

# Richard Paul Woodard

## List of Publications by Year in descending order

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131  
papers

7,123  
citations

53794

45  
h-index

58581

82  
g-index

131  
all docs

131  
docs citations

131  
times ranked

2047  
citing authors

#	ARTICLE	IF	CITATIONS
1	Avoiding Dark Energy with $1/R$ Modifications of Gravity. Lecture Notes in Physics, 2007, , 403-433.	0.7	432
2	Ostrogradsky's theorem on Hamiltonian instability. Scholarpedia Journal, 2015, 10, 32243.	0.3	373
3	Nonlocal Cosmology. Physical Review Letters, 2007, 99, 111301.	7.8	322
4	Super-acceleration from massless, minimally coupled $\phi^4$ . Classical and Quantum Gravity, 2002, 19, 4607-4626.	4.0	310
5	Quantum gravity slows inflation. Nuclear Physics B, 1996, 474, 235-248.	2.5	261
6	The problem of nonlocality in string theory. Nuclear Physics B, 1989, 325, 389-469.	2.5	246
7	The Quantum Gravitational Back-Reaction on Inflation. Annals of Physics, 1997, 253, 1-54.	2.8	237
8	Stochastic quantum gravitational inflation. Nuclear Physics B, 2005, 724, 295-328.	2.5	198
9	The structure of perturbative quantum gravity on a de Sitter background. Communications in Mathematical Physics, 1994, 162, 217-248.	2.2	164
10	Relaxing the cosmological constant. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 1993, 301, 351-357.	4.1	155
11	Stochastic inflationary scalar electrodynamics. Annals of Physics, 2008, 323, 1324-1360.	2.8	148
12	Letter: The Force of Gravity from a Lagrangian Containing Inverse Powers of the Ricci Scalar. General Relativity and Gravitation, 2004, 36, 855-862.	2.0	142
13	Strong Infrared Effects in Quantum Gravity. Annals of Physics, 1995, 238, 1-82.	2.8	141
14	Leading log solution for inflationary Yukawa theory. Physical Review D, 2006, 74, .	4.7	127
15	Photon Mass from Inflation. Physical Review Letters, 2002, 89, 101301.	7.8	125
16	GW170817 falsifies dark matter emulators. Physical Review D, 2018, 97, .	4.7	120
17	One loop vacuum polarization in a locally de Sitter background. Annals of Physics, 2003, 303, 251-274.	2.8	104
18	The fermion self-energy during inflation. Classical and Quantum Gravity, 2006, 23, 1721-1761.	4.0	101

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19	Reconstructing the distortion function for nonlocal cosmology. <i>Journal of Cosmology and Astroparticle Physics</i> , 2009, 2009, 023-023.	5.4	101
20	Nonlocal regularizations of gauge theories. <i>Physical Review D</i> , 1991, 43, 499-519.	4.7	99
21	Nonlocal Models of Cosmic Acceleration. <i>Foundations of Physics</i> , 2014, 44, 213-233.	1.3	96
22	The physical basis for infra-red divergences in inflationary quantum gravity. <i>Classical and Quantum Gravity</i> , 1994, 11, 2969-2989.	4.0	93
23	Observational viability and stability of nonlocal cosmology. <i>Journal of Cosmology and Astroparticle Physics</i> , 2013, 2013, 036-036.	5.4	92
24	A nonlocal metric formulation of MOND. <i>Classical and Quantum Gravity</i> , 2003, 20, 2737-2751.	4.0	82
25	Production of massless fermions during inflation. <i>Journal of High Energy Physics</i> , 2003, 2003, 059-059.	4.7	80
26	Nonperturbative Models for the Quantum Gravitational Back-Reaction on Inflation. <i>Annals of Physics</i> , 1998, 267, 145-192.	2.8	76
27	A Leading Log Approximation for Inflationary Quantum Field Theory. <i>Nuclear Physics, Section B, Proceedings Supplements</i> , 2005, 148, 108-119.	0.4	70
28	Perturbative quantum gravity comes of age. <i>International Journal of Modern Physics D</i> , 2014, 23, 1430020.	2.1	67
29	Nonlocal metric formulations of modified Newtonian dynamics with sufficient lensing. <i>Physical Review D</i> , 2011, 84, .	4.7	66
30	Dynamics of superhorizon photons during inflation with vacuum polarization. <i>Annals of Physics</i> , 2004, 312, 1-16.	2.8	65
31	Vacuum polarization and photon mass in inflation. <i>American Journal of Physics</i> , 2004, 72, 60-72.	0.7	65
32	Infrared propagator corrections for constant deceleration. <i>Classical and Quantum Gravity</i> , 2008, 25, 245013.	4.0	64
33	Nonlocal Yang-Mills. <i>Nuclear Physics B</i> , 1992, 388, 81-112.	2.5	61
34	Quantum gravity corrections to the one loop scalar self-mass during inflation. <i>Physical Review D</i> , 2007, 76, .	4.7	60
35	Charged scalar self-mass during inflation. <i>Physical Review D</i> , 2005, 72, .	4.7	57
36	Stress tensor correlators in the Schwinger-Keldysh formalism. <i>Classical and Quantum Gravity</i> , 2005, 22, 1637-1645.	4.0	56

