

Jan M Pawlowski

List of Publications by Year in descending order

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128
papers

7,509
citations

41344

49
h-index

56724

83
g-index

128
all docs

128
docs citations

128
times ranked

1349
citing authors

#	ARTICLE	IF	CITATIONS
1	Aspects of the functional renormalisation group. <i>Annals of Physics</i> , 2007, 322, 2831-2915.	2.8	680
2	On the infrared behavior of Landau gauge Yang-Mills theory. <i>Annals of Physics</i> , 2009, 324, 2408-2437.	2.8	381
3	The nonperturbative functional renormalization group and its applications. <i>Physics Reports</i> , 2021, 910, 1-114.	25.6	265
4	Quark confinement from colour confinement. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , 2010, 684, 262-267.	4.1	232
5	The phase structure of the Polyakov-quark-meson model beyond mean field. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , 2011, 696, 58-67.	4.1	222
6	Infrared Behavior and Fixed Points in Landau-Gauge QCD. <i>Physical Review Letters</i> , 2004, 93, 152002.	7.8	209
7	Phase Structure of Two-Flavor QCD at Finite Chemical Potential. <i>Physical Review Letters</i> , 2011, 106, 022002.	7.8	164
8	Chiral symmetry breaking in continuum QCD. <i>Physical Review D</i> , 2015, 91, .	4.7	164
9	Landau gauge Yang-Mills correlation functions. <i>Physical Review D</i> , 2016, 94, .	4.7	161
10	QCD phase structure at finite temperature and density. <i>Physical Review D</i> , 2020, 101, .	4.7	141
11	Nonperturbative quark, gluon, and meson correlators of unquenched QCD. <i>Physical Review D</i> , 2018, 97, .	4.7	132
12	Magnetic catalysis and inverse magnetic catalysis in QCD. <i>Physical Review D</i> , 2015, 91, .	4.7	124
13	Critical Reflections on Asymptotically Safe Gravity. <i>Frontiers in Physics</i> , 2020, 8, .	2.1	124
14	Uniqueness of infrared asymptotics in Landau gauge Yang-Mills theory. <i>Physical Review D</i> , 2007, 75, .	4.7	112
15	Fixed points and infrared completion of quantum gravity. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , 2014, 728, 114-117.	4.1	111
16	Asymptotic freedom of Yang-Mills theory with gravity. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , 2012, 709, 234-241.	4.1	103
17	Phase structure and thermodynamics of QCD. <i>Physical Review D</i> , 2013, 88, .	4.7	101
18	From quarks and gluons to hadrons: Chiral symmetry breaking in dynamical QCD. <i>Physical Review D</i> , 2016, 94, .	4.7	99

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19	Completeness and consistency of renormalization group flows. Physical Review D, 2002, 66, .	4.7	98
20	Confinement from correlation functions. Physical Review D, 2013, 88, .	4.7	96
21	Transport Coefficients in Yang-Mills Theory and QCD. Physical Review Letters, 2015, 115, 112002.	7.8	91
22	Thermodynamics of QCD at vanishing density. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2014, 731, 248-256.	4.1	90
23	Flow equations for Yang-Mills theories in general axial gauges. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 1998, 435, 181-188.	4.1	89
24	Improved Polyakov-loop potential for effective models from functional calculations. Physical Review D, 2013, 87, .	4.7	88
25	Gauge invariance and background field formalism in the exact renormalisation group. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2000, 495, 256-262.	4.1	87
26	Wilsonian flows and background fields. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2002, 546, 279-286.	4.1	86
27	Uniqueness of infrared asymptotics in Landau gauge Yang-Mills theory. II.. Physical Review D, 2009, 80, .	4.7	85
28	Quantum-gravity effects on a Higgs-Yukawa model. Physical Review D, 2016, 94, .	4.7	85
29	Asymptotic safety of gravity with matter. Physical Review D, 2018, 97, .	4.7	83
30	On the nature of the phase transition in $SU(N)$, $Sp(2)$ and $E(7)$ Yang-Mills theory. European Physical Journal C, 2010, 70, 689-702.	3.9	80
31	Magnetic catalysis in hot and dense quark matter and quantum fluctuations. Physical Review D, 2012, 86, .	4.7	78
32	Polyakov loop potential at finite density. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2014, 732, 273-277.	4.1	76
33	Higher order quark-mesonic scattering processes and the phase structure of QCD. Physical Review D, 2014, 90, .	4.7	71
34	Gluon spectral functions and transport coefficients in Yang-Mills theory. Physical Review D, 2014, 90, .	4.7	70
35	Real time correlation functions and the functional renormalization group. Physical Review D, 2015, 92, .	4.7	69
36	QCD phase structure from functional methods. Physical Review D, 2020, 102, .	4.7	67

