

# Jean-Roch Valery Vlimant

## List of Publications by Year in descending order

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Version: 2024-02-01

187  
papers

8,472  
citations

47409

49  
h-index

58552

86  
g-index

189  
all docs

189  
docs citations

189  
times ranked

8174  
citing authors

#	ARTICLE	IF	CITATIONS
1	Event generator tunes obtained from underlying event and multiparton scattering measurements. European Physical Journal C, 2016, 76, 155.	1.4	499
2	Study of high-p T charged particle suppression in PbPb compared to pp collisions at $\sqrt{s_{\mathrm{NN}}}=2.76\text{--}5.02\text{ TeV}$ . European Physical Journal C, 2012, 72, 1.	1.4	369
3	Observation of the diphoton decay of the Higgs boson and measurement of its properties. European Physical Journal C, 2014, 74, 3076.	1.4	342
4	Observation of a new boson with mass near 125 GeV in pp collisions at $\sqrt{s}=7$ and 8 TeV. Journal of High Energy Physics, 2013, 2013, 1.	1.6	320
5	Search for dark matter, extra dimensions, and unparticles in monojet events in proton-proton collisions at $\sqrt{s} = 8$ TeV. European Physical Journal C, 2015, 75, 235.	1.4	320
6	Searches for electroweak production of charginos, neutralinos, and sleptons decaying to leptons and W, Z, and Higgs bosons in pp collisions at 8 TeV. European Physical Journal C, 2014, 74, 3036.	1.4	241
7	Extraction and validation of a new set of CMS pythia8 tunes from underlying-event measurements. European Physical Journal C, 2020, 80, 4.	1.4	198
8	Measurement of the differential cross section for top quark pair production in pp collisions at $\sqrt{s} = 8$ TeV. European Physical Journal C, 2015, 75, 542.	1.4	191

9

#	ARTICLE	IF	CITATIONS
19	Measurements of properties of the Higgs boson decaying into the four-lepton final state in pp collisions at $\sqrt{s}=13$ TeV. Journal of High Energy Physics, 2017, 2017, 1.	1.6	101
20	Measurement of the underlying event activity at the LHC with $\sqrt{s} = 7$ TeV and comparison with $\sqrt{s} = 0.9$ TeV. Journal of High Energy Physics, 2011, 2011, 1.	1.6	97
21	Machine Learning in High Energy Physics Community White Paper. Journal of Physics: Conference Series, 2018, 1085, 022008.	0.3	94
22	Variational autoencoders for new physics mining at the Large Hadron Collider. Journal of High Energy Physics, 2019, 2019, 1.	1.6	94
23	Search for a Higgs boson in the mass range from 145 to 1000 GeV decaying to a pair of W or Z bosons. Journal of High Energy Physics, 2015, 2015, 1.	1.6	92
24	Graph neural networks in particle physics. Machine Learning: Science and Technology, 2021, 2, 021001.	2.4	87
25	Search for high-mass resonances in dilepton final states in proton-proton collisions at $\sqrt{s}=13$ TeV. Journal of High Energy Physics, 2018, 2018, 1.	1.6	86
26	Study of the production of charged pions, kaons, and protons in pPb collisions at $\sqrt{s_{NN}} = 5.02$ TeV. European Physical Journal C, 2014, 74, 2847.	1.4	85
27	Search for narrow and broad dijet resonances in proton-proton collisions at $\sqrt{s}=13$ TeV and constraints on dark matter mediators and other new particles. Journal of High Energy Physics, 2018, 2018, 1.	1.6	82
28	JEDI-net: a jet identification algorithm based on interaction networks. European Physical Journal C, 2020, 80, 1.	1.4	81
29	Search for production of four top quarks in final states with same-sign or multiple leptons in proton-proton collisions at $\sqrt{s}=13$ TeV. European Physical Journal C, 2020, 80, 75.	1.4	78
30	Studies of dijet transverse momentum balance and pseudorapidity distributions in pPb collisions at $\sqrt{s_{NN}} = 5.02$ TeV. European Physical Journal C, 2014, 74, 1.	1.4	75
31	Searches for physics beyond the standard model with the $M_{T2}$ variable in hadronic final states with and without disappearing tracks in proton-proton collisions at $\sqrt{s}=13$ TeV. European Physical Journal C, 2020, 80, 3.	1.4	70
32	The LHC Olympics 2020 a community challenge for anomaly detection in high energy physics. Reports on Progress in Physics, 2021, 84, 124201.	8.1	70
33	Measurement of the $\sigma(t\bar{t})$ production cross section, the top quark mass, and the strong coupling constant using dilepton events in pp collisions at. European Physical Journal C, 2019, 79, 368.	1.4	68
34	Calorimetry with deep learning: particle simulation and reconstruction for collider physics. European Physical Journal C, 2020, 80, 1.	1.4	65
35	Search for new physics in same-sign dilepton events in proton-proton collisions at $\sqrt{s} = 13$ TeV. European Physical Journal C, 2016, 76, 439.	1.4	64
36	Search for electroweak production of charginos and neutralinos in multilepton final states in proton-proton collisions at $\sqrt{s}=13$ TeV. Journal of High Energy Physics, 2018, 2018, 1.	1.6	63

