

# Volker Koch

## List of Publications by Year in descending order

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120  
papers

5,027  
citations

76326

40  
h-index

95266

68  
g-index

121  
all docs

121  
docs citations

121  
times ranked

1921  
citing authors

#	ARTICLE	IF	CITATIONS
1	The BEST framework for the search for the QCD critical point and the chiral magnetic effect. Nuclear Physics A, 2022, 1017, 122343.	1.5	51
2	Proton number cumulants and correlation functions in Au-Au collisions at $\sqrt{s_{NN}}=200$ GeV from hydrodynamics. Physical Review C, 2022, 105, .	2.9	20
3	Net-particle number fluctuations in a hydrodynamic description of heavy-ion collisions. EPJ Web of Conferences, 2022, 259, 10011.	0.3	0
4	Constraining baryon annihilation in the hadronic phase of heavy-ion collisions via event-by-event fluctuations. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2022, 827, 136983.	4.1	10
5	Critical point particle number fluctuations from molecular dynamics. Physical Review C, 2022, 105, .	2.9	9
6	The QCD phase diagram and statistics friendly distributions. Nuclear Physics A, 2021, 1005, 121968.	1.5	2
7	Deuteron production in AuAu collisions at $\sqrt{s_{NN}}=200$ GeV via pion catalysis. Physical Review C, 2021, 103, .	2.9	20
8	Particization of an interacting hadron resonance gas with global conservation laws for event-by-event fluctuations in heavy-ion collisions. Physical Review C, 2021, 103, .	2.9	22
9	Efficiency corrections for factorial moments and cumulants of overlapping sets of particles. Nuclear Physics A, 2021, 1010, 122179.	1.5	5
10	Speed of Sound and Baryon Cumulants in Heavy-Ion Collisions. Physical Review Letters, 2021, 127, 042303.	7.8	14
11	Phase transitions and critical behavior in hadronic transport with a relativistic density functional equation of state. Physical Review C, 2021, 104, .	2.9	20
12	Constraining the hadronic spectrum and repulsive interactions in a hadron resonance gas via fluctuations of conserved charges. Physical Review D, 2021, 104, .	4.7	7
13	Evaluation of particle-anti-particle scaled correlation within effective models. Nuclear Physics A, 2020, 994, 121655.	1.5	1
14	Cumulants of multiple conserved charges and global conservation laws. Journal of High Energy Physics, 2020, 2020, 1.	4.7	20
15	Dynamics of critical fluctuations: Theory & phenomenology heavy-ion collisions. Nuclear Physics A, 2020, 1003, 122016.	1.5	54
16	Connecting fluctuation measurements in heavy-ion collisions with the grand-canonical susceptibilities. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2020, 811, 135868.	4.1	35
17	Effects of local event-by-event conservation laws in ultrarelativistic heavy-ion collisions at particization. Physical Review C, 2020, 102, .	2.9	16
18	Critical point signatures in the cluster expansion in fugacities. Physical Review D, 2020, 101, .	4.7	4

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19	Mapping the phases of quantum chromodynamics with beam energy scan. Physics Reports, 2020, 853, 1-87.	25.6	247
20	Microcanonical Particlization with Local Conservation Laws. Physical Review Letters, 2019, 123, 182302.	7.8	32
21	Centrality Dependence of Deuteron Production in PbPb Collisions at 2.76 TeV via Hydrodynamics and Hadronic Afterburner +. Proceedings (mdpi), 2019, 10, 6.	0.2	5
22	Net-baryon multiplicity distribution consistent with lattice QCD. Physical Review C, 2019, 99, .	2.9	6
23	Microscopic study of deuteron production in PbPb collisions at $\sqrt{s} = 2.76$ TeV via hydrodynamics and a hadronic afterburner. Physical Review C, 2019, 99, .	2.9	73
24	A machine learning study to identify spinodal clumping in high energy nuclear collisions. Journal of High Energy Physics, 2019, 2019, 1.	4.7	41
25	Mapping the QCD phase diagram with statistics-friendly distributions. Physical Review C, 2019, 100, .	2.9	13
26	All the fun of the FAIR: fundamental physics at the facility for antiproton and ion research. Physica Scripta, 2019, 94, 033001.	2.5	79
27	Large proton cumulants from the superposition of ordinary multiplicity distributions. Physical Review C, 2018, 98, .	2.9	27
28	Effect of finite particle number sampling on baryon number fluctuations. Physical Review C, 2017, 96, .	2.9	14
29	Cumulants and correlation functions versus the QCD phase diagram. Physical Review C, 2017, 95, .	2.9	46
30	Cumulants vs correlation functions and the QCD phase diagram at low energies. Nuclear Physics A, 2017, 967, 465-467.	1.5	1
31	Status of the chiral magnetic effect and collisions of isobars. Chinese Physics C, 2017, 41, 072001.	3.7	88
32	Correlated stopping, proton clusters and higher order proton cumulants. European Physical Journal C, 2017, 77, 1.	3.9	28
33	Rapidity dependence of proton cumulants and correlation functions. Physical Review C, 2017, 96, .	2.9	18
34	Particle correlations and the chiral magnetic effect. European Physical Journal A, 2016, 52, 1.	2.5	1
35	Multiplicity-dependent and nonbinomial efficiency corrections for particle number cumulants. Physical Review C, 2016, 94, .	2.9	34
36	Properties of hot and dense matter from relativistic heavy ion collisions. Physics Reports, 2016, 621, 76-126.	25.6	227

