

Patrick Asenov

List of Publications by Year in descending order

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Version: 2024-02-01

105
papers

1,914
citations

236833

25
h-index

315616

38
g-index

107
all docs

107
docs citations

107
times ranked

5452
citing authors

#	ARTICLE	IF	CITATIONS
1	Precision luminosity measurement in proton-proton collisions at $\sqrt{s} = 13$ TeV in 2015 and 2016 at CMS. European Physical Journal C, 2021, 81, 800.	1.4	123
2	Performance of the CMS Level-1 trigger in proton-proton collisions at $\sqrt{s} = 13$ TeV. Journal of Instrumentation, 2020, 15, P10017-P10017.	0.5	84
3	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
4	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
5	Search for high mass dijet resonances with a new background prediction method in proton-proton collisions at $\sqrt{s} = 13$ TeV. Journal of High Energy Physics, 2020, 2020, 1.	1.6	66
6	Search for resonant and nonresonant new phenomena in high-mass dilepton final states at $\sqrt{s} = 13$ TeV. Journal of High Energy Physics, 2021, 2021, 1.	1.6	62
7	Search for supersymmetry in proton-proton collisions at 13 TeV in final states with jets and missing transverse momentum. Journal of High Energy Physics, 2019, 2019, 1.	1.6	54
8	Evidence for Higgs boson decay to a pair of muons. Journal of High Energy Physics, 2021, 2021, 1.	1.6	54
9	Measurement of properties of B_{s1}^0 decays and search for $B_{s1}^0 \rightarrow \mu^+ \mu^-$ with the CMS experiment. Journal of High Energy Physics, 2020, 2020, 1.	1.6	41
10	Search for charged Higgs bosons decaying into a top and a bottom quark in the all-jet final state of pp collisions at $\sqrt{s} = 13$ TeV. Journal of High Energy Physics, 2020, 2020, 1.	1.6	41
11	Measurement of the Higgs boson production rate in association with top quarks in final states with electrons, muons, and hadronically decaying tau leptons at $\sqrt{s} = 13$ TeV. European Physical Journal C, 2021, 81, 378.	1.4	40
12	Engineering amorphous-crystalline interfaces in TiO ₂ ^x /TiO ₂ ^y -based bilayer structures for enhanced resistive switching and synaptic properties. Journal of Applied Physics, 2016, 120, .	1.1	38
13	Search for heavy Higgs bosons decaying to a top quark pair in proton-proton collisions at $\sqrt{s} = 13$ TeV. Journal of High Energy Physics, 2020, 2020, 1.	1.6	37
14	Measurements of production cross sections of the Higgs boson in the four-lepton final state in proton-proton collisions at $\sqrt{s} = 13$ TeV. European Physical Journal C, 2021, 81, 488.	1.4	35
15	Search for dark matter produced in association with a leptonically decaying Z boson in proton-proton collisions at $\sqrt{s} = 13$ TeV. European Physical Journal C, 2021, 81, 13.	1.4	33
16	Search for top squark pair production using dilepton final states in $pp \rightarrow t\bar{t}$ collision data collected at $\sqrt{s} = 13$ TeV. European Physical Journal C, 2021, 81, 3.	1.4	33
17	Investigating the origins of high multilevel resistive switching in forming free Ti/TiO ₂ ^x -based memory devices through experiments and simulations. Journal of Applied Physics, 2017, 121, .	1.1	32
18	A multi-dimensional search for new heavy resonances decaying to boosted WZ or ZZ boson pairs in the dijet final state at $\sqrt{s} = 13$ TeV. European Physical Journal C, 2020, 80, 237.	1.4	31

