

# Emanuel C Gull

## List of Publications by Year in descending order

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117  
papers

7,854  
citations

57631

44  
h-index

49773

87  
g-index

122  
all docs

122  
docs citations

122  
times ranked

3925  
citing authors

#	ARTICLE	IF	CITATIONS
1	The Hubbard Model: A Computational Perspective. Annual Review of Condensed Matter Physics, 2022, 13, 275-302.	5.2	109
2	Phase transitions in partial summation methods: Results from the three-dimensional Hubbard model. Physical Review B, 2022, 105, .	1.1	6
3	Kondo cloud in a one-dimensional nanowire. Physical Review B, 2022, 105, .	1.1	4
4	Interaction-expansion inchworm Monte Carlo solver for lattice and impurity models. Physical Review B, 2022, 105, .	1.1	5
5	Nevanlinna Analytical Continuation. Physical Review Letters, 2021, 126, 056402.	2.9	43
6	Revealing strong correlations in higher-order transport statistics: A noncrossing approximation approach. Physical Review B, 2021, 103, .	1.1	11
7	Electron correlations in the cubic paramagnetic perovskite $\text{SrTiO}_3$ : Results from fully self-consistent self-energy embedding calculations. Physical Review B, 2021, 103, .	1.1	13
8	Material-Specific Optimization of Gaussian Basis Sets against Plane Wave Data. Journal of Chemical Theory and Computation, 2021, 17, 5611-5622.	2.3	6
9	Dynamical cluster approximation study of electron localization in the extended Hubbard model. Physical Review B, 2021, 104, .	1.1	7
10	Analytical continuation of matrix-valued functions: Carathéodory formalism. Physical Review B, 2021, 104, .	1.1	31
11	Efficient implementation of the continuous-time interaction-expansion quantum Monte Carlo method. Computer Physics Communications, 2020, 252, 106826.	3.0	4
12	<i>Ab initio</i> self-energy embedding for the photoemission spectra of NiO and MnO. Physical Review B, 2020, 102, .	1.1	31
13	Dynamic control of nonequilibrium metal-insulator transitions. Physical Review B, 2020, 102, .	1.1	6
14	Short-range charge fluctuations in the two-dimensional Hubbard model. Physical Review B, 2020, 101, .	1.1	7
15	Multiorbital Quantum Impurity Solver for General Interactions and Hybridizations. Physical Review Letters, 2020, 124, 206405.	2.9	19
16	Sparse sampling approach to efficient <i>ab initio</i> calculations at finite temperature. Physical Review B, 2020, 101, .	1.1	53
17	Direct Comparison of Many-Body Methods for Realistic Electronic Hamiltonians. Physical Review X, 2020, 10, .	2.8	68
18	Legendre-spectral Dyson equation solver with super-exponential convergence. Journal of Chemical Physics, 2020, 152, 134107.	1.2	19

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19	Magnetic and charge susceptibilities in the half-filled triangular lattice Hubbard model. Physical Review Research, 2020, 2, .	1.3	18
20	Ferromagnetic spin correlations in the two-dimensional Hubbard model. Physical Review Research, 2020, 2, .	1.3	8
21	Diagrammatic Monte Carlo method for impurity models with general interactions and hybridizations. Physical Review Research, 2020, 2, .	1.3	9
22	Slope invariant $\langle \text{mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"> \langle \text{mml:mi>T</mml:mi> \langle \text{mml:math> -linear resistivity from local self-energy. Physical Review Research, 2020, 2, .$	1.3	26
23	Sparse sampling and tensor network representation of two-particle Green's functions. SciPost Physics, 2020, 8, .	1.5	15
24	Magnetic susceptibility and simulated neutron signal in the two-dimensional Hubbard model. Physical Review B, 2019, 100, .	1.1	16
25	Lead geometry and transport statistics in molecular junctions. Journal of Chemical Physics, 2019, 150, 244107.	1.2	20
26	Effect of propagator renormalization on the band gap of insulating solids. Physical Review B, 2019, 100, .	1.1	19
27	Charge order and antiferromagnetism in the extended Hubbard model. Physical Review B, 2019, 99, .	1.1	24
28	Numerically exact full counting statistics of the energy current in the Kondo regime. Physical Review B, 2019, 100, .	1.1	19
29	Implementation of the bin hierarchy method for restoring a smooth function from a sampled histogram. Computer Physics Communications, 2019, 236, 205-213.	3.0	1
30	Dynamics of Kondo voltage splitting after a quantum quench. Physical Review B, 2019, 100, .	1.1	28
31	Dynamical charge susceptibility in the Hubbard model. Physical Review B, 2019, 100, .	1.1	14
32	Numerically exact full counting statistics of the nonequilibrium Anderson impurity model. Physical Review B, 2018, 97, .	1.1	42
33	Charge ordering and nonlocal correlations in the doped extended Hubbard model. Physical Review B, 2018, 97, .	1.1	19
34	Momentum-space cluster dual-fermion method. Physical Review B, 2018, 97, .	1.1	10
35	Inclusion-exclusion principle for many-body diagrammatics. Physical Review B, 2018, 98, .	1.1	24
36	Overcomplete compact representation of two-particle Green's functions. Physical Review B, 2018, 97, .	1.1	26