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37	Local efficiency corrections to higher order cumulants. Physical Review C, 2015, 91, .	2.9	64
38	Non-equilibrium phase transition in relativistic nuclear collisions: Importance of the equation of state. Physical Review C, 2014, 89, .	2.9	37
39	Baryon number conservation and the cumulants of the net proton distribution. Physical Review C, 2013, 87, .	2.9	120
40	Shear viscosity of hadrons with K-matrix cross sections. Physical Review C, 2013, 88, .	2.9	27
41	Charge-Dependent Correlations in Relativistic Heavy Ion Collisions and the Chiral Magnetic Effect. Lecture Notes in Physics, 2013, , 503-536.	0.7	77
42	Acceptance corrections to net baryon and net charge cumulants. Physical Review C, 2012, 86, .	2.9	124
43	Azimuthal correlations from transverse momentum conservation and possible local parity violation. Physical Review C, 2011, 83, .	2.9	117
44	Mean-field approach to flavor susceptibilities with a vector interaction. Physical Review C, 2011, 83, .	2.9	15
45	Charge separation effect in relativistic heavy ion collisions. Physical Review C, 2010, 82, .	2.9	65
46	Energy dependence of $\langle K \rangle$ in relativistic heavy-ion collisions. Physical Review C, 2010, 81, .	2.9	24
47	Remarks on possible local parity violation in heavy ion collisions. Physical Review C, 2010, 81, .	2.9	94
48	Fluidity and supercriticality of the QCD matter created in relativistic heavy ion collisions. Physical Review C, 2010, 81, .	2.9	32
49	Hadronic Fluctuations and Correlations. Landolt-Börnstein - Group I Elementary Particles, Nuclei and Atoms, 2010, , 626-652.	0.2	15
50	Crossover transition in bag-like models. Physical Review C, 2009, 79, .	2.9	30
51	Exposing the Noncollectivity in Elliptic Flow. Physical Review Letters, 2009, 103, 042302.	7.8	16
52	Analytical relativistic ideal hydrodynamical solutions in (1+3)D with longitudinal and transverse flows. Physical Review C, 2009, 80, .	2.9	11
53	Elliptic Flow at Large Viscosity. Nuclear Physics A, 2009, 830, 479c-482c.	1.5	8
54	Correlations and fluctuations: status and perspectives. Journal of Physics G: Nuclear and Particle Physics, 2008, 35, 104030.	3.6	11