#	ARTICLE	IF	CITATIONS
19	Search for supersymmetry in final states with two oppositely charged same-flavor leptons and missing transverse momentum in proton-proton collisions at $\sqrt{s} = 13$ TeV. Journal of High Energy Physics, 2021, 2021, 1.	1.6	28
20	Measurements of differential Z boson production cross sections in proton-proton collisions at $\sqrt{s} = 13$ TeV. Journal of High Energy Physics, 2019, 2019, 1.	1.6	28
21	Performance of the reconstruction and identification of high-momentum muons in proton-proton collisions at $\sqrt{s} = 13$ TeV. Journal of Instrumentation, 2020, 15, P02027-P02027.	0.5	27
22	Search for new neutral Higgs bosons through the $\text{H} \rightarrow \text{Z} \text{b} \bar{\text{b}}$ process in pp collisions at $\sqrt{s} = 13$ TeV. Journal of High Energy Physics, 2020, 2020, 1.	1.6	27
23	Measurements of Higgs boson production cross sections and couplings in the diphoton decay channel at $\sqrt{s} = 13$ TeV. Journal of High Energy Physics, 2021, 2021, 1.	1.6	27
24	Search for nonresonant Higgs boson pair production in final states with two bottom quarks and two photons in proton-proton collisions at $\sqrt{s} = 13$ TeV. Journal of High Energy Physics, 2021, 2021, 1.	1.6	26
25	Search for a charged Higgs boson decaying into top and bottom quarks in events with electrons or muons in proton-proton collisions at $\sqrt{s} = 13$ TeV. Journal of High Energy Physics, 2020, 2020, 1.	1.6	26
26	Search for physics beyond the standard model in multilepton final states in proton-proton collisions at $\sqrt{s} = 13$ TeV. Journal of High Energy Physics, 2020, 2020, 1.	1.6	25
27	Search for a heavy Higgs boson decaying to a pair of W bosons in proton-proton collisions at $\sqrt{s} = 13$ TeV. Journal of High Energy Physics, 2020, 2020, 1.	1.6	25
28	Measurements of $\text{pp} \rightarrow \text{ZZ} \text{pp}$ production cross sections and constraints on anomalous triple gauge couplings at $\sqrt{s} = 13, \text{ext } \{ \text{TeV} \}$. European Physical Journal C, 2021, 81, 200.	1.4	24
29	Search for a light pseudoscalar Higgs boson in the boosted $\text{H} \rightarrow \text{b} \bar{\text{b}}$ final state in proton-proton collisions at $\sqrt{s} = 13$ TeV. Journal of High Energy Physics, 2020, 2020, 1.	1.6	23
30	Search for physics beyond the standard model in events with jets and two same-sign or at least three charged leptons in proton-proton collisions at $\sqrt{s} = 13, \text{ext } \{ \text{TeV} \}$. European Physical Journal C, 2020, 80, 752.	1.4	23
31	Search for direct pair production of supersymmetric partners to the τ lepton in proton-proton collisions at $\sqrt{s} = 13, \text{ext } \{ \text{TeV} \}$. European Physical Journal C, 2020, 80, 189.	1.4	22
32	Measurement of differential cross sections and charge ratios for t-channel single top quark production in proton-proton collisions at $\sqrt{s} = 13, \text{ext } \{ \text{TeV} \}$. European Physical Journal C, 2020, 80, 370.	1.4	22
33	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
34	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
35	Measurement of top quark pair production in association with a Z boson in proton-proton collisions at $\sqrt{s} = 13$ TeV. Journal of High Energy Physics, 2020, 2020, 1.	1.6	20
36	Measurement of the cross section for electroweak production of a Z boson, a photon and two jets in proton-proton collisions at $\sqrt{s} = 13$ TeV and constraints on anomalous quartic couplings. Journal of High Energy Physics, 2020, 2020, 1.	1.6	20