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37	Measurement of differential cross sections for Higgs boson production in the diphoton decay channel in pp collisions at $\sqrt{s}=8$ TeV. European Physical Journal C, 2016, 76, 13.	1.4	62
38	Measurement of the inelastic proton-proton cross section at $\sqrt{s}=13$ TeV. Journal of High Energy Physics, 2018, 2018, 1.	1.6	62
39	Nuclear effects on the transverse momentum spectra of charged particles in pPb collisions at $\sqrt{s_{NN}}=5.02$ TeV. European Physical Journal C, 2015, 75, 237.	1.4	58
40	Measurements of Higgs boson properties in the diphoton decay channel in proton-proton collisions at $\sqrt{s}=13$ TeV. Journal of High Energy Physics, 2018, 2018, 1.	1.6	57
41	Charged particle transverse momentum spectra in pp collisions at $\sqrt{s}=0.9$ and 7 TeV. Journal of High Energy Physics, 2011, 2011, 1.	1.6	56
42	Measurement of the double-differential inclusive jet cross section in proton-proton collisions at $\sqrt{s}=13$ TeV. European Physical Journal C, 2016, 76, 451.	1.4	55
43	Constraints on parton distribution functions and extraction of the strong coupling constant from the inclusive jet cross section in pp collisions at $\sqrt{s}=7$ TeV. European Physical Journal C, 2015, 75, 288.	1.4	54
44	Measurement and QCD analysis of double-differential inclusive jet cross sections in pp collisions at $\sqrt{s}=8$ TeV and cross section ratios to 2.76 and 7 TeV. Journal of High Energy Physics, 2017, 2017, 1.	1.6	54
45	Measurement of the $t\bar{t}$ production cross section and the top quark mass in the dilepton channel in pp collisions at $\sqrt{s}=7$ TeV. Journal of High Energy Physics, 2011, 2011, 1.	1.6	53
46	Measurement of double-differential cross sections for top quark pair production in pp collisions at $\sqrt{s}=8$ TeV and impact on parton distribution functions. European Physical Journal C, 2017, 77, 459.	1.4	52
47	Measurements of the $p\bar{p}\rightarrow 4\ell$ branching fraction, and constraints on anomalous triple gauge couplings at $\sqrt{s}=13$ TeV. European Physical Journal C, 2018, 78, 165.	1.4	52
48	Search for the associated production of the Higgs boson with a top-quark pair. Journal of High Energy Physics, 2014, 2014, 1.	1.6	51
49	Quantum machine learning in high energy physics. Machine Learning: Science and Technology, 2021, 2, 011003.	2.4	50
50	Measurement of pseudorapidity distributions of charged particles in proton-proton collisions at $\sqrt{s}=8$ TeV by the CMS and TOTEM experiments. European Physical Journal C, 2014, 74, 1.	1.4	49
51	Measurement of top quark-antiquark pair production in association with a W or Z boson in pp collisions at $\sqrt{s}=8$ TeV. European Physical Journal C, 2014, 74, 3060.	1.4	43
52	Identification techniques for highly boosted W bosons that decay into hadrons. Journal of High Energy Physics, 2014, 2014, 1.	1.6	43
53	Constraints on the pMSSM, AMSB model and on other models from the search for long-lived charged particles in proton-proton collisions at $\sqrt{s}=8$ TeV. European Physical Journal C, 2015, 75, 325.	1.4	43
54	Pileup mitigation at the Large Hadron Collider with graph neural networks. European Physical Journal Plus, 2019, 134, 1.	1.2	43