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55	Charge fluctuations and electric mass in a hot meson gas. Physical Review C, 2007, 76, .	2.9	5
56	Cherenkov Radiation from Jets in Heavy-Ion Collisions. Physical Review Letters, 2006, 96, 172302.	7.8	136
57	Fluctuations and Correlations in Heavy Ion Collisions. Journal of Physics: Conference Series, 2006, 50, 95-102.	0.4	2
58	Two particle correlations in jets and triggered distributions in hot and cold matter. Nuclear Physics A, 2006, 774, 561-564.	1.5	1
59	Baryon-strangeness correlations: a diagnostic of strongly interacting matter. Nuclear Physics A, 2006, 774, 841-844.	1.5	2
60	Strangeness trapping. Nuclear Physics A, 2006, 774, 643-646.	1.5	2
61	Baryon number and strangeness: signals of a deconfined antecedent. Journal of Physics: Conference Series, 2005, 27, 184-193.	0.4	5
62	Signals of spinodal hadronization: Strangeness trapping. Physical Review C, 2005, 72, .	2.9	53
63	Baryon-Strangeness Correlations: A Diagnostic of Strongly Interacting Matter. Physical Review Letters, 2005, 95, 182301.	7.8	227
64	Strangeness at SIS energies. Journal of Physics G: Nuclear and Particle Physics, 2004, 30, S41-S50.	3.6	3
65	Equilibrium in Heavy Ion Collisions. Acta Physica Hungarica A Heavy Ion Physics, 2004, 21, 273-278.	0.4	1
66	EVENT BY EVENT FLUCTUATIONS. , 2004, , 430-490.		24
67	Some remarks on the statistical model of heavy ion collisions. Nuclear Physics A, 2003, 715, 108c-117c.	1.5	25
68	Chemical equilibration volume: Measuring the degree of thermalization. Physical Review C, 2003, 68, .	2.9	9
69	$\eta$ meson propagation in a hot hadronic gas. Physical Review C, 2002, 65, .	2.9	42
70	The $\phi$ mean free path in hot hadronic matter. Journal of Physics G: Nuclear and Particle Physics, 2002, 28, 1527-1534.	3.6	3
71	Fluctuations of rare particles as a measure of chemical equilibration. Nuclear Physics A, 2002, 697, 546-562.	1.5	19
72	Event-by-event fluctuations and the QGP. Nuclear Physics A, 2002, 698, 261-268.	1.5	33

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73	Event-by-Event Fluctuations in Heavy Ion Collisions. Acta Physica Hungarica A Heavy Ion Physics, 2001, 14, 227-237.	0.4	1
74	Kinetic Equation with Exact Charge Conservation. Physical Review Letters, 2001, 86, 5438-5441.	7.8	42
75	Medium modified cross sections, temperature and finite momentum effects for antikaon production in heavy-ion collisions. Nuclear Physics A, 2000, 669, 153-172.	1.5	119
76	Charged Particle Ratio Fluctuation as a Signal for Quark-Gluon Plasma. Physical Review Letters, 2000, 85, 2076-2079.	7.8	355
77	Event-by-event fluctuations of the charged particle ratio from nonequilibrium transport theory. Physical Review C, 2000, 62, .	2.9	84
78	Event-by-event fluctuations in collective quantities. Physical Review C, 1999, 60, .	2.9	104
79	Fluctuations of Particle Ratios and the Abundance of Hadronic Resonances. Physical Review Letters, 1999, 83, 5435-5438.	7.8	145
80	Event-by-event fluctuations and inclusive distributions. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 1999, 456, 1-4.	4.1	36
81	Dileptons from disoriented chiral condensates. Nuclear Physics A, 1998, 638, 447c-450c.	1.5	1
82	Dileptons from disoriented chiral condensates. Physical Review C, 1998, 57, 280-290.	2.9	16
83	Lifetime of a Disoriented Chiral Condensate. Physical Review Letters, 1998, 81, 4096-4099.	7.8	12
84	Bremsstrahlung dileptons in ultrarelativistic heavy ion collisions. Physical Review C, 1998, 58, 3763-3766.	2.9	0
85	Branching ratio change in $K^0$ absorption at rest and the nature of the $\Lambda(1405)$ . Physical Review C, 1997, 56, 2767-2773.	2.9	17
86	Chemical relaxation time of pions in hot hadronic matter. Physical Review C, 1997, 55, 3026-3037.	2.9	27
87	PROPERTIES OF HADRONS IN THE NUCLEAR MEDIUM. Annual Review of Nuclear and Particle Science, 1997, 47, 505-539.	10.2	71
88	Aspects of Chiral Symmetry. International Journal of Modern Physics E, 1997, 06, 203-249.	1.0	89
89	Thermal effects on dilepton production from $\bar{\psi}\psi$ annihilation. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 1996, 366, 379-384.	4.1	22
90	Dilepton production in ultrarelativistic heavy-ion collisions. Physical Review C, 1996, 54, 1903-1917.	2.9	41

