Michael Spannowsky

List of Publications by Year
in descending order

140 papers	5,861 citations	66343 42 h-index	82547 72 g-index
140 all docs	140 docs citations	140 times ranked	7194 citing authors

#	Article	IF	Citations
1	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
2	Four generations and Higgs physics. Physical Review D, 2007, 76, .	4.7	286
3	Simplified models for LHC new physics searches. Journal of Physics G: Nuclear and Particle Physics, 2012, 39, 105005.	3.6	273
4	Fat Jets for a Light Higgs Boson. Physical Review Letters, 2010, 104, 111801.	7.8	258
5	Higgs self-coupling measurements at the LHC. Journal of High Energy Physics, 2012, 2012, 1.	4.7	209
6	Stop reconstruction with tagged tops. Journal of High Energy Physics, 2010, 2010, 1.	4.7	198
7	Probing MeV to 90 GeV axion-like particles with LEP and LHC. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2016, 753, 482-487.	4.1	197
8	LHC probes the hidden sector. Physics of the Dark Universe, 2013, 2, 111-117.	4.9	135
9	Standard model Higgs boson pair production in the (b b Â¯ $$ boverline{b} $$)(b b Â¯ $$ boverline{b}) Tj ETQq1 1 0.784314 rgBT /O	4.7	108
10	Di-Higgs final states augMT2ed â€“ Selecting hh events at the high luminosity LHC. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2014, 728, 308-313.	4.1	103
11	Looking Inside Jets. Lecture Notes in Physics, 2019, , .	0.7	99
12	Hearing the signal of dark sectors with gravitational wave detectors. Physical Review D, 2016, 94, .	4.7	91
13	New physics in LHC Higgs boson pair production. Physical Review D, 2013, 87, .	4.7	90
14	Adversarially-trained autoencoders for robust unsupervised new physics searches. Journal of High Energy Physics, 2019, 2019, 1.	4.7	78
15	Finding physics signals with shower deconstruction. Physical Review D, 2011, 84, .	4.7	76
16	Constraining dark sectors at colliders: Beyond the effective theory approach. Physical Review D, 2015, 91, .	4.7	76
17	On jet mass distributions in Z+jet and dijet processes at the LHC. Journal of High Energy Physics, 2012, 2012, 1.	4.7	75
18	Finding top quarks with shower deconstruction. Physical Review D, 2013, 87, .	4.7	75

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19	Higgs self-coupling measurements at a 100 TeV hadron collider. Journal of High Energy Physics, 2015, 2015, 1.	4.7	75
20	Dark matter from minimal flavor violation. Journal of High Energy Physics, 2011, 2011, 1.	4.7	74
21	Neutrino jets from high-mass <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:msub><mml:mrow><mml:mi>W</mml:mi></mml:mrow><mml:mrow><mml:mi>R</mml:mi></mml:mrow> gauge bosons in TeV-scale left-right symmetric models. Physical Review D, 2016, 94, .	4.7	72
22	Higgs coupling measurements at the LHC. European Physical Journal C, 2016, 76, 1.	3.9	71
23	Production of<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>h</mml:mi><mml:mi>h</mml:mi><mml:mi>j</mml:mi><mml:mi>j</mml:mi></mml:math> at the LHC. Physical Review Letters, 2014, 112, 101802.	7.8	68
24	Combining subjet algorithms to enhance ZH detection at the LHC. Journal of High Energy Physics, 2010, 2010, 1.	4.7	66
25	Limitations and opportunities of off-shell coupling measurements. Physical Review D, 2014, 90, .	4.7	57
26	Measuring Higgs $ mathcal{C}mathcal{P} $ and couplings with hadronic event shapes. Journal of High Energy Physics, 2012, 2012, 1.	4.7	56
27	Machine learning uncertainties with adversarial neural networks. European Physical Journal C, 2019, 79, 4.	3.9	56
28	Di-Higgs phenomenology in ttÂ¯hh: The forgotten channel. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2015, 743, 93-97.	4.1	53
29	<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si5.gif" display="inline" overflow="scroll"><mml:mi>S</mml:mi></mml:math>-channel dark matter simplified models and unitarity. Physics of the Dark Universe, 2016, 14, 48-56.	4.9	53
30	Triplet Higgs boson collider phenomenology after the LHC. Physical Review D, 2013, 87, .	4.7	52
31	Pinning down Higgs triplets at the LHC. Physical Review D, 2013, 88, .	4.7	50
32	Constraining<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>C</mml:mi><mml:mi>P</mml:mi></mml:math>-violating Higgs sectors at the LHC using gluon fusion. Physical Review D, 2014, 90, .	4.7	49
33	Stop searches in 2012. Journal of High Energy Physics, 2012, 2012, 1.	4.7	48
34	Boosted Higgs shapes. European Physical Journal C, 2014, 74, 1.	3.9	48
35	Maxi-sizing the trilinear Higgs self-coupling: how large could it be?. European Physical Journal C, 2017, 77, 1.	3.9	47
36	Gravitational wave and collider probes of a triplet Higgs sector with a low cutoff. European Physical Journal C, 2019, 79, 1.	3.9	47