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37	The $\langle \text{mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si1.gif" overflow="scroll" \rangle \langle \text{mml:mi} \rangle \langle \text{mml:mi} \rangle \langle \text{mml:mtext} \rangle \hat{\epsilon} \langle \text{mml:mtext} \rangle \langle \text{mml:mi} \rangle \langle \text{mml:mi} \rangle \langle \text{mml:math} \rangle$ correlator is time dependent. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2010, 694, 101-107.	4.1	55
38	Two loop stress-energy tensor for inflationary scalar electrodynamics. Physical Review D, 2008, 78, .	4.7	54
39	A simple operator check of the effective fermion mode function during inflation. Classical and Quantum Gravity, 2008, 25, 145009.	4.0	53
40	Dimensionally regulated graviton 1-point function in de Sitter. Annals of Physics, 2006, 321, 875-893.	2.8	51
41	The graviton propagator in de Donder gauge on de Sitter background. Journal of Mathematical Physics, 2011, 52, .	1.1	51
42	Scalar field equations from quantum gravity during inflation. Physical Review D, 2008, 77, .	4.7	50
43	Physical Green's functions in quantum gravity. Annals of Physics, 1992, 215, 96-155.	2.8	47
44	Mode analysis and Ward identities for perturbative quantum gravity in de Sitter space. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 1992, 292, 269-276.	4.1	45
45	Precision predictions for the primordial power spectra from f(R) models of inflation. Nuclear Physics B, 2016, 911, 318-337.	2.5	45
46	Gauging away physics. Classical and Quantum Gravity, 2011, 28, 245013.	4.0	43
47	Perils of analytic continuation. Physical Review D, 2014, 89, .	4.7	42
48	A generic problem with purely metric formulations of MOND. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2004, 578, 253-258.	4.1	40
49	Canonical formalism for Lagrangians with nonlocality of finite extent. Physical Review A, 2000, 62, .	2.5	39
50	The factor-ordering problem must be regulated. Physical Review D, 1987, 36, 3641-3650.	4.7	37
51	Perturbative quantum gravity and Newton's law on a flat Robertson-Walker background. Nuclear Physics B, 1998, 534, 419-446.	2.5	37
52	A generic test of modified gravity models which emulate dark matter. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2007, 652, 213-216.	4.1	37
53	Graviton propagator in a general invariant gauge on de Sitter. Journal of Mathematical Physics, 2012, 53, .	1.1	37
54	Enforcing the Wheeler-DeWitt constraint the easy way. Classical and Quantum Gravity, 1993, 10, 483-496.	4.0	36

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55	Transforming to Lorentz gauge on de Sitter. <i>Journal of Mathematical Physics</i> , 2009, 50, .	1.1	35
56	Weyl-Weyl correlator in de Donder gauge on de Sitter space. <i>Physical Review D</i> , 2012, 86, .	4.7	35
57	Linearized Weyl-Weyl correlator in a de Sitter breaking gauge. <i>Physical Review D</i> , 2012, 85, .	4.7	35
58	The vierbein is irrelevant in perturbation theory. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , 1984, 148, 440-444.	4.1	34
59	Two Loop Calculations Using Nonlocal Regularization. <i>Annals of Physics</i> , 1993, 221, 106-164.	2.8	33
60	Reduced time delay for gravitational waves with dark matter emulators. <i>Physical Review D</i> , 2008, 77, .	4.7	33
61	Issues concerning loop corrections to the primordial power spectra. <i>Journal of Cosmology and Astroparticle Physics</i> , 2012, 2012, 008-008.	5.4	33
62	Quantum gravity: A brief history of ideas and some prospects. <i>International Journal of Modern Physics D</i> , 2015, 24, 1530028.	2.1	33
63	Electrodynamic effects of inflationary gravitons. <i>Classical and Quantum Gravity</i> , 2014, 31, 175002.	4.0	32
64	Pair creation and axial anomaly in light-cone QED2. <i>Journal of High Energy Physics</i> , 2001, 2001, 008-008.	4.7	31
65	Scalar contribution to the graviton self-energy during inflation. <i>Physical Review D</i> , 2011, 83, .	4.7	29
66	Cosmology Is Not a Renormalization Group Flow. <i>Physical Review Letters</i> , 2008, 101, 081301.	7.8	28
67	Matter contributions to the expansion rate of the universe. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , 1998, 426, 21-28.	4.1	27
68	The one loop effective action of QED for a general class of electric fields. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , 2002, 524, 233-239.	4.1	27
69	A GRAVITATIONAL MECHANISM FOR COSMOLOGICAL SCREENING. <i>International Journal of Modern Physics D</i> , 2011, 20, 2847-2851.	2.1	27
70	A caveat on building nonlocal models of cosmology. <i>Journal of Cosmology and Astroparticle Physics</i> , 2014, 2014, 008-008.	5.4	27
71	Excitation of photons by inflationary gravitons. <i>Physical Review D</i> , 2015, 91, .	4.7	27
72	Quantum scalar corrections to the gravitational potentials on de Sitter background. <i>Journal of High Energy Physics</i> , 2016, 2016, 1.	4.7	27