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55	The Dark Machines Anomaly Score Challenge: Benchmark Data and Model Independent Event Classification for the Large Hadron Collider. SciPost Physics, 2022, 12, .	1.5	43
56	Measurement of the $t\bar{t}\hat{\mathcal{A}}^{-}$ production cross section in the $e\hat{\nu}_\mu$ channel in proton-proton collisions at $\sqrt{s}=7$ and 8 TeV. Journal of High Energy Physics, 2016, 2016, 1.	1.6	41
57	Measurement of the $\overline{\mathcal{A}}^{-}t\bar{t}$ production cross section in the all-jets final state in pp collisions at $\sqrt{s}=8$ and 8 TeV. European Physical Journal C, 2016, 76, 128.	1.4	41
58	Measurement of the $\overline{\mathcal{A}}^{-}t\bar{t}$ production cross section using events in the $e\hat{\nu}_\mu$ final state in pp collisions at $\sqrt{s}=13$ and 8 TeV. European Physical Journal C, 2017, 77, 172.	1.4	40
59	Measurement of the Higgs boson production rate in association with top quarks in final states with electrons, muons, and hadronically decaying tau leptons at $\sqrt{s}=13$ and 8 TeV. European Physical Journal C, 2021, 81, 378.	1.4	40
60	Measurement of the ZZ production cross section and search for anomalous couplings in $2\hat{\nu}_\mu, 2\hat{\nu}_\tau, \hat{\nu}_\mu\hat{\nu}_\tau$ final states in pp collisions at $\sqrt{s}=7$ TeV. Journal of High Energy Physics, 2013, 2013, 1.	1.6	39
61	Measurement of differential cross sections for Z boson production in association with jets in proton-proton collisions at $\sqrt{s}=13$ and 8 TeV. European Physical Journal C, 2018, 78, 965.	1.4	39
62	MLPF: efficient machine-learned particle-flow reconstruction using graph neural networks. European Physical Journal C, 2021, 81, 1.	1.4	39
63	Search for heavy resonances that decay into a vector boson and a Higgs boson in hadronic final states at $\sqrt{s}=13$ and 8 TeV. European Physical Journal C, 2017, 77, 636.	1.4	38
64	Evidence for associated production of a Higgs boson with a top quark pair in final states with electrons, muons, and hadronically decaying $\hat{\nu}_\mu, \hat{\nu}_\tau$ leptons at $\sqrt{s}=13$ TeV. Journal of High Energy Physics, 2018, 2018, 1.	1.6	38
65	Adversarially Learned Anomaly Detection on CMS open data: re-discovering the top quark. European Physical Journal Plus, 2021, 136, 1.	1.2	38
66	Interaction networks for the identification of boosted $H\rightarrow b\bar{b}$ decays. Physical Review D, 2020, 102, .	1.6	37
67	Measurement of the Drell-Yan cross section in pp collisions at $\sqrt{s}=7$ TeV. Journal of High Energy Physics, 2011, 2011, 1.	1.6	36
68	Measurements of production cross sections of the Higgs boson in the four-lepton final state in proton-proton collisions at $\sqrt{s}=13$ and 8 TeV. European Physical Journal C, 2021, 81, 488.	1.4	35
69	Measurement of $\overline{\mathcal{A}}^{-}t\bar{t}$ production with additional jet activity, including b quark jets, in the dilepton decay channel using pp collisions at $\sqrt{s}=8$ and 8 TeV. European Physical Journal C, 2016, 76, 379.	1.4	34
70	Measurements of the $\overline{\mathcal{A}}^{-}t\bar{t}$ production cross section in lepton+jets final states in pp collisions at 8 and 7 TeV and ratio of 8 to 7 TeV cross sections. European Physical Journal C, 2017, 77, 15.	1.4	34
71	Search for dark matter produced in association with a leptonically decaying Z boson in proton-proton collisions at $\sqrt{s}=13$ and 8 TeV. European Physical Journal C, 2021, 81, 13.	1.4	33
72	Search for top squark pair production using dilepton final states in pp collision data collected at $\sqrt{s}=13$ and 8 TeV. European Physical Journal C, 2021, 81, 3.	1.4	33

