

Gunnar Jakel

List of Publications by Year in descending order

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Version: 2024-02-01

88
papers

2,060
citations

236925

25
h-index

289244

40
g-index

94
all docs

94
docs citations

94
times ranked

5625
citing authors

#	ARTICLE	IF	CITATIONS
1	ATLAS b-jet identification performance and efficiency measurement with $t\bar{t}$ events in pp collisions at $\sqrt{s}=13$ TeV. European Physical Journal C, 2019, 79, 1.	3.9	130
2	Performance of electron and photon triggers in ATLAS during LHC Run 2. European Physical Journal C, 2020, 80, 1.	3.9	93
3	Muon reconstruction and identification efficiency in ATLAS using the full Run 2 pp collision data set at $\sqrt{s}=13$ TeV. European Physical Journal C, 2021, 81, 1.	3.9	82
4	Electron reconstruction and identification in the ATLAS experiment using the 2015 and 2016 LHC proton-proton collision data at $\sqrt{s} = 13$ TeV. European Physical Journal C, 2019, 79, 1.	3.9	77
5	Jet energy scale and resolution measured in proton-proton collisions at $\sqrt{s}=13$ TeV with the ATLAS detector. European Physical Journal C, 2021, 81, 1.	3.9	64
6	Prompt and non-prompt J/ψ and $\psi(2S)$ suppression at high transverse momentum in 5.02 TeV Pb+Pb collisions with the ATLAS experiment. European Physical Journal C, 2018, 78, 762.	3.9	61
7	Search for pair production of Higgs bosons in the $b\bar{b}$ final state using proton-proton collisions at $\sqrt{s}=13$ TeV with the ATLAS detector. Journal of High Energy Physics, 2019, 2019, 1.	4.7	55
8	Constraints on mediator-based dark matter and scalar dark energy models using $\sqrt{s} = 13$ TeV pp collision data collected by the ATLAS detector. Journal of High Energy Physics, 2019, 2019, 1.	4.7	49
9	Measurement of the photon identification efficiencies with the ATLAS detector using LHC Run 2 data collected in 2015 and 2016. European Physical Journal C, 2019, 79, 1.	3.9	46
10	Search for charged Higgs bosons decaying into a top quark and a bottom quark at $\sqrt{s} = 13$ TeV with the ATLAS detector. Journal of High Energy Physics, 2021, 2021, 1.	4.7	46
11	Performance of top-quark and W -boson tagging with ATLAS in Run 2 of the LHC. European Physical Journal C, 2019, 79, 1.	3.9	42
12	Higgs boson production cross-section measurements and their EFT interpretation in the $e\ell$ decay channel at $\sqrt{s}=13$ TeV with the ATLAS detector. European Physical Journal C, 2020, 80, 1.	3.9	41
13	Measurements of b-jet tagging efficiency with the ATLAS detector using $t\bar{t}$ events at $\sqrt{s}=13$ TeV. Journal of High Energy Physics, 2018, 2018, 1.	4.7	40
14	Search for heavy resonances decaying into a pair of Z bosons in the $e^+e^- \rightarrow e^+e^- Z Z$ and $e^+e^- \rightarrow e^+e^- Z \gamma$ final states using 139 fb ⁻¹ of proton-proton collisions at $\sqrt{s} = 13$ TeV with the ATLAS detector. European Physical Journal C, 2021, 81, 1.	3.9	40
15	Measurements of WH and ZH production in the $H \rightarrow b\bar{b}$ decay channel in pp collisions at $\sqrt{s}=13$ TeV with the ATLAS detector. European Physical Journal C, 2021, 81, 1.	3.9	38
16	Electron and photon energy calibration with the ATLAS detector using 2015-2016 LHC proton-proton collision data. Journal of Instrumentation, 2019, 14, P03017-P03017.	1.2	37
17	Search for squarks and gluinos in final states with jets and missing transverse momentum using 139 fb ⁻¹ of $\sqrt{s} = 13$ TeV pp collision data with the ATLAS detector. Journal of High Energy Physics, 2021, 2021, 1.	4.7	37
18	Search for pairs of scalar leptoquarks decaying into quarks and electrons or muons in $\sqrt{s} = 13$ TeV pp collisions with the ATLAS detector. Journal of High Energy Physics, 2020, 2020, 1.	4.7	36