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37	Boosted semileptonic tops in stop decays. Journal of High Energy Physics, 2011, 2011, 1.	4.7	45
38	Evasive Higgs boson maneuvers at the LHC. Physical Review D, 2012, 85, .	4.7	44
39	Gluon-initiated associated production boosts Higgs physics. Physical Review D, 2014, 89, .	4.7	44
40	hhjj production at the LHC. European Physical Journal C, 2015, 75, 1.	3.9	44
41	Discovering the Higgs boson in new physics events using jet substructure. Physical Review D, 2010, 81, .	4.7	43
42	Scattering of dark particles with light mediators. Physical Review D, 2014, 90, .	4.7	43
43	Resolving the Higgs-gluon coupling with jets. Physical Review D, 2014, 90, .	4.7	42
44	Off-shell Higgs coupling measurements in BSM scenarios. Journal of High Energy Physics, 2015, 2015, 1.	4.7	42
45	Anomaly detection with convolutional Graph Neural Networks. Journal of High Energy Physics, 2021, 2021, 1.	4.7	41
46	Measuring spin and<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi mathvariant="script">C</mml:mi><mml:mi mathvariant="script">P</mml:mi></mml:math>from semihadronic<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>Z</mml:mi><mml:mi>Z</mml:mi></mml:math>decays using jet substructure. Physical Review D, 2010, 82, .	4.7	40
47	Searching for leptoquarks at IceCube and the LHC. Physical Review D, 2018, 98, .	4.7	39
48	Discovering Higgs bosons of the MSSM using jet substructure. Physical Review D, 2010, 82, .	4.7	35
49	Type II seesaw model and multilepton signatures at hadron colliders. Physical Review D, 2017, 95, .	4.7	35
50	Higgs phenomenology as a probe of sterile neutrinos. Physical Review D, 2019, 100, .	4.7	34
51	Finding physics signals with event deconstruction. Physical Review D, 2014, 89, .	4.7	33
52	Electroweak oblique parameters as a probe of the trilinear Higgs boson self-interaction. Physical Review D, 2017, 95, .	4.7	33
53	Probing electroweak precision physics via boosted Higgs-strahlung at the LHC. Physical Review D, 2018, 98, .	4.7	33
54	A fresh look at ALP searches in fixed target experiments. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2019, 793, 281-289.	4.1	33

