

Sven-Olaf Moch

List of Publications by Year in descending order

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126
papers

9,501
citations

38742

50
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36028

97
g-index

128
all docs

128
docs citations

128
times ranked

7765
citing authors

#	ARTICLE	IF	CITATIONS
1	Low moments of the four-loop splitting functions in QCD. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2022, 825, 136853.	4.1	22
2	Phenomenology of $\overline{t}t + X$ production at the LHC. Journal of High Energy Physics, 2022, 2022, .	4.7	4
3	Heavy-flavor hadro-production with heavy-quark masses renormalized in the $\overline{\text{MS}}$, MSR and on-shell schemes. Journal of High Energy Physics, 2021, 2021, 1.	4.7	7
4	Anti- k_T jet function at next-to-next-to-leading order. Physical Review D, 2021, 104, .	4.7	7
5	Precision studies for Drell-Yan processes at NNLO. European Physical Journal C, 2021, 81, 1.	3.9	18
6	Renormalization of non-singlet quark operator matrix elements for off-forward hard scattering. Nuclear Physics B, 2021, 971, 115536.	2.5	2
7	Axial-vector contributions in two-photon reactions: Pion transition form factor and deeply-virtual Compton scattering at NNLO in QCD. Physical Review D, 2021, 104, .	4.7	11
8	Calculating Four-Loop Corrections in QCD. Texts and Monographs in Symbolic Computation, 2021, , 321-334.	0.4	0
9	Hypergeometric Functions and Feynman Diagrams. Texts and Monographs in Symbolic Computation, 2021, , 189-234.	0.4	17
10	The Large Hadron-Electron Collider at the HL-LHC. Journal of Physics G: Nuclear and Particle Physics, 2021, 48, 110501.	3.6	89
11	Approximate four-loop QCD corrections to the Higgs-boson production cross section. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2020, 807, 135546.	4.1	23
12	Two-loop coefficient function for DVCS: vector contributions. Journal of High Energy Physics, 2020, 2020, 1.	4.7	20
13	Heavy-flavor PDF evolution and variable-flavor-number scheme uncertainties in deep-inelastic scattering. Physical Review D, 2020, 102, .	4.7	8
14	Soft corrections to inclusive deep-inelastic scattering at four loops and beyond. Journal of High Energy Physics, 2020, 2020, 1.	4.7	29
15	Five-loop contributions to low-N non-singlet anomalous dimensions in QCD. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2019, 790, 436-443.	4.1	37
16	Two-loop evolution equations for flavor-singlet light-ray operators. Journal of High Energy Physics, 2019, 2019, 1.	4.7	10
17	Soft corrections to inclusive DIS at four loops and beyond. , 2019, , .		2
18	Heavy meson hadroproduction: open issues. , 2019, , .		1

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19	Strange sea determination from collider data. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2018, 777, 134-140.	4.1	29
20	Phenomenology of single-inclusive jet production with jet radius and threshold resummation. Physical Review D, 2018, 97, .	4.7	21
21	NLO PDFs from the ABMP16 fit. European Physical Journal C, 2018, 78, 1.	3.9	53
22	On quartic colour factors in splitting functions and the gluon cusp anomalous dimension. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2018, 782, 627-632.	4.1	82
23	Threshold and Jet Radius Joint Resummation for Single-Inclusive Jet Production. Physical Review Letters, 2017, 119, 212001.	7.8	31
24	Prompt neutrino fluxes in the atmosphere with PROSA parton distribution functions. Journal of High Energy Physics, 2017, 2017, 1.	4.7	38
25	Three-loop evolution equation for flavor-nonsinglet operators in off-forward kinematics. Journal of High Energy Physics, 2017, 2017, 1.	4.7	32
26	Running of the charm-quark mass from HERA deep-inelastic scattering data. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2017, 775, 233-238.	4.1	14
27	Parton distribution functions, $\hat{\Gamma}_{\pm}$, and heavy-quark masses for LHC Run II. Physical Review D, 2017, 96, .	4.7	258
28	Prompt neutrinos from atmospheric charm in the general-mass variable-flavor-number scheme. Journal of High Energy Physics, 2017, 2017, 1.	4.7	40
29	Four-loop non-singlet splitting functions in the planar limit and beyond. Journal of High Energy Physics, 2017, 2017, 1.	4.7	103
30	Present theoretical uncertainties on charm hadroproduction in QCD and prompt neutrino fluxes. EPJ Web of Conferences, 2016, 116, 08002.	0.3	0
31	Isospin asymmetry of quark distributions and implications for single top-quark production at the LHC. Physical Review D, 2016, 94, .	4.7	15
32	Determination of the top-quark mass from hadro-production of single top-quarks. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2016, 763, 341-346.	4.1	14
33	Differential cross sections for top pair production at the LHC. Nuclear and Particle Physics Proceedings, 2016, 273-275, 2177-2180.	0.5	1
34	Calibration of the Top-Quark Monte-Carlo Mass. Physical Review Letters, 2016, 116, 162001.	7.8	24
35	Nucleon PDF separation with the collider and fixed-target data. Nuclear and Particle Physics Proceedings, 2016, 273-275, 1961-1966.	0.5	0
36	A facility to search for hidden particles at the CERN SPS: the SHiP physics case. Reports on Progress in Physics, 2016, 79, 124201.	20.1	496