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73	Nonlocal cosmology II. Cosmic acceleration without fine tuning or dark energy. Journal of Cosmology and Astroparticle Physics, 2019, 2019, 034-034.	5.4	27
74	The Hubble effective potential. Journal of Cosmology and Astroparticle Physics, 2009, 2009, 003-003.	5.4	26
75	Quantum stress tensor fluctuations of a conformal field and inflationary cosmology. Physical Review D, 2010, 82, .	4.7	26
76	Graviton corrections to Maxwell's equations. Physical Review D, 2012, 85, .	4.7	26
77	New Exact Solutions for the Purely Cubic Bosonic String Field Theory. Physical Review Letters, 1988, 60, 261-264.	7.8	25
78	Closed from open strings in Witten's theory. Nuclear Physics B, 1987, 293, 612-684.	2.5	23
79	No new physics in conformal scalar-metric theory. Annals of Physics, 1986, 168, 457-483.	2.8	22
80	Determining cosmology for a nonlocal realization of MOND. Physical Review D, 2016, 94, .	4.7	22
81	Plane waves in a general Robertson-Walker background. Classical and Quantum Gravity, 2003, 20, 5205-5223.	4.0	21
82	Inflationary scalars do not affect gravitons at one loop. Physical Review D, 2011, 84, .	4.7	21
83	Hartree approximation to the one loop quantum gravitational correction to the graviton mode function on de Sitter. Journal of Cosmology and Astroparticle Physics, 2013, 2013, 018-018.	5.4	20
84	Field equations and cosmology for a class of nonlocal metric models of MOND. Physical Review D, 2014, 90, .	4.7	19
85	Deducing cosmological observables from the $S$ matrix. Physical Review D, 2017, 96, .	4.7	19
86	The Case for Nonlocal Modifications of Gravity. Universe, 2018, 4, 88.	2.5	19
87	Covariant vacuum polarizations on de Sitter background. Physical Review D, 2013, 87, .	4.7	18
88	One-loop quantum electrodynamic correction to the gravitational potentials on de Sitter spacetime. Physical Review D, 2015, 92, .	4.7	18
89	Cosmological Density Perturbations from a Quantum Gravitational Model of Inflation. Fortschritte Der Physik, 1999, 47, 389-400.	4.4	17
90	Nonlocal metric realizations of MOND. Canadian Journal of Physics, 2015, 93, 242-249.	1.1	17