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37	A search for the standard model Higgs boson decaying to charm quarks. Journal of High Energy Physics, 2020, 2020, 1.	1.6	20
38	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
39	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
40	Search for low-mass dilepton resonances in Higgs boson decays to four-lepton final states in proton-proton collisions at $\sqrt{s} = 13, \text{TeV}$. European Physical Journal C, 2022, 82, 290.	1.4	18
41	Search for lepton flavour violating decays of a neutral heavy Higgs boson to $\tau\tau$, and $e\tau$, in proton-proton collisions at $\sqrt{s} = 13 \text{ TeV}$. Journal of High Energy Physics, 2020, 2020, 1.	1.6	15
42	Measurement of the inclusive and differential Higgs boson production cross sections in the leptonic WW decay mode at $\sqrt{s} = 13 \text{ TeV}$. Journal of High Energy Physics, 2021, 2021, 1.	1.6	15
43	Search for anomalous triple gauge couplings in WW and WZ production in lepton + jet events in proton-proton collisions at $\sqrt{s} = 13 \text{ TeV}$. Journal of High Energy Physics, 2019, 2019, 1.	1.6	15
44	Search for electroweak production of a vector-like T quark using fully hadronic final states. Journal of High Energy Physics, 2020, 2020, 1.	1.6	14
45	Search for a heavy pseudoscalar Higgs boson decaying into a 125 GeV Higgs boson and a Z boson in final states with two tau and two light leptons at $\sqrt{s} = 13 \text{ TeV}$. Journal of High Energy Physics, 2020, 2020, 1.	1.6	14
46	Mixed higher-order anisotropic flow and nonlinear response coefficients of charged particles in $\sqrt{s_{NN}} = 2.76$ and 5.02 TeV . European Physical Journal C, 2020, 80, 534.	1.4	14
47	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
48	Search for dark photons in Higgs boson production via vector boson fusion in proton-proton collisions at $\sqrt{s} = 13 \text{ TeV}$. Journal of High Energy Physics, 2021, 2021, 1.	1.6	14
49	Search for dark photons in decays of Higgs bosons produced in association with Z bosons in proton-proton collisions at $\sqrt{s} = 13 \text{ TeV}$. Journal of High Energy Physics, 2019, 2019, 1.	1.6	13
50	Inclusive search for highly boosted Higgs bosons decaying to bottom quark-antiquark pairs in proton-proton collisions at $\sqrt{s} = 13 \text{ TeV}$. Journal of High Energy Physics, 2020, 2020, 1.	1.6	13
51	Search for supersymmetry in final states with two or three soft leptons and missing transverse momentum in proton-proton collisions at $\sqrt{s} = 13 \text{ TeV}$. Journal of High Energy Physics, 2022, 2022, 1.	1.6	13
52	Measurement of the average very forward energy as a function of the track multiplicity at central pseudorapidities in proton-proton collisions at $\sqrt{s} = 13, \text{TeV}$. European Physical Journal C, 2019, 79, 893.	1.4	12
53	Investigation into the event-activity dependence of $\bar{p}(nS)$ relative production in proton-proton collisions at $\sqrt{s} = 7 \text{ TeV}$. Journal of High Energy Physics, 2020, 2020, 1.	1.6	12
54	Search for new physics in top quark production with additional leptons in proton-proton collisions at $\sqrt{s} = 13 \text{ TeV}$ using effective field theory. Journal of High Energy Physics, 2021, 2021, 1.	1.6	12

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55	Development and validation of HERWIG tunes from CMS underlying-event measurements. <i>European Physical Journal C</i> , 2021, 81, 312.	1.4	12
56	Search for a right-handed W boson and a heavy neutrino in proton-proton collisions at $\sqrt{s} = 13$ TeV. <i>Journal of High Energy Physics</i> , 2022, 2022, 1.	1.6	12
57	Search for the production of four top quarks in the single-lepton and opposite-sign dilepton final states in proton-proton collisions at $\sqrt{s} = 13$ TeV. <i>Journal of High Energy Physics</i> , 2019, 2019, 1.	1.6	11
58	First measurement of large area jet transverse momentum spectra in heavy-ion collisions. <i>Journal of High Energy Physics</i> , 2021, 2021, 1.	1.6	11
59	Search for resonances decaying to a pair of Higgs bosons in the $b\bar{q}q$ final state in proton-proton collisions at $\sqrt{s} = 13$ TeV. <i>Journal of High Energy Physics</i> , 2019, 2019, 1.	1.6	10
60	Measurement of quark- and gluon-like jet fractions using jet charge in PbPb and pp collisions at 5.02 TeV. <i>Journal of High Energy Physics</i> , 2020, 2020, 1.	1.6	10
61	Evidence for W production from double-parton interactions in proton-proton collisions at $\sqrt{s} = 13$ TeV. <i>European Physical Journal C</i> , 2020, 80, 1.	1.4	10
62	Angular analysis of the decay $B^+ \rightarrow K^+ \pi^+ \pi^-$ in proton-proton collisions at $\sqrt{s} = 8$ TeV. <i>Journal of High Energy Physics</i> , 2021, 2021, 1.	1.6	9
63	Search for a heavy vector resonance decaying to a Z boson and a Higgs boson in proton-proton collisions at $\sqrt{s} = 13$ TeV. <i>European Physical Journal C</i> , 2021, 81, 688.	1.4	9
64	Dependence of inclusive jet production on the anti- k_T distance parameter in pp collisions at $\sqrt{s} = 13$ TeV. <i>Journal of High Energy Physics</i> , 2020, 2020, 1.	1.6	8
65	Study of central exclusive "Equation missing" production in proton-proton collisions at $\sqrt{s} = 5.02$ TeV and 13 TeV. <i>European Physical Journal C</i> , 2020, 80, 718.	1.4	7
66	Measurement of the top quark forward-backward production asymmetry and the anomalous chromoelectric and chromomagnetic moments in pp collisions at $\sqrt{s} = 13$ TeV. <i>Journal of High Energy Physics</i> , 2020, 2020, 1.	1.6	7
67	Measurements of the $pp \rightarrow W^{\pm} Z$ and $pp \rightarrow Z^0 Z$ cross sections at $\sqrt{s} = 13$ TeV and limits on anomalous quartic gauge couplings. <i>Journal of High Energy Physics</i> , 2021, 2021, 1.	1.6	7
68	Search for decays of the 125 GeV Higgs boson into a Z boson and a ρ meson. <i>Journal of High Energy Physics</i> , 2020, 2020, 1.	1.6	6
69	Determination of the strong coupling constant $\alpha_s(m_Z)$ from measurements of inclusive W^{\pm} and Z boson production cross sections in proton-proton collisions at $\sqrt{s} = 7$ and 8 TeV. <i>Journal of High Energy Physics</i> , 2020, 2020, 1.	1.6	6
70	Measurement of double-parton scattering in inclusive production of four jets with low transverse momentum in proton-proton collisions at $\sqrt{s} = 13$ TeV. <i>Journal of High Energy Physics</i> , 2022, 2022, 1.	1.6	6
71	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. <i>Journal of High Energy Physics</i> , 2022, 2022, 1.	1.6	6
72	Search for heavy resonances decaying to ZZ or ZW and axion-like particles mediating nonresonant ZZ or ZH production at $\sqrt{s} = 13$ TeV. <i>Journal of High Energy Physics</i> , 2022, 2022, 1.	1.6	6