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73	Measurement of $\sigma_{\text{pp}}^{\text{normalised}}$ normalised multi-differential cross sections in $\sqrt{s}=13$ TeV collisions at $\sqrt{s}=13$ TeV, and simultaneous determination of the strong coupling strength, top quark pole mass, and parton distribution functions. <i>European Physical Journal C</i> , 2020, 80, 1.	1.4	33
74	Measurements of the $\sigma_{\text{pp}}^{\text{Z}}$ Z production cross sections in the $2u \rightarrow 2l + 2\bar{l}$ channel in proton-proton collisions at $\sqrt{s} = 7$ and $\sqrt{s} = 8$ TeV. <i>European Physical Journal C</i> , 2015, 75, 511.	1.4	32
75	Searches for pair production of third-generation squarks in $\sqrt{s}=13$ TeV pp collisions. <i>European Physical Journal C</i> , 2017, 77, 327.	1.4	32
76	Shape, transverse size, and charged-hadron multiplicity of jets in pp collisions at $\sqrt{s}=7$ TeV. <i>Journal of High Energy Physics</i> , 2012, 2012, 1.	1.6	31
77	Measurement of electroweak production of two jets in association with a Z boson in proton-proton collisions at $\sqrt{s}=8$ TeV. <i>European Physical Journal C</i> , 2015, 75, 66.	1.4	31
78	Search for top squark pair production in pp collisions at $\sqrt{s}=13$ TeV using single lepton events. <i>Journal of High Energy Physics</i> , 2017, 2017, 1.	1.6	31
79	A multi-dimensional search for new heavy resonances decaying to boosted $W^+W^-$ , $W^+Z$ , or $W^+Z$ boson pairs in the dijet final state at $\sqrt{s}=13$ TeV. <i>European Physical Journal C</i> , 2020, 80, 237.	1.4	31
80	Measurement of inclusive jet production and nuclear modifications in pPb collisions at $\sqrt{s_{\text{NN}}}=5.02$ TeV. <i>European Physical Journal C</i> , 2016, 76, 372.	1.4	29
81	A search for new phenomena in pp collisions at $\sqrt{s} = 13$ TeV in final states with missing transverse momentum and at least one jet using the $\alpha_T$ variable. <i>European Physical Journal C</i> , 2017, 77, 294.	1.4	29
82	Search for light bosons in decays of the 125 GeV Higgs boson in proton-proton collisions at $\sqrt{s}=8$ TeV. <i>Journal of High Energy Physics</i> , 2017, 2017, 1.	1.6	29
83	Search for dark matter produced in association with a Higgs boson decaying to a pair of bottom quarks in proton-proton collisions at $\sqrt{s}=13$ TeV. <i>European Physical Journal C</i> , 2019, 79, 280.	1.4	29
84	The HEP.TrkX Project: deep neural networks for HL-LHC online and offline tracking. EPJ Web of Conferences, 2017, 150, 00003.	0.1	28
85	Search for $\sigma_{\text{pp}}^{\text{H} \rightarrow \text{bb}}$ production in the $\text{H} \rightarrow \text{bb}$ decay channel with leptonic $\text{H} \rightarrow \text{tt}$ decays in proton-proton collisions at $\sqrt{s}=13$ TeV. <i>Journal of High Energy Physics</i> , 2019, 2019, 1.	1.6	28
86	Measurements of differential Z boson production cross sections in proton-proton collisions at $\sqrt{s} = 13$ TeV. <i>Journal of High Energy Physics</i> , 2019, 2019, 1.	1.6	28
87	Search for new physics in events with a leptonically decaying Z boson and a large transverse momentum imbalance in proton-proton collisions at $\sqrt{s} = 13$ TeV. <i>European Physical Journal C</i> , 2018, 78, 291.	1.4	27
88	Measurements of Higgs boson production cross sections and couplings in the diphoton decay channel at $\sqrt{s} = 13$ TeV. <i>Journal of High Energy Physics</i> , 2021, 2021, 1.	1.6	27
89	Measurement of energy flow at large pseudorapidities in pp collisions at $\sqrt{s} = 0.9$ and 7 TeV. <i>Journal of High Energy Physics</i> , 2011, 2011, 1.	1.6	25
90	Search for high-mass resonances in final states with a lepton and missing transverse momentum at $\sqrt{s}=13$ TeV. <i>Journal of High Energy Physics</i> , 2018, 2018, 1.	1.6	25

