

# Callum Birch-Sykes

## List of Publications by Citations

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

61  
papers

244  
citations

8  
h-index

10  
g-index

70  
ext. papers

627  
ext. citations

4.7  
avg, IF

0.63  
L-index

#	Paper	IF	Citations
61	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. <i>European Physical Journal C</i> , <b>2020</b> , 80, 1	4.2	17
60	Muon reconstruction and identification efficiency in ATLAS using the full Run 2 pp collision data set at ( $\sqrt{s}=13$ ) TeV. <i>European Physical Journal C</i> , <b>2021</b> , 81, 1	4.2	13
59	Higgs boson production cross-section measurements and their EFT interpretation in the ( $4\ell$ ) decay channel at ( $\sqrt{s}=13$ ) TeV with the ATLAS detector. <i>European Physical Journal C</i> , <b>2020</b> , 80, 1	4.2	12
58	Jet energy scale and resolution measured in proton-proton collisions at ( $\sqrt{s}=13$ ) TeV with the ATLAS detector. <i>European Physical Journal C</i> , <b>2021</b> , 81, 1	4.2	11
57	Search for new non-resonant phenomena in high-mass dilepton final states with the ATLAS detector. <i>Journal of High Energy Physics</i> , <b>2020</b> , 2020, 1	5.4	9
56	Measurements of the Higgs boson inclusive and differential fiducial cross sections in the ( $4\ell$ ) decay channel at ( $\sqrt{s}=13$ ) TeV. <i>European Physical Journal C</i> , <b>2020</b> , 80, 1	4.2	9
55	Search for pairs of scalar leptoquarks decaying into quarks and electrons or muons in ( $\sqrt{s}=13$ ) TeV pp collisions with the ATLAS detector. <i>Journal of High Energy Physics</i> , <b>2020</b> , 2020, 1	5.4	8
54	Evidence for ( $t\bar{t}$ ) production in the multilepton final state in proton-proton collisions at ( $\sqrt{s}=13$ ) (text {TeV}) with the ATLAS detector. <i>European Physical Journal C</i> , <b>2020</b> , 80, 1	4.2	8
53	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. <i>Journal of High Energy Physics</i> , <b>2021</b> , 2021, 1	5.4	8
52	Search for heavy resonances decaying into a pair of Z bosons in the ( $e^+e^- \rightarrow e^+e^- \gamma \gamma$ ) and ( $e^+e^- \rightarrow e^+e^- \nu \bar{\nu}$ ) final states using 139 ( $\text{fb}^{-1}$ ) of proton-proton collisions at ( $\sqrt{s}=13$ ) TeV with the ATLAS detector. <i>European Physical Journal C</i> , <b>2021</b> , 81, 1	4.2	8
51	Search for charged Higgs bosons decaying into a top quark and a bottom quark at ( $\sqrt{s}=13$ ) TeV with the ATLAS detector. <i>Journal of High Energy Physics</i> , <b>2021</b> , 2021, 1	5.4	8
50	Search for squarks and gluinos in final states with jets and missing transverse momentum using 139 ( $\text{fb}^{-1}$ ) of ( $\sqrt{s}=13$ ) TeV pp collision data with the ATLAS detector. <i>Journal of High Energy Physics</i> , <b>2021</b> , 2021, 1	5.4	8
49	Search for new phenomena in final states with large jet multiplicities and missing transverse momentum using ( $\sqrt{s}=13$ ) TeV proton-proton collisions recorded by ATLAS in Run 2 of the LHC. <i>Journal of High Energy Physics</i> , <b>2020</b> , 2020, 1	5.4	7
48	Search for type-III seesaw heavy leptons in dilepton final states in pp collisions at ( $\sqrt{s}=13$ , {TeV}) with the ATLAS detector. <i>European Physical Journal C</i> , <b>2021</b> , 81, 1	4.2	7
47	Search for a heavy Higgs boson decaying into a Z boson and another heavy Higgs boson in the ( $e^+e^- \rightarrow e^+e^- \gamma \gamma$ ) and ( $e^+e^- \rightarrow e^+e^- W W$ ) final states in pp collisions at ( $\sqrt{s}=13$ ) (text {TeV}) with the ATLAS detector. <i>European Physical Journal C</i> , <b>2021</b> , 81, 1	4.2	7
46	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. <i>European Physical Journal C</i> , <b>2021</b> , 81, 1	4.2	7
45	Search for ( $\tilde{t}$ ) resonances in fully hadronic final states in pp collisions at ( $\sqrt{s}=13$ ) TeV with the ATLAS detector. <i>Journal of High Energy Physics</i> , <b>2020</b> , 2020, 1	5.4	6