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19	Search for a scalar partner of the top quark in the all-hadronic $t\bar{t}$ plus missing transverse momentum final state at $\sqrt{s}=13$ TeV with the ATLAS detector. European Physical Journal C, 2020, 80, 1.	3.9	36
20	Measurements of top-quark pair differential and double-differential cross-sections in the $ell\ell+jets$ channel with pp collisions at $\sqrt{s}=13$ TeV using the ATLAS detector. European Physical Journal C, 2019, 79, 1.	3.9	34
21	Search for direct production of electroweakinos in final states with one lepton, missing transverse momentum and a Higgs boson decaying into two b-jets in pp collisions at $\sqrt{s}=13$ TeV with the ATLAS detector. European Physical Journal C, 2020, 80, 1.	3.9	34
22	Measurements of the Higgs boson inclusive and differential fiducial cross sections in the $ell\ell$ decay channel at $\sqrt{s}=13$ TeV. European Physical Journal C, 2020, 80, 1.	3.9	32
23	Search for new phenomena in events with same-charge leptons and b-jets in pp collisions at $\sqrt{s}=13$ TeV with the ATLAS detector. Journal of High Energy Physics, 2018, 2018, 1.	4.7	30
24	Evidence for $t\bar{t}$ production in the multilepton final state in proton-proton collisions at $\sqrt{s}=13$ TeV with the ATLAS detector. European Physical Journal C, 2020, 80, 1.	3.9	30
25	Search for heavy diboson resonances in semileptonic final states in pp collisions at $\sqrt{s}=13$ TeV with the ATLAS detector. European Physical Journal C, 2020, 80, 1.	3.9	29
26	Search for chargino-neutralino pair production in final states with three leptons and missing transverse momentum in $\sqrt{s}=13$ TeV pp collisions with the ATLAS detector. European Physical Journal C, 2021, 81, 1.	3.9	28
27	Search for pair production of third-generation scalar leptoquarks decaying into a top quark and a τ -lepton in pp collisions at $\sqrt{s}=13$ TeV with the ATLAS detector. Journal of High Energy Physics, 2021, 2021, 1.	4.7	27
28	Search for a heavy Higgs boson decaying into a Z boson and another heavy Higgs boson in the $ell\ell b\bar{b}$ and $ell\ell WW$ final states in pp collisions at $\sqrt{s}=13$ TeV with the ATLAS detector. European Physical Journal C, 2021, 81, 1.	3.9	26
29	Measurement of the cross-section and charge asymmetry of W bosons produced in proton-proton collisions at $\sqrt{s}=8$ TeV with the ATLAS detector. European Physical Journal C, 2019, 79, 1.	3.9	24
30	Measurement of fiducial and differential W^+W^- production cross-sections at $\sqrt{s}=13$ TeV with the ATLAS detector. European Physical Journal C, 2019, 79, 1.	3.9	24
31	Search for new non-resonant phenomena in high-mass dilepton final states with the ATLAS detector. Journal of High Energy Physics, 2020, 2020, 1.	4.7	24
32	Search for doubly and singly charged Higgs bosons decaying into vector bosons in multi-lepton final states with the ATLAS detector using proton-proton collisions at $\sqrt{s}=13$ TeV. Journal of High Energy Physics, 2021, 2021, 1.	4.7	23
33	AtlFast3: The Next Generation of Fast Simulation in ATLAS. Computing and Software for Big Science, 2022, 6, 1.	2.9	23
34	Measurements of top-quark pair spin correlations in the emu channel at $\sqrt{s}=13$ TeV using pp collisions in the ATLAS detector. European Physical Journal C, 2020, 80, 1.	3.9	22
35	Search for new phenomena in events with two opposite-charge leptons, jets and missing transverse momentum in pp collisions at $\sqrt{s}=13$ TeV with the ATLAS detector. Journal of High Energy Physics, 2021, 2021, 1.	4.7	22
36	Search for squarks and gluinos in final states with same-sign leptons and jets using 139 fb ⁻¹ of data collected with the ATLAS detector. Journal of High Energy Physics, 2020, 2020, 1.	4.7	19