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91	Computing the primordial power spectra directly. <i>Journal of Cosmology and Astroparticle Physics</i> , 2012, 2012, 029-029.	5.4	16
92	Representing the vacuum polarization on de Sitter. <i>Journal of Mathematical Physics</i> , 2013, 54, .	1.1	16
93	Fine tuning may not be enough. <i>Journal of Cosmology and Astroparticle Physics</i> , 2015, 2015, 022-022.	5.4	16
94	Precision predictions for the primordial power spectra of scalar potential models of inflation. <i>Physical Review D</i> , 2016, 93, .	4.7	16
95	Invariant measure of the one-loop quantum gravitational backreaction on inflation. <i>Physical Review D</i> , 2017, 95, .	4.7	14
96	Cosmological Coleman-Weinberg potentials and inflation. <i>Physical Review D</i> , 2019, 99, .	4.7	14
97	A supersymmetric regulator. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , 1991, 253, 331-334.	4.1	12
98	Some inconvenient truths. <i>Journal of High Energy Physics</i> , 2016, 2016, 1.	4.7	12
99	Scalar enhancement of the photon electric field by the tail of the graviton propagator. <i>Physical Review D</i> , 2018, 98, .	4.7	12
100	A world-sheet regularization for Witten's string field theory. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , 1987, 196, 55-59.	4.1	11
101	Inferring closed string field theory from the on-shell effective action. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , 1988, 213, 144-151.	4.1	11
102	One loop field strengths of charges and dipoles on a locally de Sitter background. <i>European Physical Journal C</i> , 2013, 73, 1.	3.9	10
103	Structure formation in nonlocal MOND. <i>Journal of Cosmology and Astroparticle Physics</i> , 2018, 2018, 037-037.	5.4	10
104	Stochastic samples versus vacuum expectation values in cosmology. <i>Journal of Cosmology and Astroparticle Physics</i> , 2010, 2010, 016-016.	5.4	9
105	Representing the graviton self-energy on de Sitter background. <i>Physical Review D</i> , 2014, 90, .	4.7	9
106	Ricci subtraction for cosmological Coleman-Weinberg potentials. <i>Physical Review D</i> , 2019, 100, .	4.7	9
107	Single graviton loop contribution to the self-mass of a massless, conformally coupled scalar on a de Sitter background. <i>Physical Review D</i> , 2020, 101, .	4.7	9
108	How Inflationary Gravitons Affect the Force of Gravity. <i>Universe</i> , 2022, 8, 376.	2.5	9

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109	Cosmology with a long range repulsive force. <i>Physical Review D</i> , 2002, 65, .	4.7	8
110	Graviton propagator in a 2-parameter family of de Sitter breaking gauges. <i>Journal of High Energy Physics</i> , 2019, 2019, 1.	4.7	8
111	Bose-Weinberg cancellation of cosmological Coleman-Weinberg potentials. <i>Classical and Quantum Gravity</i> , 2020, 37, 165007.	4.0	8
112	Analytic approximation for the primordial spectra of single scalar potential models and its use in their reconstruction. <i>Physical Review D</i> , 2017, 96, .	4.7	7
113	Exciting the scalar ghost mode through time evolution. <i>Physical Review D</i> , 2019, 99, .	4.7	7
114	Inflaton effective potential for general $\langle m \rangle$ . <i>Physical Review D</i> , 2020, 102, .	4.7	7
115	Inflaton effective potential from photons for general $\langle m \rangle$ . <i>Physical Review D</i> , 2021, 103, .	4.7	7
116	Resolving the $p = 0$ ambiguity in a homogeneous electric background. <i>Nuclear Physics, Section B, Proceedings Supplements</i> , 2002, 108, 165-169.	0.4	6
117	The volume of the past light-cone and the Paneitz operator. <i>General Relativity and Gravitation</i> , 2010, 42, 2765-2783.	2.0	6
118	Improved cosmological model. <i>Physical Review D</i> , 2016, 94, .	4.7	6
119	From non-trivial geometries to power spectra and vice versa. <i>Journal of Cosmology and Astroparticle Physics</i> , 2018, 2018, 003-003.	5.4	6
120	Effect of features on the functional form of the scalar power spectrum. <i>Physical Review D</i> , 2016, 94, .	4.7	5
121	Breaking of scaling symmetry by massless scalar on de Sitter. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , 2019, 798, 134944.	4.1	5
122	Graviton self-energy from gravitons in cosmology*. <i>Classical and Quantum Gravity</i> , 2021, 38, 145024.	4.0	5
123	Inflaton effective potential from fermions for general $\langle m \rangle$ . <i>Physical Review D</i> , 2021, 103, .	4.7	5
124	Cosmological Density Perturbations from a Quantum Gravitational Model of Inflation. <i>Fortschritte Der Physik</i> , 1999, 47, 389-400.	4.4	4
125	A newtonian model for the quantum gravitational back-reaction on inflation. <i>Nuclear Physics, Section B, Proceedings Supplements</i> , 2002, 104, 173-176.	0.4	3
126	Improving the single scalar consistency relation. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , 2017, 773, 225-230.	4.1	3



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127	Non-Gaussianity from features in the power spectrum. Physical Review D, 2019, 100, .	4.7	3
128	One-loop graviton corrections to conformal scalars on a de Sitter background. Physical Review D, 2021, 103, .	4.7	3
129	Quantum gravity: A brief history of ideas and some prospects. , 2017, , 325-347.		2
130	The light-cone gauge $M\hat{a}^i$ generator and invariant string field theory. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 1986, 176, 387-390.	4.1	0
131	Cosmology With a Long-Range Repulsive Force. , 2002, , 322-329.		0