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37	The QCD phase diagram: Results and challenges. , 2011, , .		66
38	Towards far-from-equilibrium quantum field dynamics: A functional renormalisation-group approach. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2008, 670, 135-140.	4.1	63
39	Effective universality in quantum gravity. , 2018, 5, .		63
40	Curvature dependence of quantum gravity. Physical Review D, 2018, 97, .	4.7	62
41	Reconstructing the gluon. , 2018, 5, .		62
42	Non-perturbative thermal flows and resummations. Journal of High Energy Physics, 2006, 2006, 026-026.	4.7	61
43	Gluon propagator close to criticality. Physical Review D, 2012, 85, .	4.7	61
44	Dilaton quantum gravity. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2013, 727, 298-302.	4.1	61
45	Higgs scalar potential in asymptotically safe quantum gravity. Physical Review D, 2019, 99, .	4.7	59
46	Renormalisation group flows for gauge theories in axial gauges. Journal of High Energy Physics, 2002, 2002, 049-049.	4.7	57
47	Ultracold atoms and the Functional Renormalization Group. Nuclear Physics, Section B, Proceedings Supplements, 2012, 228, 63-135.	0.4	56
48	Baryon number fluctuations at finite temperature and density. Physical Review D, 2016, 94, .	4.7	55
49	How perturbative is quantum gravity?. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2019, 792, 310-314.	4.1	55
50	Predictive power of renormalisation group flows: a comparison. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2001, 516, 197-207.	4.1	54
51	Dynamics of critical fluctuations: Theory $\hat{=}$ phenomenology $\hat{=}$ heavy-ion collisions. Nuclear Physics A, 2020, 1003, 122016.	1.5	54
52	Perturbation theory and renormalization group equations. Physical Review D, 2002, 65, .	4.7	51
53	Large volume behaviour of Yang-Mills propagators. Annals of Physics, 2007, 322, 2916-2944.	2.8	48
54	Scaling solutions for dilaton quantum gravity. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2017, 769, 105-110.	4.1	46

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55	Stability of complex Langevin dynamics in effective models. Journal of High Energy Physics, 2013, 2013, 1.	4.7	45
56	Towards quantitative precision in the chiral crossover: Masses and fluctuation scales. Physical Review D, 2015, 91, .	4.7	45
57	Equation of state and phase diagram of strongly interacting matter. Nuclear Physics A, 2014, 931, 113-124.	1.5	43
58	Relevance of matter and glue dynamics for baryon number fluctuations. Physical Review D, 2015, 92, .	4.7	42
59	Physics and the choice of regulators in functional renormalisation group flows. Annals of Physics, 2017, 384, 165-197.	2.8	42
60	Quantum-improved Schwarzschild-(A)dS and Kerr-(A)dS spacetimes. Physical Review D, 2018, 98, .	4.7	41
61	Correlation functions of three-dimensional Yang-Mills theory from the FRG. , 2018, 5, .		41
62	Reconstructing the graviton. SciPost Physics, 2022, 12, .	4.9	41
63	Monopoles, Polyakov Loops, and Gauge Fixing on the Torus. Annals of Physics, 1998, 269, 26-50.	2.8	40
64	Far-from-equilibrium quantum many-body dynamics. European Physical Journal C, 2010, 70, 423-443.	3.9	39
65	Quantum Gravity: A Fluctuating Point of View. Frontiers in Physics, 2021, 8, .	2.1	38
66	Nonperturbative finite-temperature Yang-Mills theory. Physical Review D, 2018, 97, .	4.7	37
67	Fully coupled functional equations for the quark sector of QCD. Physical Review D, 2021, 103, .	4.7	34
68	ON WILSONIAN FLOWS IN GAUGE THEORIES. International Journal of Modern Physics A, 2001, 16, 2105-2110.	1.5	33
69	Chiral phase structure and critical end point in QCD. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2021, 820, 136584.	4.1	33
70	Hyper-order baryon number fluctuations at finite temperature and density. Physical Review D, 2021, 104, .	4.7	32
71	Exact renormalization group and $\hat{\Gamma}_l^1$ -derivable approximations. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2011, 696, 523-528.	4.1	31
72	Finite temperature spectral functions in the $\langle \text{mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"> \langle \text{mml:mrow}> \langle \text{mml:mi}> O \langle \text{mml:mi}> \langle \text{mml:mo} \text{stretchy="false"}> \langle \text{mml:mo}> \langle \text{mml:mi}> N \langle \text{mml:mi}> \langle \text{mml:mo}> \text{Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 47 Td (stretchy="false"> } \langle \text{mml:mo}>$	4.7	31