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37	A critical appraisal and evaluation of modern PDFs. European Physical Journal C, 2016, 76, 1.	3.9	90
38	Two-loop conformal generators for leading-twist operators in QCD. Journal of High Energy Physics, 2016, 2016, 1.	4.7	14
39	Non-singlet coefficient functions for charged-current deep-inelastic scattering to the third order in QCD., 2016, , .		3
40	Determination of strange sea quark distributions from fixed-target and collider data. Physical Review D, 2015, 91, .	4.7	43
41	Lepton fluxes from atmospheric charm revisited. Journal of High Energy Physics, 2015, 2015, 1.	4.7	57
42	On higher-order QCD calculations and the NNLO evolution of the polarized valence distribution. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2015, 748, 432-438.	4.1	36
43	Precise heavy-quark masses. Nuclear and Particle Physics Proceedings, 2015, 261-262, 130-139.	0.5	0
44	Top-quark pair production at hadron colliders: differential cross section and phenomenological applications with DiffTop. Journal of High Energy Physics, 2015, 2015, 1.	4.7	41
45	Differential distributions for top-quark hadro-production with a running mass. European Physical Journal C, 2014, 74, 1.	3.9	22
46	The three-loop splitting functions in QCD: The helicity-dependent case. Nuclear Physics B, 2014, 889, 351-400.	2.5	80
47	The ABM parton distributions tuned to LHC data. Physical Review D, 2014, 89, .	4.7	170
48	Approximate N3LO Higgs-boson production cross section using physical-kernel constraints. Journal of High Energy Physics, 2014, 2014, 1.	4.7	68
49	Phenomenology of threshold corrections for inclusive jet production at hadron colliders. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2014, 730, 122-129.	4.1	18
50	Statistical issues in the parton distribution analysis of the Tevatron jet data. Journal of High Energy Physics, 2014, 2014, 1.	4.7	3
51	HYPERDIRE: MATHEMATICA based packages for differential reduction of generalized hypergeometric functions: and		
52	A new observable to measure the top-quark mass at hadron colliders. European Physical Journal C, 2013, 73, 1.	3.9	54
53	Precise charm-quark mass from deep-inelastic scattering. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2013, 720, 172-176.	4.1	60
54	DETERMINATION OF $\hat{\Gamma}_s$ AND m_c IN DEEP-INELASTIC SCATTERING. Modern Physics Letters A, 2013, 28, 1360018.	1.2	5

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73	NNLO benchmarks for gauge and Higgs boson production at TeV hadron colliders. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2011, 697, 127-135.	4.1	30
74	Heavy-quark deep-inelastic scattering with a running mass. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2011, 699, 345-353.	4.1	72
75	scattering in Mellin space. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2011, 700, 294-304.	4.1	10784314
76	Higgs production at NNLO in QCD: the VBF channel. Nuclear Physics, Section B, Proceedings Supplements, 2010, 205-206, 314-319.	0.4	22
77	On higher-order flavour-singlet splitting and coefficient functions at large x. Nuclear Physics, Section B, Proceedings Supplements, 2010, 205-206, 250-255.	0.4	4
78	AutoDipole – Automated generation of dipole subtraction terms –. Computer Physics Communications, 2010, 181, 1802-1817.	7.5	57
79	3-, 4-, and 5-flavor next-to-next-to-leading order parton distribution functions from deep-inelastic-scattering data and at hadron colliders. Physical Review D, 2010, 81, .	4.7	178
80	Higgs Boson Production via Vector-Boson Fusion at Next-to-Next-to-Leading Order in QCD. Physical Review Letters, 2010, 105, 011801.	7.8	224
81	On Higgs-exchange DIS, physical evolution kernels and fourth-order splitting functions at large x. Nuclear Physics B, 2010, 832, 152-227.	2.5	57
82	On non-singlet physical evolution kernels and large- x coefficient functions in perturbative QCD. Journal of High Energy Physics, 2009, 2009, 099-099.	4.7	50
83	Analytic integration of real-virtual counterterms in NNLO jet cross sections II. Journal of High Energy Physics, 2009, 2009, 079-079.	4.7	36
84	Higher order QCD corrections to charged-lepton deep-inelastic scattering and global fits of parton distributions. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2009, 672, 166-171.	4.1	27
85	Higher-order soft corrections to squark hadro-production. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2009, 675, 210-221.	4.1	42
86	Higher-order threshold resummation for semi-inclusive e^+e^- annihilation. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2009, 680, 239-246.	4.1	21
87	Top-quark pair production near threshold at LHC. European Physical Journal C, 2009, 60, 375-386.	3.9	66
88	Third-order QCD corrections to the charged-current structure function. Nuclear Physics B, 2009, 813, 220-258.	2.5	69
89	Measuring the running top-quark mass. Physical Review D, 2009, 80, .	4.7	187
90	Threshold resummation of the structure function F_L . Journal of High Energy Physics, 2009, 2009, 081-081.	4.7	32