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55	Quantum machine learning for particle physics using a variational quantum classifier. Journal of High Energy Physics, 2021, 2021, 1.	4.7	32
56	How to improve top-quark tagging. Physical Review D, 2012, 85, .	4.7	31
57	Quark-gluon tagging with shower deconstruction: Unearthing dark matter and Higgs couplings. Physical Review D, 2017, 95, .	4.7	31
58	Search for sphalerons: IceCube vs. LHC. Journal of High Energy Physics, 2016, 2016, 1.	4.7	30
59	Searches for vector-like quarks at future colliders and implications for composite Higgs models with dark matter. Journal of High Energy Physics, 2018, 2018, 1.	4.7	29
60	AFBtmeets LHC. Physical Review D, 2011, 84, .	4.7	28
61	Probing the type-II seesaw mechanism through the production of Higgs bosons at a lepton collider. Physical Review D, 2018, 98, .	4.7	28
62	Anomaly detection in high-energy physics using a quantum autoencoder. Physical Review D, 2022, 105, .	4.7	28
63	Higgsplosion: Solving the hierarchy problem via rapid decays of heavy states into multiple Higgs bosons. Nuclear Physics B, 2018, 926, 95-111.	2.5	27
64	Boosting Higgs boson discovery: The forgotten channel. Physical Review D, 2010, 82, .	4.7	26
65	Probing a light CP-odd scalar in di-top-associated production at the LHC. European Physical Journal C, 2015, 75, 1.	3.9	26
66	Towards the ultimate differential SMEFT analysis. Journal of High Energy Physics, 2020, 2020, 1.	4.7	26
67	Charged-Higgs collider signals with or without flavor. Physical Review D, 2008, 77, .	4.7	25
68	The lepton flavour violating Higgs decays at the HL-LHC and the ILC. Journal of High Energy Physics, 2016, 2016, 1.	4.7	24
69	Measuring the Higgs-bottom coupling in weak boson fusion. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2016, 756, 103-108.	4.1	24
70	$$hh+ext {Jet}$$ h h + Jet production at 100ÂTeV. European Physical Journal C, 2018, 78, 322.	3.9	24
71	Boosting top partner searches in composite Higgs models. Physical Review D, 2014, 89, .	4.7	23
72	Constraining new colored matter from the ratio of 3 to 2 jets cross sections at the LHC. Physical Review D, 2015, 91, .	4.7	23

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73	Higgs characterisation in the presence of theoretical uncertainties and invisible decays. European Physical Journal C, 2017, 77, 1.	3.9	22
74	Constraining four-fermion operators using rare top decays. Journal of High Energy Physics, 2019, 2019, 1.	4.7	22
75	Sphalerons in composite and nonstandard Higgs models. Physical Review D, 2017, 95, .	4.7	21
76	Towards a quantum computing algorithm for helicity amplitudes and parton showers. Physical Review D, 2021, 103, .	4.7	21
77	Top quark FCNCs in extended Higgs sectors. European Physical Journal C, 2018, 78, 1.	3.9	20
78	Unsupervised event classification with graphs on classical and photonic quantum computers. Journal of High Energy Physics, 2021, 2021, 1.	4.7	19
79	Cosmic ray air showers from sphalerons. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2016, 761, 213-218.	4.1	18
80	Probing new physics using Rydberg states of atomic hydrogen. Physical Review Research, 2020, 2, .	3.6	17
81	The shape of spins. Physical Review D, 2013, 88, .	4.7	16
82	Signs of tops from highly mixed stops. Journal of High Energy Physics, 2015, 2015, 1.	4.7	16
83	LHC signatures of scalar dark energy. Physical Review D, 2016, 94, .	4.7	16
84	Invisible decays in Higgs boson pair production. Physical Review D, 2017, 95, .	4.7	16
85	Combine and conquer: event reconstruction with Bayesian Ensemble Neural Networks. Journal of High Energy Physics, 2021, 2021, 1.	4.7	16
86	Structure of fat jets at the Tevatron and beyond. European Physical Journal C, 2012, 72, 1.	3.9	15
87	Searching for a heavy Higgs boson in a Higgs-portal<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>B</mml:mi><mml:mo>â^'</mml:mo><mml:mi>L</mml:mi></mml:math>model. Physical Review D, 2015, 92, .	4.7	15
88	Energy-weighted message passing: an infra-red and collinear safe graph neural network algorithm. Journal of High Energy Physics, 2022, 2022, 1.	4.7	15
89	Unitarity-controlled resonances after the Higgs boson discovery. Physical Review D, 2015, 92, .	4.7	14
90	Augmenting the diboson excess for the LHC Run II. Physical Review D, 2015, 92, .	4.7	14