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73	Measurement of the cross section for $\overline{\text{t}}\text{t}$ production with additional jets and b jets in pp collisions at $\sqrt{s} = 13$ TeV. Journal of High Energy Physics, 2020, 2020, 1.	1.6	5
74	Measurement of differential cross sections for Z bosons produced in association with charm jets in pp collisions at $\sqrt{s} = 13$ TeV. Journal of High Energy Physics, 2021, 2021, 1.	1.6	5
75	In-medium modification of dijets in PbPb collisions at $\sqrt{s_{\text{NN}}} = 5.02$ TeV. Journal of High Energy Physics, 2021, 2021, 1.	1.6	5
76	Search for flavor-changing neutral current interactions of the top quark and the Higgs boson decaying to a bottom quark-antiquark pair at $\sqrt{s} = 13$ TeV. Journal of High Energy Physics, 2022, 2022, 1.	1.6	5
77	Search for long-lived particles decaying into muon pairs in proton-proton collisions at $\sqrt{s} = 13$ TeV collected with a dedicated high-rate data stream. Journal of High Energy Physics, 2022, 2022, .	1.6	5
78	Measurement and QCD analysis of double-differential inclusive jet cross sections in proton-proton collisions at $\sqrt{s} = 13$ TeV. Journal of High Energy Physics, 2022, 2022, 1.	1.6	5
79	Search for electroweak production of charginos and neutralinos in proton-proton collisions at $\sqrt{s} = 13$ TeV. Journal of High Energy Physics, 2022, 2022, 1.	1.6	5
80	Search for single production of a vector-like T quark decaying to a top quark and a Z boson in the final state with jets and missing transverse momentum at $\sqrt{s} = 13$ TeV. Journal of High Energy Physics, 2022, 2022, .	1.6	5
81	Characterisation of irradiated thin silicon sensors for the CMS phase II pixel upgrade. European Physical Journal C, 2017, 77, 1.	1.4	4
82	The production of isolated photons in PbPb and pp collisions at $\sqrt{s_{\text{NN}}} = 5.02$ TeV. Journal of High Energy Physics, 2020, 2020, 1.	1.6	4
83	Search for supersymmetry in proton-proton collisions at $\sqrt{s} = 13$ TeV in events with high-momentum Z bosons and missing transverse momentum. Journal of High Energy Physics, 2020, 2020, 1.	1.6	4
84	Measurement of b jet shapes in proton-proton collisions at $\sqrt{s} = 5.02$ TeV. Journal of High Energy Physics, 2021, 2021, 1.	1.6	4
85	Search for supersymmetry using Higgs boson to diphoton decays at $\sqrt{s} = 13$ TeV. Journal of High Energy Physics, 2019, 2019, 1.	1.6	4
86	Search for higgsinos decaying to two Higgs bosons and missing transverse momentum in proton-proton collisions at $\sqrt{s} = 13$ TeV. Journal of High Energy Physics, 2022, 2022, .	1.6	4
87	Calibration of the CMS hadron calorimeters using proton-proton collision data at $\sqrt{s} = 13$ TeV. Journal of Instrumentation, 2020, 15, P05002-P05002.	0.5	3
88	Search for the lepton flavor violating decay $\tilde{\chi}_1^0 \rightarrow \tau^+ \tau^- \gamma$ in proton-proton collisions at $\sqrt{s} = 13$ TeV. Journal of High Energy Physics, 2021, 2021, 1.	1.6	3
89	Study of Drell-Yan dimuon production in proton-lead collisions at $\sqrt{s_{\text{NN}}} = 8.16$ TeV. Journal of High Energy Physics, 2021, 2021, 1.	1.6	3
90	Study of the $\text{B}^0 \rightarrow \mu^+ \mu^- \overline{\Lambda} \text{p}$ decay in proton-proton collisions at $\sqrt{s} = 8$ TeV. Journal of High Energy Physics, 2019, 2019, 1.	1.6	3