44	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. <i>Journal of High Energy Physics</i> , <b>2021</b> , 2021, 1	5.4	6
43	Search for new phenomena in final states with b-jets and missing transverse momentum in ( $\sqrt{\text{mathrm{s}}}$ ) = 13 TeV pp collisions with the ATLAS detector. <i>Journal of High Energy Physics</i> , <b>2021</b> , 2021, 1	5.4	6
42	Search for pair production of third-generation scalar leptoquarks decaying into a top quark and a lepton in pp collisions at ( $\sqrt{s}$ ) = 13 TeV with the ATLAS detector. <i>Journal of High Energy Physics</i> , <b>2021</b> , 2021, 1	5.4	6
41	Accidental symmetries in the 2HDMEFT. <i>Nuclear Physics B</i> , <b>2020</b> , 960, 115171	2.8	5
40	Measurement of light-by-light scattering and search for axion-like particles with 2.2 nb of Pb+Pb data with the ATLAS detector. <i>Journal of High Energy Physics</i> , <b>2021</b> , 2021, 1	5.4	5
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. <i>European Physical Journal C</i> , <b>2021</b> , 81, 1	4.2	5
38	Differential cross-section measurements for the electroweak production of dijets in association with a Z boson in proton-proton collisions at ATLAS. <i>European Physical Journal C</i> , <b>2021</b> , 81, 1	4.2	5
37	Search for dark matter in association with an energetic photon in pp collisions at ( $\sqrt{s}$ ) = 13 TeV with the ATLAS detector. <i>Journal of High Energy Physics</i> , <b>2021</b> , 2021, 1	5.4	5
36	Search for heavy diboson resonances in semileptonic final states in pp collisions at ( $\sqrt{s}$ )=13 TeV with the ATLAS detector. <i>European Physical Journal C</i> , <b>2020</b> , 80, 1	4.2	4
35	Alignment of the ATLAS Inner Detector in Run 2. <i>European Physical Journal C</i> , <b>2020</b> , 80, 1	4.2	4
34	Search for dark matter produced in association with a single top quark in ( $\sqrt{s}$ )=13 TeV (pp) collisions with the ATLAS detector. <i>European Physical Journal C</i> , <b>2021</b> , 81, 1	4.2	4
33	Reconstruction and identification of boosted di- $\tau$ systems in a search for Higgs boson pairs using 13 TeV proton-proton collision data in ATLAS. <i>Journal of High Energy Physics</i> , <b>2020</b> , 2020, 1	5.4	3
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 ( $\sqrt{\text{mathrm{s}}}$ ) = 13 TeV. <i>Journal of High Energy Physics</i> , <b>2021</b> , 2021, 1	5.4	3
31	Measurement of hadronic event shapes in high-pT multijet final states at ( $\sqrt{s}$ ) = 13 TeV with the ATLAS detector. <i>Journal of High Energy Physics</i> , <b>2021</b> , 2021, 1	5.4	3
30	Search for R-parity-violating supersymmetry in a final state containing leptons and many jets with the ATLAS experiment using ( $\sqrt{s}$ ) = 13 TeV proton-proton collision data. <i>European Physical Journal C</i> , <b>2021</b> , 81, 1	4.2	2
29	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 TeV with the ATLAS detector. <i>Journal of High Energy Physics</i> , <b>2021</b> , 2021, 1	5.4	2
28	Measurements of inclusive and differential cross-sections of combined ( $\overline{t}\gamma$ ) and $tW$ production in the e channel at 13 TeV with the ATLAS detector. <i>Journal of High Energy Physics</i> , <b>2020</b> , 2020, 1	5.4	2
27	Optimisation of large-radius jet reconstruction for the ATLAS detector in 13 TeV proton-proton collisions. <i>European Physical Journal C</i> , <b>2021</b> , 81, 1	4.2	2