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91	The QCD form factor of heavy quarks at NNLO. <i>Journal of High Energy Physics</i> , 2009, 2009, 001-001.	4.7	39
92	On third-order timelike splitting functions and top-mediated Higgs decay into hadrons. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , 2008, 659, 290-296.	4.1	71
93	Heavy-quark pair production at two loops in QCD. <i>Nuclear Physics, Section B, Proceedings Supplements</i> , 2008, 183, 75-80.	0.4	85
94	Towards the NNLO evolution of polarised parton distributions. <i>Nuclear Physics, Section B, Proceedings Supplements</i> , 2008, 183, 155-161.	0.4	34
95	Theoretical status and prospects for top-quark pair production at hadron colliders. <i>Physical Review D</i> , 2008, 78, .	4.7	218
96	Differences between charged-current coefficient functions. <i>Nuclear Physics B</i> , 2008, 790, 317-335.	2.5	20
97	Heavy-quark production in gluon fusion at two loops in QCD. <i>Nuclear Physics B</i> , 2008, 798, 210-250.	2.5	87
98	Expectations at LHC from hard QCD. <i>Journal of Physics G: Nuclear and Particle Physics</i> , 2008, 35, 073001.	3.6	4
99	The singular behavior of massive QCD amplitudes. <i>Journal of High Energy Physics</i> , 2007, 2007, 001-001.	4.7	93
100	Charged current deep-inelastic scattering at three loops. <i>Nuclear Physics B</i> , 2007, 782, 51-78.	2.5	18
101	Heavy-quark production in massless quark scattering at two loops in QCD. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , 2007, 651, 147-159.	4.1	76
102	QCD corrections to semi-inclusive hadron production in electron-positron annihilation at two loops. <i>Nuclear Physics B</i> , 2006, 751, 18-52.	2.5	63
103	-XSummer- Transcendental functions and symbolic summation in Form. <i>Computer Physics Communications</i> , 2006, 174, 759-770.	7.5	109
104	Sudakov resummations at higher orders. <i>Nuclear Physics, Section B, Proceedings Supplements</i> , 2006, 157, 179-186.	0.4	0
105	NNLO splitting and coefficient functions with time-like kinematics. <i>Nuclear Physics, Section B, Proceedings Supplements</i> , 2006, 160, 51-56.	0.4	2
106	Next-to-next-to-leading order evolution of non-singlet fragmentation functions. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , 2006, 638, 61-67.	4.1	94
107	Third-order QCD results on form factors and coefficient functions. <i>Nuclear Physics, Section B, Proceedings Supplements</i> , 2006, 160, 44-50.	0.4	9
108	The three-loop splitting functions in QCD. <i>Nuclear Physics, Section B, Proceedings Supplements</i> , 2006, 152, 110-115.	0.4	4

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109	Symbolic summation and higher orders in perturbation theory. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2006, 559, 285-288.	1.6	3
110	The longitudinal structure function at the third order. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2005, 606, 123-129.	4.1	136
111	Analytic continuation of the harmonic sums for the 3-loop anomalous dimensions. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2005, 614, 53-61.	4.1	62
112	Three-loop results for quark and gluon form factors. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2005, 625, 245-252.	4.1	165
113	Higher-order soft corrections to lepton pair and Higgs boson production. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2005, 631, 48-57.	4.1	241
114	The quark form factor at higher orders. Journal of High Energy Physics, 2005, 2005, 049-049.	4.7	166
115	The third-order QCD corrections to deep-inelastic scattering by photon exchange. Nuclear Physics B, 2005, 724, 3-182.	2.5	288
116	Higher-order corrections in threshold resummation. Nuclear Physics B, 2005, 726, 317-335.	2.5	123
117	The QCD Splitting Functions at Three Loops: Methods and Results. Nuclear Physics, Section B, Proceedings Supplements, 2004, 135, 137-146.	0.4	14
118	The three-loop splitting functions in QCD: the non-singlet case. Nuclear Physics B, 2004, 688, 101-134.	2.5	938
119	The three-loop splitting functions in QCD: the singlet case. Nuclear Physics B, 2004, 691, 129-181.	2.5	661
120	First results for three-loop deep-inelastic structure functions in QCD. Nuclear Physics, Section B, Proceedings Supplements, 2003, 116, 100-104.	0.4	11
121	Next-to-next-to-leading order QCD corrections to the photon's parton structure. Nuclear Physics B, 2002, 621, 413-458.	2.5	23
122	Non-singlet structure functions at three loops: Fermionic contributions. Nuclear Physics B, 2002, 646, 181-200.	2.5	65
123	Deep-inelastic structure functions: Reconstruction from Mellin moments. Nuclear Physics, Section B, Proceedings Supplements, 2000, 89, 137-142.	0.4	3
124	Mathematics for structure functions. Nuclear Physics, Section B, Proceedings Supplements, 2000, 89, 131-136.	0.4	9
125	Deep-inelastic structure functions at two loops. Nuclear Physics B, 2000, 573, 853-907.	2.5	170
126	Soft gluon resummation for heavy quark electroproduction. Physical Review D, 1999, 59, .	4.7	51