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91	Pion electromagnetic form factor at finite temperature. <i>Physical Review C</i> , 1996, 54, 3218-3231.	2.9	27
92	Cold kaons from hot fireballs. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , 1995, 351, 29-36.	4.1	11
93	Cold kaons from hot fireballs. <i>Nuclear Physics A</i> , 1995, 590, 531-534.	1.5	6
94	Temperature dependence of correlation functions in the spacelike direction in hot QCD. <i>Physical Review D</i> , 1994, 49, 6063-6071.	4.7	11
95	$K^+$ -proton scattering and the $\Lambda(1405)$ in dense matter. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , 1994, 337, 7-13.	4.1	132
96	Model of the thermodynamics of the chiral restoration transition. <i>Nuclear Physics A</i> , 1993, 560, 345-364.	1.5	49
97	Charge symmetry breaking and the neutron-proton mass difference. <i>Nuclear Physics A</i> , 1993, 562, 644-658.	1.5	15
98	Effects of collective potentials on pion spectra in relativistic heavy-ion collisions. <i>Nuclear Physics A</i> , 1993, 552, 591-604.	1.5	17
99	Transport-theoretical analysis of relativistic heavy-ion collisions. <i>Reports on Progress in Physics</i> , 1993, 56, 1-62.	20.1	105
100	Medium effects on kaon and antikaon spectra in heavy-ion collisions. <i>Physical Review C</i> , 1993, 47, 1678-1682.	2.9	26
101	Transport model with quasipions. <i>Physical Review C</i> , 1993, 47, 788-794.	2.9	49
102	Propagation of quarks in the spatial direction in hot QCD. <i>Physical Review D</i> , 1992, 46, 3169-3179.	4.7	51
103	A relativistic effective interaction for heavy-ion collisions. <i>Nuclear Physics A</i> , 1992, 539, 713-751.	1.5	67
104	The pion at finite temperature and density. <i>Nuclear Physics A</i> , 1991, 535, 701-714.	1.5	46
105	Analysis of intermediate-energy heavy-ion collisions within a relativistic transport model. <i>Nuclear Physics A</i> , 1991, 532, 715-742.	1.5	20
106	Mean-field effects and apparent temperatures of nucleons and antinucleons. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , 1991, 265, 29-34.	4.1	41
107	Dynamical and thermal aspects of relativistic heavy-ion collisions. <i>Zeitschrift für Physik A</i> , 1991, 340, 287-295.	0.9	53
108	Origin of transverse momentum in relativistic heavy-ion collisions: Microscopic study. <i>Physical Review C</i> , 1991, 43, 2728-2733.	2.9	22

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109	Local thermodynamic properties and equilibration in relativistic heavy-ion collisions. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 1990, 245, 147-152.	4.1	20
110	Photon production in relativistic heavy-ion collisions. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 1990, 236, 135-139.	4.1	13
111	Transverse flow of fragments in the relativistic BUU model. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 1990, 241, 174-177.	4.1	32
112	The relativistic buu approach: Analysis of retardation effects and meson-field radiation. Nuclear Physics A, 1990, 515, 747-760.	1.5	28
113	Dynamics of heavy-ion reactions and the nuclear equation of state. Nuclear Physics A, 1990, 519, 357-374.	1.5	10
114	Transverse momentum analysis in the relativistic BUU approach. Nuclear Physics A, 1989, 495, 381-389.	1.5	18
115	The Relativistic BUU Approach " Analysis of Retardation Effects and Thermal Properties. NATO ASI Series Series B: Physics, 1989, , 321-330.	0.2	0
116	Momentum Dependent Potentials in Relativistic Heavy Ion Collisions. NATO ASI Series Series B: Physics, 1989, , 471-473.	0.2	0
117	Pion collectivity in relativistic heavy-ion collisions. Nuclear Physics A, 1988, 490, 745-755.	1.5	107
118	Influence of the momentum dependence of nuclear interactions on heavy-ion potentials. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 1988, 206, 395-398.	4.1	15
119	Covariant Boltzmann-Uehling-Uhlenbeck approach for heavy-ion collisions. Physical Review C, 1988, 38, 1767-1775.	2.9	58
120	Six quark cluster effects and binding energy differences between mirror nuclei. Physical Review C, 1985, 31, 602-612.	2.9	20