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73	Chiral susceptibility in ($\langle \text{mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"} \rangle$) Tj ETQq1 1 0.784314 rgBT /Overlock 10 Tf 5	4.7	31
74	Renormalization group consistency and low-energy effective theories. SciPost Physics, 2019, 6, .	4.9	29
75	Reconstructing QCD spectral functions with Gaussian processes. Physical Review D, 2022, 105, .	4.7	29
76	Phase structure of QCD for heavy quarks. Physical Review D, 2015, 91, .	4.7	28
77	Correlating the skewness and kurtosis of baryon number distributions. Physical Review D, 2016, 93, .	4.7	27
78	Hamiltonian flow in Coulomb gauge Yang-Mills theory. Physical Review D, 2011, 83, .	4.7	26
79	Spectral reconstruction with deep neural networks. Physical Review D, 2020, 102, .	4.7	26
80	Bayesian analysis of quark spectral properties from the Dyson-Schwinger equation. Physical Review D, 2018, 98, .	4.7	25
81	Critical temperature and superfluid gap of the unitary Fermi gas from functional renormalization. Physical Review A, 2014, 89, .	2.5	24
82	Bound state properties from the functional renormalization group. Physical Review D, 2019, 99, .	4.7	24
83	Anomalous scaling at nonthermal fixed points of Burgers' and Gross-Pitaevskii turbulence. Physical Review A, 2015, 92, .	2.5	23
84	Spectral functions in the $\langle \text{mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"} \rangle$ $\text{display="inline"} \langle \text{mml:msup} \langle \text{mml:mi} \rangle \bar{\Gamma} \langle \text{mml:mi} \rangle \langle \text{mml:mn} \rangle 4 \langle \text{mml:mn} \rangle \langle \text{mml:msup} \rangle \langle \text{mml:math} \rangle$ -theory from the spectral Dyson-Schwinger equations. Physical Review D, 2020, 102, .	4.7	23
85	Gluon condensation and scaling exponents for the propagators in Yang-Mills theory. Physical Review D, 2011, 83, .	4.7	22
86	Strangeness neutrality and QCD thermodynamics. , 2020, 2, .		21
87	Ghost spectral function from the spectral Dyson-Schwinger equation. Physical Review D, 2021, 104, .	4.7	21
88	Mass generation in Landau-gauge Yang-Mills theory. Physical Review D, 2021, 104, .	4.7	21
89	DoFun 3.0: Functional equations in mathematica. Computer Physics Communications, 2020, 248, 107058.	7.5	20
90	Thirring model at finite density in $0+1$ dimensions with stochastic quantization: Crosscheck with an exact solution. Physical Review D, 2013, 87, .	4.7	19

