnetohydrodynamic calculations in toroidal geometry using a full set of nonlinear resistive magnetohydrodynamic equations. Physics of Fluids, 1988, 31, 347.	1.4	18
101	Nonlinear dynamics of tearing modes in the reversed field pinch. Physics of Fluids, 1988, 31, 1166.	1.4	56
102	Nonlinear evolution of the internal kink mode in toroidal geometry for shaped tokamak plasmas. Physics of Fluids, 1988, 31, 1202.	1.4	24
103	Low-aspect-ratio torsatron configurations. Nuclear Fusion, 1988, 28, 1195-1207.	3.5	38
104	Studies of a Flexible Heliac Configuration. Fusion Science and Technology, 1988, 13, 521-535.	0.6	12
105	Heliac equilibria. Nuclear Fusion, 1987, 27, 2161-2170.	3.5	2
106	The Advanced Toroidal Facility. Fusion Science and Technology, 1986, 10, 179-226.	0.6	150
107	An introduction to programming multiple-processor computers. Journal of Computational Physics, 1986, 63, 140-156.	3.8	5
108	Stellarator expansion methods for MHD equilibrium and stability Calculations. Journal of Computational Physics, 1986, 66, 411-444.	3.8	11

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109	Numerical calculations using the full MHD equations in toroidal geometry. Journal of Computational Physics, 1986, 63, 107-129.	3.8	82
110	Toroidal field effects on the stability of a Heliotron configuration. Physics of Fluids, 1986, 29, 3356.	1.4	9
111	The calculation of stellarator equilibria in vacuum flux surface coordinates. Journal of Computational Physics, 1985, 60, 76-96.	3.8	28
112	Torsatron equilibrium and stability studies. Nuclear Fusion, 1985, 25, 1463-1473.	3.5	12
113	Nonlinear interaction of tearing modes: A comparison between the tokamak and the reversed field pinch configurations. Physics of Fluids, 1985, 28, 261-270.	1.4	27
114	Equilibrium studies for low-aspect-ratio torsatrons. Nuclear Fusion, 1984, 24, 115-129.	3.5	15
115	Zero-current high-beta stellarator equilibria with rotational transform profile control. Nuclear Fusion, 1984, 24, 1347-1355.	3.5	31
116	Particles and field lines outside the ATF plasma. Journal of Nuclear Materials, 1984, 121, 415-421.	2.7	3
117	A comparison of the full and reduced sets of magnetohydrodynamic equations for resistive tearing modes in cylindrical geometry. Physics of Fluids, 1983, 26, 2569.	1.4	11
118	Equilibrium and stability properties of high-beta torsatrons. Physics of Fluids, 1983, 26, 3569.	1.4	61
119	Magnetohydrodynamic Instability with Neutral-Beam Heating in the ISX-BTokamak. Physical Review Letters, 1982, 48, 538-541.	7.8	43
120	Finite β effects on the nonlinear evolution of the (m = 1; n = 1) mode in tokamaks. Physics of Fluids, 1982, 25, 800.	1.4	24
121	Constrained Ripple Optimization of Tokamak Bundle Divertors. Nuclear Technology/Fusion, 1982, 2, 372-391.	0.5	6
122	Non-linear analysis of disruptions in the JIPP T-II tokamak. Nuclear Fusion, 1982, 22, 117-121.	3.5	14
123	Resistive MHD studies of high β tokamak plasmas. Computer Physics Communications, 1981, 24, 465-476.	7.5	31
124	Tearing-mode stability of tokamak plasmas with elliptical cross-section. Nuclear Fusion, 1981, 21, 511-517.	3.5	14
125	Performance of a plasma fluid code on the Intel parallel computers. , 0, , .		0
126	Modeling blackout dynamics in power transmission networks with simple structure. , 0, , .		55

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127	Growth and propagation of disturbances in a communication network model. , 0, , .		6
128	Dynamics, criticality and self-organization in a model for blackouts in power transmission systems. , 0, , .		39