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91	Measurements of $\sigma(\text{pp} \rightarrow \text{ZZ})$ production cross sections and constraints on anomalous triple gauge couplings at $\sqrt{s} = 13, \text{TeV}$ . European Physical Journal C, 2021, 81, 200.	1.4	24
92	Measurement of the jet mass in highly boosted $\text{t}\overline{\text{t}}$ events from pp collisions at $\sqrt{s} = 8, \text{TeV}$ . European Physical Journal C, 2017, 77, 467.	1.4	23
93	The Tracking Machine Learning Challenge: Accuracy Phase. The Springer Series on Challenges in Machine Learning, 2020, , 231-264.	10.4	23
94	Performance of a geometric deep learning pipeline for HL-LHC particle tracking. European Physical Journal C, 2021, 81, 1.	1.4	23
95	Search for massive resonances decaying into WW, WZ or ZZ bosons in proton-proton collisions at $s = 13 \sqrt{s} = 13 \text{ TeV}$ . Journal of High Energy Physics, 2017, 2017, 1.	1.6	22
96	Search for direct production of supersymmetric partners of the top quark in the all-jets final state in proton-proton collisions at $s = 13 \sqrt{s} = 13 \text{ TeV}$ . Journal of High Energy Physics, 2017, 2017, 1.	1.6	22
97	Measurement of differential cross sections and charge ratios for t-channel single top quark production in proton-proton collisions at $\sqrt{s} = 13, \text{TeV}$ . European Physical Journal C, 2020, 80, 370.	1.4	22
98	A Deep Neural Network for Simultaneous Estimation of b Jet Energy and Resolution. Computing and Software for Big Science, 2020, 4, 10.	1.3	21
99	Search for direct top squark pair production in events with one lepton, jets, and missing transverse momentum at 13 TeV with the CMS experiment. Journal of High Energy Physics, 2020, 2020, 1.	1.6	21
100	Search for $\text{t}\overline{\text{t}}\text{H}$ production in the all-jet final state in proton-proton collisions at $\sqrt{s} = 13 \text{ TeV}$ . Journal of High Energy Physics, 2018, 2018, 1.	1.6	20
101	Search for dark matter in events with energetic, hadronically decaying top quarks and missing transverse momentum at $\sqrt{s} = 13 \text{ TeV}$ . Journal of High Energy Physics, 2018, 2018, 1.	1.6	20
102	Measurement of top quark pair production in association with a Z boson in proton-proton collisions at $\sqrt{s} = 13 \text{ TeV}$ . Journal of High Energy Physics, 2020, 2020, 1.	1.6	20
103	Hybrid quantum classical graph neural networks for particle track reconstruction. Quantum Machine Intelligence, 2021, 3, 1.	2.7	20
104	Measurement of differential and integrated fiducial cross sections for Higgs boson production in the four-lepton decay channel in pp collisions at $s = 7 \sqrt{s} = 7$ and 8 TeV. Journal of High Energy Physics, 2016, 2016, 1.	1.6	19
105	Search for a very light NMSSM Higgs boson produced in decays of the 125 GeV scalar boson and decaying into $\ell\ell$ , leptons in pp collisions at $s = 8 \sqrt{s} = 8 \text{ TeV}$ . Journal of High Energy Physics, 2016, 2016, 1.	1.6	19
106	Search for charged Higgs bosons produced in vector boson fusion processes and decaying into vector boson pairs in proton-proton collisions at $\sqrt{s} = 13, \text{TeV}$ . European Physical Journal C, 2021, 81, 723.	1.4	19
107	Measurement of the differential Drell-Yan cross section in proton-proton collisions at $\sqrt{s} = 13 \text{ TeV}$ . Journal of High Energy Physics, 2019, 2019, 1.	1.6	18
108	MUSIC: a model-unspecific search for new physics in proton-proton collisions at $\sqrt{s} = 13, \text{TeV}$ . European Physical Journal C, 2021, 81, 629.	1.4	18