26	Search for supersymmetry in events with four or more charged leptons in 139 fb of $(\sqrt{s}) = 13$ TeV pp collisions with the ATLAS detector. <i>Journal of High Energy Physics</i> , <b>2021</b> , 2021, 1	5.4	2
25	Search for top squarks in events with a Higgs or Z boson using 139 fb of pp collision data at $(\sqrt{s}=13)$ TeV with the ATLAS detector. <i>European Physical Journal C</i> , <b>2020</b> , 80, 1	4.2	1
24	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. <i>Journal of High Energy Physics</i> , <b>2021</b> , 2021, 1	5.4	1
23	Determination of the parton distribution functions of the proton from ATLAS measurements of differential $W$ and Z boson production in association with jets. <i>Journal of High Energy Physics</i> , <b>2021</b> , 2021, 1	5.4	1
22	A search for the decays of stopped long-lived particles at $(\sqrt{\text{mathrm{s}}}) = 13$ TeV with the ATLAS detector. <i>Journal of High Energy Physics</i> , <b>2021</b> , 2021, 1	5.4	1
21	Measurements of the inclusive and differential production cross sections of a top-quark-antiquark pair in association with a Z boson at $(\sqrt{s} = 13)$ TeV with the ATLAS detector. <i>European Physical Journal C</i> , <b>2021</b> , 81, 1	4.2	1
20	Search for phenomena beyond the Standard Model in events with large b-jet multiplicity using the ATLAS detector at the LHC. <i>European Physical Journal C</i> , <b>2021</b> , 81, 1	4.2	1
19	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. <i>European Physical Journal C</i> , <b>2021</b> , 81, 1	4.2	1
18	Configuration and performance of the ATLAS b-jet triggers in Run 2. <i>European Physical Journal C</i> , <b>2021</b> , 81, 1	4.2	1
17	Determination of the parton distribution functions of the proton using diverse ATLAS data from pp collisions at $\sqrt{s} = 7, 8$ and 13 TeV. <i>European Physical Journal C</i> , <b>2022</b> , 82, 1	4.2	1
16	Performance of the ATLAS Level-1 topological trigger in Run 2. <i>European Physical Journal C</i> , <b>2022</b> , 82, 1	4.2	0
15	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. <i>Journal of High Energy Physics</i> , <b>2022</b> , 2022, 1	5.4	0
14	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. <i>European Physical Journal C</i> , <b>2022</b> , 82, 1	4.2	0
13	Measurement of the $t(\bar{t})t(\bar{t})$ production cross section in pp collisions at $(\sqrt{s}) = 13$ TeV with the ATLAS detector. <i>Journal of High Energy Physics</i> , <b>2021</b> , 2021, 1	5.4	0
12	Measurements of $W+W$ jet production cross-sections in pp collisions at $(\sqrt{s}) = 13$ TeV with the ATLAS detector. <i>Journal of High Energy Physics</i> , <b>2021</b> , 2021, 1	5.4	0
11	Measurements of Higgs bosons decaying to bottom quarks from vector boson fusion production with the ATLAS experiment at $(\sqrt{s}=13, \text{TeV})$ . <i>European Physical Journal C</i> , <b>2021</b> , 81, 1	4.2	0
10	Measurements of differential cross-sections in four-lepton events in 13 TeV proton-proton collisions with the ATLAS detector. <i>Journal of High Energy Physics</i> , <b>2021</b> , 2021, 1	5.4	0
9	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. <i>European Physical Journal C</i> , <b>2021</b> , 81, 1	4.2	0

8	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 <sup>-1</sup> of pp collision data at $\sqrt{s} = 13$ TeV. <i>Journal of High Energy Physics</i> , <b>2022</b> , 2022, 1	5.4	○
7	AtlFast3: The Next Generation of Fast Simulation in ATLAS. <i>Computing and Software for Big Science</i> , <b>2022</b> , 6, 1	6	○
6	Measurement of the energy response of the ATLAS calorimeter to charged pions from $W^{\pm} \rightarrow \tau^{\pm} \rightarrow \pi^{\pm} \nu_{\tau} \nu_{\tau}$ events in Run 2 data. <i>European Physical Journal C</i> , <b>2022</b> , 82, 1	4.2	○
5	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. <i>Journal of High Energy Physics</i> , <b>2021</b> , 2021, 1	5.4	○
4	Measurement of the production cross section of pairs of isolated photons in pp collisions at 13 TeV with the ATLAS detector. <i>Journal of High Energy Physics</i> , <b>2021</b> , 2021, 1	5.4	○
3	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. <i>Journal of High Energy Physics</i> , <b>2021</b> , 2021, 1	5.4	○
2	Measurement of b-quark fragmentation properties in jets using the decay $B \rightarrow \mu \mu$ in pp collisions at $\sqrt{s} = 13$ TeV with the ATLAS detector. <i>Journal of High Energy Physics</i> , <b>2021</b> , 2021, 1	5.4	○
1	The ATLAS inner detector trigger performance in pp collisions at 13 TeV during LHC Run 2. <i>European Physical Journal C</i> , <b>2022</b> , 82, 1	4.2	