Alexander Smirnov

List of Publications by Year
in descending order

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70 papers	3,976 citations	136950 32 h-index	114465 63 g-index
70 all docs	70 docs citations	70 times ranked	3100 citing authors

#	Article	IF	Citations
1	Algorithm FIREâ€”Feynman Integral REduction. Journal of High Energy Physics, 2008, 2008, 107-107.	4.7	359
2	FIRE5: A C++ implementation of Feynman Integral REduction. Computer Physics Communications, 2015, 189, 182-191.	7.5	287
3	FIRE6: Feynman Integral REduction with modular arithmetic. Computer Physics Communications, 2020, 247, 106877.	7.5	194
4	Quark and Gluon Form Factors to Three Loops. Physical Review Letters, 2009, 102, 212002.	7.8	188
5	FIESTA4: Optimized Feynman integral calculations with GPU support. Computer Physics Communications, 2016, 204, 189-199.	7.5	187
6	Quark Mass Relations to Four-Loop Order in Perturbative QCD. Physical Review Letters, 2015, 114, 142002.	7.8	180
7	Three-Loop Static Potential. Physical Review Letters, 2010, 104, 112002.	7.8	164
8	Feynman Integral Evaluation by a Sector decomposiTion Approach (FIESTA). Computer Physics Communications, 2009, 180, 735-746.	7.5	152
9	Ultraviolet Properties of<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi mathvariant="script">N</mml:mi><mml:mo>=</mml:mo><mml:mn>4</mml:mn></mml:math>Supergravity at Four Loops. Physical Review Letters, 2013, 111, 231302.	7.8	127
10	On the resolution of singularities of multiple Mellinâ€“Barnes integrals. European Physical Journal C, 2009, 62, 445-449.	3.9	112
11	FIRE4, LiteRed and accompanying tools to solve integration by parts relations. Computer Physics Communications, 2013, 184, 2820-2827.	7.5	105
12	FIESTA 3: Cluster-parallelizable multiloop numerical calculations in physical regions. Computer Physics Communications, 2014, 185, 2090-2100.	7.5	102
13	Analytic results for massless three-loop form factors. Journal of High Energy Physics, 2010, 2010, 1.	4.7	101
14	Fermionic contributions to the three-loop static potential. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2008, 668, 293-298.	4.1	96
15	Master integrals for four-loop massless propagators up to weight twelve. Nuclear Physics B, 2012, 856, 95-110.	2.5	93
16	FIESTA 2: Parallelizeable multiloop numerical calculations. Computer Physics Communications, 2011, 182, 790-803.	7.5	90
17	Expansion by regions: revealing potential and Glauber regions automatically. European Physical Journal C, 2012, 72, 1.	3.9	88
18	<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mover accent="true"><mml:mrow><mml:mi>MS</mml:mi></mml:mrow><mml:mrow><mml:mo stretchy="true">Â¯</mml:mo></mml:mrow></mml:mover></mml:mrow></mml:math> -on-shell quark mass relation up to four loops in QCD and a general <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mi>SU</mml:mi>	4.7	87

#	Article	IF	Citations
19	Geometric approach to asymptotic expansion of Feynman integrals. European Physical Journal C, 2011, 71, 1.	3.9	82
20	Low-energy moments of heavy quark current correlators at four loops. Nuclear Physics B, 2010, 824, 1-18.	2.5	76
21	Evaluating single-scale and/or non-planar diagrams by differential equations. Journal of High Energy Physics, 2014, 2014, 1.	4.7	75
22	The Number of Master Integrals is Finite. Letters in Mathematical Physics, 2011, 97, 37-44.	1.1	59
23	Analytic results for planar three-loop four-point integrals from a Knizhnik-Zamolodchikov equation. Journal of High Energy Physics, 2013, 2013, 1.	4.7	57
24	Four-loop photon quark form factor and cusp anomalous dimension in the large-N c limit of QCD. Journal of High Energy Physics, 2017, 2017, 1.	4.7	54
25	Four-loop quark form factor with quartic fundamental colour factor. Journal of High Energy Physics, 2019, 2019, 1.	4.7	52
26	A planar four-loop form factor and cusp anomalous dimension in QCD. Journal of High Energy Physics, 2016, 2016, 1.	4.7	51
27	Solving differential equations for Feynman integrals by expansions near singular points. Journal of High Energy Physics, 2018, 2018, 1.	4.7	46
28	Four-loop corrections with two closed fermion loops to fermion self energies and the lepton anomalous magnetic moment. Journal of High Energy Physics, 2013, 2013, 1.	4.7	41
29	Two-loop helicity amplitudes for the production of two off-shell electroweak bosons in gluon fusion. Journal of High Energy Physics, 2015, 2015, 1.	4.7	40
30	FIESTA5: Numerical high-performance Feynman integral evaluation. Computer Physics Communications, 2022, 277, 108386.	7.5	37
31	<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msubsup><mml:mi>n</mml:mi><mml:mi>f</mml:mi><mml:mn>2</mml:mn></mml:msubsup></mml:math> contributions to fermionic four-loop form factors. Physical Review D, 2017, 96, .	4.7	36
32	Applying GrÃ¶bner bases to solve reduction problems for Feynman integrals. Journal of High Energy Physics, 2006, 2006, 001-001.	4.7	33
33	Analytic three-loop static potential. Physical Review D, 2016, 94, .	4.7	33
34	Four-loop massless propagators: A numerical evaluation of all master integrals. Nuclear Physics B, 2010, 837, 40-49.	2.5	30
35	Two-loop helicity amplitudes for the production of two off-shell electroweak bosons in quark-antiquark collisions. Journal of High Energy Physics, 2014, 2014, 1.	4.7	30
36	Massive three-loop form factor in the planar limit. Journal of High Energy Physics, 2017, 2017, 1.	4.7	27