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91	Functional renormalization group in a finite volume. <i>Physical Review D</i> , 2015, 92, .	4.7	16
92	Sarma phase in relativistic and non-relativistic systems. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , 2015, 742, 86-93.	4.1	16
93	Finite-temperature gluon spectral functions from $N_f = 2 + 1 + 1$ lattice. <i>European Physical Journal C</i> , 2018, 78, 127.	3.9	16
94	Lattice Landau gauge with stochastic quantisation. <i>Nuclear Physics B</i> , 2010, 830, 291-314.	2.5	15
95	Strangeness neutrality and baryon-strangeness correlations. <i>Physical Review D</i> , 2019, 100, .	4.7	15
96	On gauge invariance and ward identities for the Wilsonian renormalisation group. <i>Nuclear Physics, Section B, Proceedings Supplements</i> , 1999, 74, 325-328.	0.4	14
97	Tan contact and universal high momentum behavior of the fermion propagator in the BCS-BEC crossover. <i>Physical Review A</i> , 2013, 87, .	2.5	14
98	Time-evolution of fluctuations as signal of the phase transition dynamics in a QCD-assisted transport approach. <i>Nuclear Physics A</i> , 2019, 982, 871-874.	1.5	14
99	Shocks and quark-meson scatterings at large density. <i>Physical Review D</i> , 2021, 104, .	4.7	14
100	Reweighting Lefschetz Thimbles. , 2018, 5, .		14
101	Constituents of doubly periodic instantons. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , 2002, 540, 153-158.	4.1	13
102	Universal gravitational-wave signatures from heavy new physics in the electroweak sector. <i>Journal of Cosmology and Astroparticle Physics</i> , 2021, 2021, 006.	5.4	13
103	Thirring model at finite density in $2+1$ dimensions with stochastic quantization. <i>Physical Review D</i> , 2013, 87, .	4.7	12
104	Yang-Mills propagators in linear covariant gauges from Nielsen identities. <i>Physical Review D</i> , 2021, 104, .	4.7	12
105	Error estimates and specification parameters for functional renormalization. <i>Annals of Physics</i> , 2013, 334, 83-99.	2.8	10
106	Functional renormalization group and 2PI effective action formalism. <i>Annals of Physics</i> , 2021, 431, 168549.	2.8	10
107	Functional flows in QED and the modified Ward-Takahashi identity. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2016, 49, 405401.	2.1	9
108	Partial bosonization for the two-dimensional Hubbard model. <i>Physical Review B</i> , 2020, 101, .	3.2	9

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109	Simulating Yang-Mills theories with a complex coupling. <i>Physical Review D</i> , 2021, 103, .	4.7	9
110	Flowing with the temporal renormalization group. <i>Physical Review D</i> , 2021, 104, .	4.7	9
111	Generalizing the Ginsparg-Wilson relation: Lattice supersymmetry from blocking transformations. <i>Physical Review D</i> , 2009, 79, .	4.7	8
112	Gauge-invariant condensation in the nonequilibrium quark-gluon plasma. <i>Physical Review D</i> , 2020, 102, .	4.7	8
113	Thermal dynamics on the lattice with exponentially improved accuracy. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , 2018, 778, 221-226.	4.1	7
114	Gravitational instantons and anomalous chiral symmetry breaking. <i>Physical Review D</i> , 2021, 103, .	4.7	7
115	Do instantons like a colorful background?. <i>European Physical Journal C</i> , 2007, 49, 997-1010.	3.9	6
116	On the Yang-Mills two-loop effective action with worldline methods. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , 2009, 677, 100-108.	4.1	6
117	Cooling stochastic quantization with colored noise. <i>Physical Review D</i> , 2017, 96, .	4.7	5
118	Thermalization and dynamical spectral properties in the quark-meson model. <i>Physical Review D</i> , 2020, 102, .	4.7	5
119	Spectral representation of the shear viscosity for local scalar QFTs at finite temperature. <i>Physical Review D</i> , 2021, 104, .	4.7	5
120	Spiking neuromorphic chip learns entangled quantum states. <i>SciPost Physics</i> , 2022, 12, .	4.9	5
121	Blocking-inspired supersymmetric actions: A status report. <i>Physical Review D</i> , 2013, 87, .	4.7	4
122	Dimensional crossover in ultracold Fermi gases from functional renormalization. <i>Physical Review A</i> , 2021, 103, .	2.5	4
123	Doubly periodic instanton zero modes. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , 2005, 626, 139-146.	4.1	3
124	Discrete Langevin machine: Bridging the gap between thermodynamic and neuromorphic systems. <i>Physical Review E</i> , 2020, 101, 063304.	2.1	3
125	Phase structure of (T_j ETQq1 1 0.784314 rgBT /Overlock 10 Tf 50	4.7	3
126	Monte Carlo sampling of complex actions in extended state spaces. <i>Physical Review E</i> , 2022, 105, 045315.	2.1	1

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127	Exploring the Tan contact term in Yang-Mills theory. Physical Review D, 2021, 103, .	4.7	0
128	Studying mass generation for gluons. SciPost Physics Proceedings, 2022, , .	0.4	0