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37	Measurement of light-by-light scattering and search for axion-like particles with 2.2 nb ⁻¹ of Pb+Pb data with the ATLAS detector. Journal of High Energy Physics, 2021, 2021, 1.	4.7	19
38	Search for dark matter in association with an energetic photon in pp collisions at $\sqrt{s} = 13$ TeV with the ATLAS detector. Journal of High Energy Physics, 2021, 2021, 1.	4.7	18
39	Search for pair production of scalar leptoquarks decaying into first- or second-generation leptons and top quarks in proton-proton collisions at $\sqrt{s} = 13$ TeV with the ATLAS detector. European Physical Journal C, 2021, 81, 1.	3.9	18
40	Search for new phenomena in final states with b-jets and missing transverse momentum in $\sqrt{s} = 13$ TeV pp collisions with the ATLAS detector. Journal of High Energy Physics, 2021, 2021, 1.	4.7	18
41	Performance of the missing transverse momentum triggers for the ATLAS detector during Run-2 data taking. Journal of High Energy Physics, 2020, 2020, 1.	4.7	17
42	Search for the HH \rightarrow $b\bar{b}$ process via vector-boson fusion production using proton-proton collisions at $\sqrt{s} = 13$ TeV with the ATLAS detector. Journal of High Energy Physics, 2020, 2020, 1.	4.7	17
43	Search for type-III seesaw heavy leptons in dilepton final states in pp collisions at $\sqrt{s} = 13$ TeV with the ATLAS detector. European Physical Journal C, 2021, 81, 1.	3.9	17
44	Optimisation of large-radius jet reconstruction for the ATLAS detector in 13 TeV proton-proton collisions. European Physical Journal C, 2021, 81, 1.	3.9	15
45	Determination of jet calibration and energy resolution in proton-proton collisions at $\sqrt{s} = 8$ TeV using the ATLAS detector. European Physical Journal C, 2020, 80, 1.	3.9	15
46	Measurement of VH, $\mathcal{H} \rightarrow b\bar{b}$ production as a function of the vector-boson transverse momentum in 13 TeV pp collisions with the ATLAS detector. Journal of High Energy Physics, 2019, 2019, 1.	4.7	14
47	Search for new phenomena with top quark pairs in final states with one lepton, jets, and missing transverse momentum in pp collisions at $\sqrt{s} = 13$ TeV with the ATLAS detector. Journal of High Energy Physics, 2021, 2021, 1.	4.7	14
48	Measurements of Higgs bosons decaying to bottom quarks from vector boson fusion production with the ATLAS experiment at $\sqrt{s} = 13$ TeV. European Physical Journal C, 2021, 81, 1.	3.9	14
49	Measurements of top-quark pair single- and double-differential cross-sections in the all-hadronic channel in pp collisions at $\sqrt{s} = 13$ TeV using the ATLAS detector. Journal of High Energy Physics, 2021, 2021, 1.	4.7	14
50	Search for $\overline{t}t$ resonances in fully hadronic final states in pp collisions at $\sqrt{s} = 13$ TeV with the ATLAS detector. Journal of High Energy Physics, 2020, 2020, 1.	4.7	14
51	Measurement of the c-jet mistagging efficiency in $t\bar{t}$ events using pp collision data at $\sqrt{s} = 13$ TeV collected with the ATLAS detector. European Physical Journal C, 2022, 82, .	3.9	14
52	Search for squarks and gluinos in final states with one isolated lepton, jets, and missing transverse momentum at $\sqrt{s} = 13$ TeV with the ATLAS detector. European Physical Journal C, 2021, 81, 1.	3.9	13
53	Observation of the associated production of a top quark and a Z boson in pp collisions at $\sqrt{s} = 13$ TeV with the ATLAS detector. Journal of High Energy Physics, 2020, 2020, 1.	4.7	12
54	Differential cross-section measurements for the electroweak production of dijets in association with a Z boson in proton-proton collisions at ATLAS. European Physical Journal C, 2021, 81, 1.	3.9	12