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109	Combined searches for the production of supersymmetric top quark partners in proton-proton collisions at $\sqrt{s} = 13, \text{ext } \{ \text{TeV} \}$ . European Physical Journal C, 2021, 81, 970.	1.4	18
110	Search for low-mass dilepton resonances in Higgs boson decays to four-lepton final states in proton-proton collisions at $\sqrt{s} = 13, \text{ext } \{ \text{TeV} \}$ . European Physical Journal C, 2022, 82, 290.	1.4	18
111	Probing color coherence effects in pp collisions at $\sqrt{s} = 7, \text{ext } \{ \text{TeV} \}$ $s = 7 \text{ TeV}$ . European Physical Journal C, 2014, 74, 2901.	1.4	17
112	Measurement of the ratio of the production cross sections times branching fractions of $B_c \rightarrow \mu^+ \mu^- \gamma$ and $B \rightarrow \mu^+ \mu^- \gamma$ in $pp$ collisions at $\sqrt{s} = 13, \text{ext } \{ \text{TeV} \}$ . Journal of High Energy Physics, 2018, 2018, 1.	1.6	17
113	Search for $Z\gamma$ resonances using leptonic and hadronic final states in proton-proton collisions at $\sqrt{s} = 13 \text{ TeV}$ . Journal of High Energy Physics, 2018, 2018, 1.	1.6	17
114	Measurement of charged particle spectra in minimum-bias events from proton-proton collisions at $\sqrt{s} = 13, \text{ext } \{ \text{TeV} \}$ $s = 13 \text{ TeV}$ . European Physical Journal C, 2018, 78, 697.	1.4	17
115	Search for dark matter produced in association with a single top quark or a top quark pair in proton-proton collisions at $\sqrt{s} = 13 \text{ TeV}$ . Journal of High Energy Physics, 2019, 2019, 1.	1.6	17
116	Particle Generative Adversarial Networks for full-event simulation at the LHC and their application to pileup description. Journal of Physics: Conference Series, 2020, 1525, 012081.	0.3	17
117	Particle Track Reconstruction with Quantum Algorithms. EPJ Web of Conferences, 2020, 245, 09013.	0.1	16
118	Measurement of the $t\bar{t}$ production cross section using events with one lepton and at least one jet in $pp$ collisions at $s = 13 \text{ TeV}$ . Journal of High Energy Physics, 2017, 2017, 1.	1.6	15
119	Quantum adiabatic machine learning by zooming into a region of the energy surface. Physical Review A, 2020, 102, .	1.0	15
120	Search for black holes and sphalerons in high-multiplicity final states in proton-proton collisions at $\sqrt{s} = 13 \text{ TeV}$ . Journal of High Energy Physics, 2018, 2018, 1.	1.6	14
121	Measurements of the $pp \rightarrow WZ$ inclusive and differential production cross sections and constraints on charged anomalous triple gauge couplings at $\sqrt{s} = 13 \text{ TeV}$ . Journal of High Energy Physics, 2019, 2019, 1.	1.6	14
122	Mixed higher-order anisotropic flow and nonlinear response coefficients of charged particles in $\sqrt{s_{NN}} = 2.76$ and $5.02 \text{ TeV}$ collisions. European Physical Journal C, 2020, 80, 534.	1.4	14
123	Search for dark matter particles produced in association with a Higgs boson in proton-proton collisions at $\sqrt{s} = 13 \text{ TeV}$ . Journal of High Energy Physics, 2020, 2020, 1.	1.6	14
124	Search for long-lived particles decaying to leptons with large impact parameter in proton-proton collisions at $\sqrt{s} = 13, \text{ext } \{ \text{TeV} \}$ . European Physical Journal C, 2022, 82, 153.	1.4	14
125	Search for the associated production of a Higgs boson with a single top quark in proton-proton collisions at $s = 8 \text{ TeV}$ . Journal of High Energy Physics, 2016, 2016, 1.	1.6	13
126	Measurement of the underlying event activity in inclusive Z boson production in proton-proton collisions at $\sqrt{s} = 13 \text{ TeV}$ . Journal of High Energy Physics, 2018, 2018, 1.	1.6	13