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37	Chebyshev polynomial representation of imaginary-time response functions. <i>Physical Review B</i> , 2018, 98, .	1.1	32
38	Updated core libraries of the ALPS project. <i>Computer Physics Communications</i> , 2017, 213, 235-251.	3.0	71
39	Continuous-time hybridization expansion quantum impurity solver for multi-orbital systems with complex hybridizations. <i>Computer Physics Communications</i> , 2017, 215, 128-136.	3.0	29
40	Currents and Green's functions of impurities out of equilibrium: Results from inchworm quantum Monte Carlo. <i>Physical Review B</i> , 2017, 95, .	1.1	36
41	Implementation of the maximum entropy method for analytic continuation. <i>Computer Physics Communications</i> , 2017, 215, 149-155.	3.0	69
42	Charge ordering and correlation effects in the extended Hubbard model. <i>Physical Review B</i> , 2017, 95, .	1.1	47
43	Simulation of the NMR response in the pseudogap regime of the cuprates. <i>Nature Communications</i> , 2017, 8, 14986.	5.8	26
44	Towards the Solution of the Many-Electron Problem in Real Materials: Equation of State of the Hydrogen Chain with State-of-the-Art Many-Body Methods. <i>Physical Review X</i> , 2017, 7, .	2.8	171
45	Testing self-energy embedding theory in combination with GW. <i>Physical Review B</i> , 2017, 96, .	1.1	22
46	Quantum Monte Carlo solution of the dynamical mean field equations in real time. <i>Physical Review B</i> , 2017, 96, .	1.1	26
47	Finite temperature quantum embedding theories for correlated systems. <i>New Journal of Physics</i> , 2017, 19, 023047.	1.2	63
48	Hypothesis testing of scientific Monte Carlo calculations. <i>Physical Review E</i> , 2017, 96, 053303.	0.8	2
49	Role of three-particle vertex within dual fermion calculations. <i>Physical Review B</i> , 2017, 96, .	1.1	24
50	Thermodynamics of the Hubbard model on stacked honeycomb and square lattices. <i>European Physical Journal B</i> , 2016, 89, 1.	0.6	1
51	Voltage Quench Dynamics of a Kondo System. <i>Physical Review Letters</i> , 2016, 116, 036801.	2.9	33
52	Diagrammatic Monte Carlo for dual fermions. <i>Physical Review B</i> , 2016, 94, .	1.1	36
53	Efficient Temperature-Dependent Green's Function Methods for Realistic Systems: Using Cubic Spline Interpolation to Approximate Matsubara Green's Functions. <i>Journal of Chemical Theory and Computation</i> , 2016, 12, 2250-2259.	2.3	30
54	Opendf - An Implementation of the Dual Fermion Method for Strongly Correlated Systems. <i>Physics Procedia</i> , 2015, 68, 43-51.	1.2	15