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55	Search for supersymmetry in events with four or more charged leptons in 139 fb^{-1} of $\sqrt{s} = 13 \text{ TeV}$ pp collisions with the ATLAS detector. Journal of High Energy Physics, 2021, 2021, 1.	4.7	12
56	Measurements of the inclusive and differential production cross sections of a top-quark-antiquark pair in association with a Z boson at $\sqrt{s} = 13 \text{ TeV}$ with the ATLAS detector. European Physical Journal C, 2021, 81, 1.	3.9	12
57	Search for dark matter in events with missing transverse momentum and a Higgs boson decaying into two photons in pp collisions at $\sqrt{s} = 13 \text{ TeV}$ with the ATLAS detector. Journal of High Energy Physics, 2021, 2021, 1.	4.7	12
58	Alignment of the ATLAS Inner Detector in Run 2. European Physical Journal C, 2020, 80, 1.	3.9	12
59	Determination of the parton distribution functions of the proton using diverse ATLAS data from pp collisions at $\sqrt{s} = 7, 8$ and 13 TeV . European Physical Journal C, 2022, 82, 1.	3.9	12
60	Measurements of the production cross-section for a Z boson in association with b-jets in proton-proton collisions at $\sqrt{s} = 13 \text{ TeV}$ with the ATLAS detector. Journal of High Energy Physics, 2020, 2020, 1.	4.7	11
61	Determination of the parton distribution functions of the proton from ATLAS measurements of differential W^{\pm} and Z boson production in association with jets. Journal of High Energy Physics, 2021, 2021, 1.	4.7	10
62	Measurement of the $t\bar{t}$ production cross section in pp collisions at $\sqrt{s} = 13 \text{ TeV}$ with the ATLAS detector. Journal of High Energy Physics, 2021, 2021, 1.	4.7	10
63	Search for Higgs bosons decaying into new spin-0 or spin-1 particles in four-lepton final states with the ATLAS detector with 139 fb^{-1} of pp collision data at $\sqrt{s} = 13 \text{ TeV}$. Journal of High Energy Physics, 2022, 2022, 1.	4.7	10
64	Search for dark matter produced in association with a Standard Model Higgs boson decaying into b-quarks using the full Run 2 dataset from the ATLAS detector. Journal of High Energy Physics, 2021, 2021, 1.	4.7	10
65	Measurement of the inclusive cross-section for the production of jets in association with a Z boson in proton-proton collisions at 8 TeV using the ATLAS detector. European Physical Journal C, 2019, 79, 1.	3.9	9
66	Search for dark matter produced in association with a single top quark in $\sqrt{s} = 13 \text{ TeV}$ pp collisions with the ATLAS detector. European Physical Journal C, 2021, 81, 1.	3.9	9
67	Measurements of $W+W^{\gamma} + \text{jet}$ production cross-sections in pp collisions at $\sqrt{s} = 13 \text{ TeV}$ with the ATLAS detector. Journal of High Energy Physics, 2021, 2021, 1.	4.7	8
68	Measurements of differential cross-sections in four-lepton events in 13 TeV proton-proton collisions with the ATLAS detector. Journal of High Energy Physics, 2021, 2021, 1.	4.7	8
69	Reconstruction and identification of boosted $d\bar{t}$ systems in a search for Higgs boson pairs using 13 TeV proton-proton collision data in ATLAS. Journal of High Energy Physics, 2020, 2020, 1.	4.7	8
70	Observation of electroweak production of two jets in association with an isolated photon and missing transverse momentum, and search for a Higgs boson decaying into invisible particles at 13 TeV with the ATLAS detector. European Physical Journal C, 2022, 82, 1.	3.9	8
71	Search for R-parity-violating supersymmetry in a final state containing leptons and many jets with the ATLAS experiment using $\sqrt{s} = 13 \text{ TeV}$ proton-proton collision data. European Physical Journal C, 2021, 81, 1.	3.9	7
72	Configuration and performance of the ATLAS b-jet triggers in Run 2. European Physical Journal C, 2021, 81, 1.	3.9	7