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91	Determining the quantum numbers of simplified models in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>t</mml:mi><mml:mover accent="true"><mml:mi>t</mml:mi><mml:mo stretchy="false">Â¯</mml:mo></mml:mover><mml:mi>X</mml:mi></mml:math>production at the LHC. Physical Review D, 2016, 94, .	4.7	14
92	Approaching robust EFT limits for <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>C</mml:mi><mml:mi>P</mml:mi></mml:math> violation in the Higgs sector. Physical Review D, 2019, 99, .	4.7	14
93	HYTREES: combining matrix elements and parton shower for hypothesis testing. European Physical Journal C, 2019, 79, 1.	3.9	14
94	Higgs self-coupling measurements using deep learning in the $$ boverline{b}boverline{b} $$ final state. Journal of High Energy Physics, 2020, 2020, 1.	4.7	14
95	Spectroscopy of scalar mediators to dark matter at the LHC and at 100ÂTeV. Physical Review D, 2015, 92, .	4.7	13
96	Closing up on dark sectors at colliders: From 14 to 100ÂTeV. Physical Review D, 2016, 93, .	4.7	13
97	Effective operator bases for beyond Standard Model scenarios: an EFT compendium for discoveries. Journal of High Energy Physics, 2021, 2021, 1.	4.7	13
98	Classifying standard model extensions effectively with precision observables. Physical Review D, 2021, 103, .	4.7	13
99	The effective field theory of low scale see-saw at colliders. European Physical Journal C, 2020, 80, 1.	3.9	13
100	Nonstandard top substructure. Physical Review D, 2014, 89, .	4.7	12
101	On-shell interference effects in Higgs boson final states. Physical Review D, 2015, 91, .	4.7	12
102	Higgsploding universe. Physical Review D, 2017, 96, .	4.7	12
103	<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mi>C</mml:mi><mml:mi>P</mml:mi></mml:mrow></mml:math> violation at ATLAS in effective field theory. Physical Review D, 2021, 103, .	4.7	12
104	Precision SMEFT bounds from the VBF Higgs at high transverse momentum. Journal of High Energy Physics, 2021, 2021, 1.	4.7	12
105	Tracking new physics at the LHC and beyond. Physical Review D, 2015, 92, .	4.7	11
106	Revisiting the ttÂ¯hh channel at the FCC-hh. Physical Review D, 2019, 100, .	4.7	11
107	Unconstraining the unHiggs model. Physical Review D, 2012, 85, .	4.7	10
108	EFT diagrammatica: UV roots of the CP-conserving SMEFT. Journal of High Energy Physics, 2021, 2021, 1.	4.7	10