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127	Measurements of differential cross sections of top quark pair production as a function of kinematic event variables in proton-proton collisions at $\sqrt{s}=13$ TeV. Journal of High Energy Physics, 2018, 2018, 1.	1.6	13
128	Search for supersymmetry in final states with two or three soft leptons and missing transverse momentum in proton-proton collisions at $\sqrt{s} = 13$ TeV. Journal of High Energy Physics, 2022, 2022, 1.	1.6	13
129	The HEP.TrkX Project: Deep Learning for Particle Tracking. Journal of Physics: Conference Series, 2018, 1085, 042023.	0.3	12
130	Search for decays of stopped exotic long-lived particles produced in proton-proton collisions at $\sqrt{s}=13$ TeV. Journal of High Energy Physics, 2018, 2018, 1.	1.6	12
131	Search for dark matter produced in association with a Higgs boson decaying to $\hat{t}\hat{t}^*$ or $\hat{t}, \hat{t}^*$ at $\sqrt{s}=13$ TeV. Journal of High Energy Physics, 2018, 2018, 1.	1.6	12
132	Search for heavy resonances decaying into two Higgs bosons or into a Higgs boson and a W or Z boson in proton-proton collisions at 13 TeV. Journal of High Energy Physics, 2019, 2019, 1.	1.6	12
133	Development and validation of HERWIG <sup>2</sup> tunes from CMS underlying-event measurements. European Physical Journal C, 2021, 81, 312.	1.4	12
134	Search for a right-handed W boson and a heavy neutrino in proton-proton collisions at $\sqrt{s} = 13$ TeV. Journal of High Energy Physics, 2022, 2022, 1.	1.6	12
135	Named Data Networking in Climate Research and HEP Applications. Journal of Physics: Conference Series, 2015, 664, 052033.	0.3	11
136	Search for heavy resonances decaying into a vector boson and a Higgs boson in final states with charged leptons, neutrinos and b quarks at $\sqrt{s}=13$ TeV. Journal of High Energy Physics, 2018, 2018, 1.	1.6	11
137	Particle-based fast jet simulation at the LHC with variational autoencoders. Machine Learning: Science and Technology, 2022, 3, 035003.	2.4	11
138	Measurement of the $\sigma(\text{Z}/\gamma^* \rightarrow \text{e}^+\text{e}^-)$ cross section in pp collisions at $\sqrt{s} = 13$ TeV and validation of $\sigma(\text{Z}/\gamma^* \rightarrow \text{e}^+\text{e}^-)$ . European Physical Journal C, 2018, 78, 708.	1.4	10
139	Search for a heavy resonance decaying into a Z boson and a vector boson in the $\text{u}\overline{\text{u}}\text{q}\overline{\text{q}}$ final state. Journal of High Energy Physics, 2018, 2018, 1.	1.6	10
140	Charged particle tracking with quantum annealing optimization. Quantum Machine Intelligence, 2021, 3, 1.	2.7	10
141	Search for a heavy vector resonance decaying to a $\text{Z}\gamma$ boson and a Higgs boson in proton-proton collisions at $\sqrt{s} = 13$ TeV. European Physical Journal C, 2021, 81, 688.	1.4	9
142	Search for a heavy resonance decaying into a Z boson and a Z or W boson in $\text{t}\bar{\text{t}}$ final states at $\sqrt{s}=13$ TeV. Journal of High Energy Physics, 2018, 2018, 1.	1.6	8
143	Anomaly detection using Deep Autoencoders for the assessment of the quality of the data acquired by the CMS experiment. EPJ Web of Conferences, 2019, 214, 06008.	0.1	8
144	Search for direct pair production of scalar top quarks in the single- and dilepton channels in proton-proton collisions at $\sqrt{s} = 8$ TeV. Journal of High Energy Physics, 2016, 2016, 1.	1.6	7