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37	On the status of expansion by regions. European Physical Journal C, 2019, 79, 1.	3.9	26
38	Four-loop wave function renormalization in QCD and QED. Physical Review D, 2018, 97, .	4.7	25
39	An algorithm to construct GrÃ¶bner bases for solving integration by parts relations. Journal of High Energy Physics, 2006, 2006, 026-026.	4.7	24
40	Dimensional recurrence relations: an easy way to evaluate higher orders of expansion in Îµ. Nuclear Physics, Section B, Proceedings Supplements, 2010, 205-206, 308-313.	0.4	24
41	Evaluating multiple polylogarithm values at sixth roots of unity up to weight six. Nuclear Physics B, 2017, 919, 315-324.	2.5	24
42	Electron contribution to the muon anomalous magnetic moment at four loops. Physical Review D, 2016, 93, .	4.7	23
43	Hepp and Speer sectors within modern strategies of sector decomposition. Journal of High Energy Physics, 2009, 2009, 004-004.	4.7	21
44	Three-loop massive form factors: complete light-fermion and large-Nc corrections for vector, axial-vector, scalar and pseudo-scalar currents. Journal of High Energy Physics, 2018, 2018, 1.	4.7	21
45	Quark and Gluon Form Factors in Four-Loop QCD. Physical Review Letters, 2022, 128, .	7.8	21
46	Light-by-light-type corrections to the muon anomalous magnetic moment at four-loop order. Physical Review D, 2015, 92, .	4.7	20
47	Evaluating â€˜ellipticâ€™ master integrals at special kinematic values: using differential equations and their solutions via expansions near singular points. Journal of High Energy Physics, 2018, 2018, 1.	4.7	19
48	Decoupling of heavy quarks in HQET. Journal of High Energy Physics, 2006, 2006, 022-022.	4.7	18
49	On epsilon expansions of four-loop non-planar massless propagator diagrams. European Physical Journal C, 2011, 71, 1.	3.9	15
50	Analytic results for planar three-loop integrals for massive form factors. Journal of High Energy Physics, 2016, 2016, 1.	4.7	14
51	Three-loop massive form factors: complete light-fermion corrections for the vector current. Journal of High Energy Physics, 2018, 2018, 1.	4.7	14
52	S-bases as a tool to solve reduction problems for Feynman integrals. Nuclear Physics, Section B, Proceedings Supplements, 2006, 160, 80-84.	0.4	12
53	Glue-and-cut at five loops. Journal of High Energy Physics, 2021, 2021, 1.	4.7	12
54	Fermionic corrections to quark and gluon form factors in four-loop QCD. Physical Review D, 2021, 104, .	4.7	12

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55	The four-loop $$ mathcal{N} $$ = 4 SYM Sudakov form factor. Journal of High Energy Physics, 2022, 2022, 1.	4.7	10
56	Color octet potential to three loops. Physical Review D, 2013, 88, .	4.7	9
57	Evaluating the three-loop quark static potential. Nuclear Physics, Section B, Proceedings Supplements, 2008, 183, 308-312.	0.4	7
58	The static quark potential to three loops in perturbation theory. Nuclear Physics, Section B, Proceedings Supplements, 2010, 205-206, 320-325.	0.4	6
59	(gâˆ’2)_{Âµ} at four loops in QED. EPJ Web of Conferences, 2019, 218, 01004.	0.3	6
60	Two-loop non-planar hexa-box integrals with one massive leg. Journal of High Energy Physics, 2022, 2022, 1.	4.7	6
61	Higher order hadronic and leptonic contributions to the muongâˆ’ 2. EPJ Web of Conferences, 2016, 118, 01033.	0.3	5
62	Matching the heavy-quark fields in QCD and HQET at four loops. Physical Review D, 2020, 102, .	4.7	5
63	Tensor-Train Numerical Integration of Multivariate Functions with Singularities. Lobachevskii Journal of Mathematics, 2021, 42, 1608-1621.	0.9	4
64	Matching Heavy-Quark Fields in QCD and HQET at 4 Loops. Physics of Atomic Nuclei, 2020, 83, 994-996.	0.4	1
65	Applying Mellin-Barnes technique and Groebner bases to the three-loop static potential. , 2008, , .		1
66	Full result for the three-loop static quark potential. , 2010, , .		1
67	Applications of FIESTA. , 2011, , .		0
68	Three-loop heavy quark potential. , 2011, , .		0
69	Massive quark form factors. , 2018, , .		0
70	Recent progress on two-loop massless pentabox integrals with one off-shell leg. SciPost Physics Proceedings, 2022, , .	0.4	0