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109	Constraining the unHiggs model with LHC data. Physical Review D, 2012, 86, .	4.7	9
110	Boost to hâ†'ZÎ³ : From LHC to future e+eâ^' colliders. Physical Review D, 2017, 95, .	4.7	9
111	Searching new physics in rare B-meson decays into multiple muons. European Physical Journal C, 2019, 79, 1.	3.9	9
112	A fully differential SMEFT analysis of the golden channel using the method of moments. Journal of High Energy Physics, 2021, 2021, 1.	4.7	9
113	Reconstructing singly produced top partners in decays toWb. Physical Review D, 2014, 90, .	4.7	8
114	Prospects for new physics in Ï„ â†' ÍÎ¼Î¼ at current and future colliders. Journal of High Energy Physics, 2017, 2017, 1.	4.7	8
115	Di-Higgs resonance searches in weak boson fusion. Physical Review D, 2020, 102, .	4.7	8
116	Mapping the shape of the scalar potential with gravitational waves. International Journal of Modern Physics A, 2019, 34, 1950223.	1.5	8
117	Dark sector spectroscopy at the ILC. European Physical Journal C, 2014, 74, 1.	3.9	7
118	Publisherâ€™s Note: Constraining new colored matter from the ratio of 3 to 2 jets cross sections at the LHC [Phys. Rev. D91, 015010 (2015)]. Physical Review D, 2015, 92, .	4.7	7
119	The emergence of electroweak Skyrmions through Higgs bosons. Journal of High Energy Physics, 2021, 2021, 1.	4.7	7
120	Quantum-inspired event reconstruction with Tensor Networks: Matrix Product States. Journal of High Energy Physics, 2021, 2021, 1.	4.7	7
121	Towards resolving strongly-interacting dark sectors at colliders. Physical Review D, 2016, 94, .	4.7	6
122	Measuring the signal strength in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mi>t</mml:mi><mml:mover accent="true"><mml:mrow><mml:mi>t</mml:mi></mml:mrow><mml:mrow><mml:mo stretchy="false">Â¯</mml:mo></mml:mrow></mml:mover><mml:mi>H</mml:mi></mml:mrow></mml:math>with<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mi>H</mml:mi><mml:mo	4.7	6
123	Perturbative Higgs coupling <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>C</mml:mi><mml:mi>P</mml:mi></mml:math> violation, unitarity, and phenomenology. Physical Review D, 2017, 95, .	4.7	6
124	Same-sign W pair production in composite Higgs models. Physical Review D, 2017, 95, .	4.7	6
125	Sensing Higgs boson cascade decays through memory. Physical Review D, 2020, 102, .	4.7	6
126	Measuring rare and exclusive Higgs boson decays into light resonances. European Physical Journal C, 2016, 76, 1.	3.9	5

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127	VBS WÂ±WÂ±H production at the HL-LHC and a 100 TeV pp-collider. International Journal of Modern Physics A, 2017, 32, 1750106.	1.5	5
128	Probing dark matter clumps, strings and domain walls with gravitational wave detectors. European Physical Journal C, 2021, 81, 1.	3.9	5
129	Jet-associated resonance spectroscopy. European Physical Journal C, 2017, 77, 842.	3.9	4
130	Double-charming Higgs boson identification using machine-learning assisted jet shapes. Physical Review D, 2018, 97, .	4.7	4
131	Novel B -decay signatures of light scalars at high energy facilities. Physical Review D, 2019, 100, .	4.7	4
132	Interplay between collider searches for vector-like quarks and dark matter searches in composite Higgs models. International Journal of Modern Physics A, 2019, 34, 1940011.	1.5	3
133	Constraining strongly coupled new physics from cosmic rays with machine learning techniques. Europhysics Letters, 2019, 127, 61002.	2.0	3
134	Extended Higgs boson sectors, effective field theory, and Higgs boson phenomenology. Physical Review D, 2021, 103, .	4.7	3
135	Making the most of missing transverse energy: Mass reconstruction from collimated decays. Physical Review D, 2013, 87, .	4.7	2
136	Cornering diphoton resonance models at the LHC. Journal of High Energy Physics, 2016, 2016, 1.	4.7	2
137	Prospects for direct CP tests of hqq interactions. Journal of High Energy Physics, 2021, 2021, 1.	4.7	2
138	Electroweak skyrmions in the HEFT. Journal of High Energy Physics, 2021, 2021, 1.	4.7	2
139	Effective connections of aÎ¼ , Higgs physics, and the collider frontier. Physical Review D, 2022, 105, .	4.7	1
140	High energy lepton colliders as the ultimate Higgs microscopes. Journal of High Energy Physics, 2022, 2022, 1.	4.7	1