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91	Physical modelling of the SET/RESET characteristics and analog properties of TiO _x /HfO ₂ /TiO _x -based RRAM devices. , 2016, , .		2
92	Experiments and simulation of multilevel resistive switching in forming free Ti/TiO ₂ RRAM devices. , 2017, , .		2
93	Search for an excited lepton that decays via a contact interaction to a lepton and two jets in proton-proton collisions at $\sqrt{s} = 13$ TeV. Journal of High Energy Physics, 2020, 2020, 1.	1.6	2
94	Measurement of the top quark pair production cross section in dilepton final states containing one \bar{l} , lepton in pp collisions at $\sqrt{s} = 13$ TeV. Journal of High Energy Physics, 2020, 2020, 1.	1.6	2
95	Measurements of the differential cross sections of the production of Z + jets and \hat{t}^3 + jets and of Z boson emission collinear with a jet in pp collisions at $\sqrt{s} = 13$ TeV. Journal of High Energy Physics, 2021, 2021, 1.	1.6	2
96	Measurement of the Z boson differential production cross section using its invisible decay mode (Z \rightarrow $\nu\bar{\nu}$) Tj ETQq0 0 0 r gBT /Overlock 10 Physics, 2021, 2021, 1.	1.6	2
97	Measurements of angular distance and momentum ratio distributions in three-jet and $Z +$ two-jet final states in pp collisions. European Physical Journal C, 2021, 81, 852.	1.4	2
98	Measurement of prompt open-charm production cross sections in proton-proton collisions at $\sqrt{s} = 13$ TeV. Journal of High Energy Physics, 2021, 2021, 1.	1.6	2
99	Search for a heavy resonance decaying into a top quark and a W boson in the lepton+jets final state at $\sqrt{s} = 13$ TeV. Journal of High Energy Physics, 2022, 2022, 1.	1.6	2
100	Measurement of the inclusive $\overline{\text{t}}\text{t}$ production cross section in proton-proton collisions at $\sqrt{s} = 5.02$ TeV. Journal of High Energy Physics, 2022, 2022, 1.	1.6	2
101	Search for heavy resonances decaying to a pair of Lorentz-boosted Higgs bosons in final states with leptons and a bottom quark pair at $\sqrt{s} = 13$ TeV. Journal of High Energy Physics, 2022, 2022, .	1.6	2
102	Search for top squark pair production in a final state with two tau leptons in proton-proton collisions at $\sqrt{s} = 13$ TeV. Journal of High Energy Physics, 2020, 2020, 1.	1.6	1
103	Study of dijet events with large rapidity separation in proton-proton collisions at $\sqrt{s} = 2.76$ TeV. Journal of High Energy Physics, 2022, 2022, 1.	1.6	1
104	Search for a heavy resonance decaying to a top quark and a W boson at $\sqrt{s} = 13$ TeV in the fully hadronic final state. Journal of High Energy Physics, 2021, 2021, 1.	1.6	1
105	Observation of $B^0 \rightarrow \text{Suppsi}(2S)K^0_{\text{phys}}$ and $B^0_{\text{phys}} \rightarrow \text{Suppsi}(2S)K^0_{\text{phys}}$ decays. European Physical Journal C, 2022, 82, .	1.4	1