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55	Mechanisms of finite-temperature magnetism in the three-dimensional Hubbard model. Physical Review B, 2015, 92, .	1.1	50
56	Continuous-time quantum Monte Carlo using worm sampling. Physical Review B, 2015, 92, .	1.1	43
57	Taming the Dynamical Sign Problem in Real-Time Evolution of Quantum Many-Body Problems. Physical Review Letters, 2015, 115, 266802.	2.9	138
58	Systematically improvable multiscale solver for correlated electron systems. Physical Review B, 2015, 91, .	1.1	77
59	Superconducting Fluctuations in the Normal State of the Two-Dimensional Hubbard Model. Physical Review Letters, 2015, 115, 116402.	2.9	37
60	Solutions of the Two-Dimensional Hubbard Model: Benchmarks and Results from a Wide Range of Numerical Algorithms. Physical Review X, 2015, 5, .	2.8	398
61	Quasiparticle properties of the superconducting state of the two-dimensional Hubbard model. Physical Review B, 2015, 91, .	1.1	35
62	Fluctuation Diagnostics of the Electron Self-Energy: Origin of the Pseudogap Physics. Physical Review Letters, 2015, 114, 236402.	2.9	95
63	Numerical models come of age. Nature Physics, 2015, 11, 808-810.	6.5	12
64	Thermodynamics and Magnetic Properties of the Anisotropic 3D Hubbard Model. Physical Review Letters, 2014, 112, 115301.	2.9	33
65	Green's Functions from Real-Time Bold-Line Monte Carlo Calculations: Spectral Properties of the Nonequilibrium Anderson Impurity Model. Physical Review Letters, 2014, 112, 146802.	2.9	80
66	Pairing glue in the two-dimensional Hubbard model. Physical Review B, 2014, 90, .	1.1	33
67	Comparative DMFT study of the Hubbard model in thin films. Physical Review B, 2014, 89, .		
68	Green's functions from real-time bold-line Monte Carlo. Physical Review B, 2014, 89, .	1.1	51
69	Critical Exponents of Strongly Correlated Fermion Systems from Diagrammatic Multiscale Methods. Physical Review Letters, 2014, 112, 226401.	2.9	46
70	Equation of state of the fermionic two-dimensional Hubbard model. Physical Review B, 2013, 88, .	1.1	45
71	Efficient implementation of the continuous-time hybridization expansion quantum impurity solver. Computer Physics Communications, 2013, 184, 1280-1286.	3.0	61
72	Fermionic and Continuous Time Quantum Monte Carlo. Springer Series in Solid-state Sciences, 2013, , 293-319.	0.3	0

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73	Sum rule violation in self-consistent hybridization expansions. Physical Review B, 2013, 87, .	1.1	15
74	Superconductivity and the Pseudogap in the Two-Dimensional Hubbard Model. Physical Review Letters, 2013, 110, 216405.	2.9	232
75	Numerically exact long-time magnetization dynamics at the nonequilibrium Kondo crossover of the Anderson impurity model. Physical Review B, 2013, 87, .	1.1	111
76	Superconducting and pseudogap effects on the interplane conductivity and Raman scattering cross section in the two-dimensional Hubbard model. Physical Review B, 2013, 88, .	1.1	18
77	Truncated configuration interaction expansions as solvers for correlated quantum impurity models and dynamical mean-field theory. Physical Review B, 2012, 86, .	1.1	107
78	Two-Particle Response in Cluster Dynamical Mean-Field Theory: Formalism and Application to the Raman Response of High-Temperature Superconductors. Physical Review Letters, 2012, 109, 106401.	2.9	37
79	Magnetic susceptibility of cerium: An LDA $\langle \text{mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline">+ \langle \text{mml:mo} \rangle + \langle \text{mml:mo} \rangle \langle \text{mml:math} \rangle$ DMFT study. Physical Review B, 2012, 85, .	1.1	16
80	Energetics of superconductivity in the two-dimensional Hubbard model. Physical Review B, 2012, 86, .	1.1	64
81	The ALPS project release 2.0: open source software for strongly correlated systems. Journal of Statistical Mechanics: Theory and Experiment, 2011, 2011, P05001.	0.9	528
82	Continuous-time Monte Carlo methods for quantum impurity models. Reviews of Modern Physics, 2011, 83, 349-404.	16.4	1,185
83	Continuous-time quantum Monte Carlo impurity solvers. Computer Physics Communications, 2011, 182, 1078-1082.	3.0	48
84	Dynamical mean-field theory for bosons. New Journal of Physics, 2011, 13, 075013.	1.2	50
85	Impurity effects in highly frustrated diamond-lattice antiferromagnets. Physical Review B, 2011, 84, .	1.1	33
86	Numerically exact long-time behavior of nonequilibrium quantum impurity models. Physical Review B, 2011, 84, .	1.1	55
87	Spectral properties of the three-dimensional Hubbard model. Physical Review B, 2011, 83, .	1.1	39
88	Thermodynamics of the 3D Hubbard Model on Approaching the Néel Transition. Physical Review Letters, 2011, 106, 030401.	2.9	99
89	Submatrix updates for the continuous-time auxiliary-field algorithm. Physical Review B, 2011, 83, .	1.1	76
90	Charge and spin criticality for the continuous Mott transition in a two-dimensional organic conductor. Physical Review B, 2011, 84, .	1.1	14