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145	Analysis-Specific Fast Simulation at the LHC with Deep Learning. Computing and Software for Big Science, 2021, 5, 15.	1.3	7
146	Distributions of topological observables in inclusive three- and four-jet events in pp collisions at $\sqrt{s} = 7$ TeV. European Physical Journal C, 2015, 75, 302.	1.4	6
147	The TrackML high-energy physics tracking challenge on Kaggle. EPJ Web of Conferences, 2019, 214, 06037.	0.1	6
148	Graph Neural Network for Object Reconstruction in Liquid Argon Time Projection Chambers. EPJ Web of Conferences, 2021, 251, 03054.	0.1	6
149	Search for the associated production of the Higgs boson with a top-quark pair. , 2014, 2014, 1.		6
150	Automatic log analysis with NLP for the CMS workflow handling. EPJ Web of Conferences, 2020, 245, 03006.	0.1	6
151	Inclusive and differential cross section measurements of single top quark production in association with a Z boson in proton-proton collisions at $\sqrt{s} = 13$ TeV. Journal of High Energy Physics, 2022, 2022, 1.	1.6	6
152	Search for heavy resonances decaying to ZZ or ZW and axion-like particles mediating nonresonant ZZ or ZH production at $\sqrt{s} = 13$ TeV. Journal of High Energy Physics, 2022, 2022, 1.	1.6	6
153	Track reconstruction at LHC as a collaborative data challenge use case with RAMP. EPJ Web of Conferences, 2017, 150, 00015.	0.1	5
154	Search for the pair production of light top squarks in the $e^{\pm} \mu^{\pm}$ final state in proton-proton collisions at $\sqrt{s} = 13$ TeV. Journal of High Energy Physics, 2019, 2019, 1.	1.6	5
155	Generative Adversarial Networks for fast simulation. Journal of Physics: Conference Series, 2020, 1525, 012064.	0.3	5
156	Measurement of energy flow at large pseudorapidities in pp collisions at ( $\sqrt{s} = 0.9$ ) and 7 TeV. , 2011, 2011, 1.		5
157	Measurement of single-diffractive dijet production in proton-proton collisions at $\sqrt{s} = 8$ TeV with the CMS and TOTEM experiments. European Physical Journal C, 2020, 80, 1164.	1.4	5
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