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73	Search for flavour-changing neutral-current interactions of a top quark and a gluon in pp collisions at $\sqrt{s} = 13$ TeV with the ATLAS detector. European Physical Journal C, 2022, 82, .	3.9	7
74	Measurement of the ratio of cross sections for inclusive isolated-photon production in pp collisions at $\sqrt{s} = 13$ and 8 TeV with the ATLAS detector. Journal of High Energy Physics, 2019, 2019, 1.	4.7	6
75	Search for Higgs boson production in association with a high-energy photon via vector-boson fusion with decay into bottom quark pairs at $\sqrt{s} = 13$ TeV with the ATLAS detector. Journal of High Energy Physics, 2021, 2021, 1.	4.7	6
76	Performance of the ATLAS Level-1 topological trigger in Run 2. European Physical Journal C, 2022, 82, 1.	3.9	6
77	A search for the decays of stopped long-lived particles at $\sqrt{s} = 13$ TeV with the ATLAS detector. Journal of High Energy Physics, 2021, 2021, 1.	4.7	5
78	Search for phenomena beyond the Standard Model in events with large b-jet multiplicity using the ATLAS detector at the LHC. European Physical Journal C, 2021, 81, 1.	3.9	5
79	The ATLAS inner detector trigger performance in pp collisions at 13 TeV during LHC Run 2. European Physical Journal C, 2022, 82, 1.	3.9	5
80	Measurement of hadronic event shapes in high-pT multijet final states at $\sqrt{s} = 13$ TeV with the ATLAS detector. Journal of High Energy Physics, 2021, 2021, 1.	4.7	4
81	Search for top squarks in events with a Higgs or Z boson using 139 fb ⁻¹ of pp collision data at $\sqrt{s} = 13$ TeV with the ATLAS detector. European Physical Journal C, 2020, 80, 1.	3.9	4
82	Measurement of the energy response of the ATLAS calorimeter to charged pions from $W \rightarrow \mu \nu$ events in Run 2 data. European Physical Journal C, 2022, 82, 1.	3.9	4
83	Measurement of the production cross section of pairs of isolated photons in pp collisions at 13 TeV with the ATLAS detector. Journal of High Energy Physics, 2021, 2021, 1.	4.7	4
84	Search for exotic decays of the Higgs boson into long-lived particles in pp collisions at $\sqrt{s} = 13$ TeV using displaced vertices in the ATLAS inner detector. Journal of High Energy Physics, 2021, 2021, 1.	4.7	4
85	Measurement of single top-quark production in association with a W boson in the single-lepton channel at $\sqrt{s} = 8, \sqrt{s} = 13$ TeV with the ATLAS detector. European Physical Journal C, 2021, 81, 1.	3.9	3
86	Measurement of b-quark fragmentation properties in jets using the decay $B \rightarrow J/\psi K$ in pp collisions at $\sqrt{s} = 13$ TeV with the ATLAS detector. Journal of High Energy Physics, 2021, 2021, 1.	4.7	3
87	Search for exotic decays of the Higgs boson into $b\bar{b}$ and missing transverse momentum in pp collisions at $\sqrt{s} = 13$ TeV with the ATLAS detector. Journal of High Energy Physics, 2022, 2022, 1.	4.7	2
88	Measurement of the energy asymmetry in $t\bar{t}$ production at $\sqrt{s} = 13, \sqrt{s} = 8$ TeV with the ATLAS experiment and interpretation in the SMEFT framework. European Physical Journal C, 2022, 82, .	3.9	2