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91	Superconducting Phase and Pairing Fluctuations in the Half-Filled Two-Dimensional Hubbard Model. Physical Review Letters, 2011, 107, 126401.	2.9	28
92	Continuous-time quantum impurity solvers. Physics Procedia, 2010, 6, 31-34.	1.2	2
93	Quenched dynamics in interacting one-dimensional systems: Appearance of current-carrying steady states from initial domain wall density profiles. Physical Review B, 2010, 82, .	1.1	20
94	Physics of the pseudogap in eight-site cluster dynamical mean-field theory: Photoemission, Raman scattering, and in-plane and $c$ -axis conductivity. Physical Review B, 2010, 82, .	1.1	54
95	Bold-line diagrammatic Monte Carlo method: General formulation and application to expansion around the noncrossing approximation. Physical Review B, 2010, 82, .	1.1	64
96	Theory of charged impurities in correlated electron materials: Application to muon spectroscopy of high- $T_c$ superconductors. Physical Review B, 2010, 81, .	1.1	81
97	Diagrammatic Monte Carlo for correlated fermions. Europhysics Letters, 2010, 90, 10004.	0.7	107
98	Optimized broad-histogram simulations for strong first-order phase transitions: droplet transitions in the large- $Q$ Potts model. Journal of Statistical Mechanics: Theory and Experiment, 2010, 2010, P01020.	0.9	9
99	Dynamical Mean Field Solution of the Bose-Hubbard Model. Physical Review Letters, 2010, 105, 096402.	2.9	67
100	Momentum-space anisotropy and pseudogaps: A comparative cluster dynamical mean-field analysis of the doping-driven metal-insulator transition in the two-dimensional Hubbard model. Physical Review B, 2010, 82, .	1.1	143
101	Momentum-selective metal-insulator transition in the two-dimensional Hubbard model: An 8-site dynamical cluster approximation study. Physical Review B, 2009, 80, .	1.1	78
102	Momentum-sector-selective metal-insulator transition in the eight-site dynamical mean-field approximation to the Hubbard model in two dimensions. Physical Review B, 2009, 80, .	1.1	98
103	Optical conductivity from cluster dynamical mean-field theory: Formalism and application to high-temperature superconductors. Physical Review B, 2009, 80, .	1.1	40
104	Antiferromagnetism and the gap of a Mott insulator: Results from analytic continuation of the self-energy. Physical Review B, 2009, 80, .	1.1	72
105	Metal-insulator phase diagram and orbital selectivity in three-orbital models with rotationally invariant Hund coupling. Physical Review B, 2009, 79, .	1.1	83
106	Ensemble Optimization Techniques for the Simulation of Slowly Equilibrating Systems. Springer Proceedings in Physics, 2009, , 33-47.	0.1	0
107	Continuous-time auxiliary-field Monte Carlo for quantum impurity models. Europhysics Letters, 2008, 82, 57003.	0.7	215
108	Spin Freezing Transition and Non-Fermi-Liquid Self-Energy in a Three-Orbital Model. Physical Review Letters, 2008, 101, 166405.	2.9	214

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109	Local order and the gapped phase of the Hubbard model: A plaquette dynamical mean-field investigation. <i>Europhysics Letters</i> , 2008, 84, 37009.	0.7	89
110	Strong-coupling phases of frustrated bosons on a two-leg ladder with ring exchange. <i>Physical Review B</i> , 2008, 78, .	1.1	40
111	Optimized broad-histogram ensembles for the simulation of quantum systems. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2007, 2007, P12005-P12005.	0.9	11
112	Performance analysis of continuous-time solvers for quantum impurity models. <i>Physical Review B</i> , 2007, 76, .	1.1	57
113	The ALPS project release 1.3: Open-source software for strongly correlated systems. <i>Journal of Magnetism and Magnetic Materials</i> , 2007, 310, 1187-1193.	1.0	623
114	Order-by-disorder and spiral spin-liquid in frustrated diamond-lattice antiferromagnets. <i>Nature Physics</i> , 2007, 3, 487-491.	6.5	202
115	Gaussian Quantum Monte Carlo methods with symmetry projection. <i>AIP Conference Proceedings</i> , 2006, , .	0.3	2
116	Optimized ensemble Monte Carlo simulations of dense Lennard-Jones fluids. <i>Journal of Chemical Physics</i> , 2005, 123, 204501.	1.2	18
117	Symmetry projection schemes for Gaussian Monte Carlo methods. <i>Physical Review B</i> , 2005, 72, .	1.1	29