

# Robert Hankache

## List of Publications by Year in Descending Order

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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.

85  
papers

662  
citations

13  
h-index

22  
g-index

95  
ext. papers

1,246  
ext. citations

4.7  
avg, IF

-0.94  
L-index

| #  | Paper   | IF  | Citations |
|----|---|-----|-----------|
| 85 | Performance of the ATLAS Level-1 topological trigger in Run2. <i>European Physical Journal C</i> , <b>2022</b> , 82, 1  | 4.2 | 0         |
| 84 | 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         |
| 83 | 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 $\sqrt{s} = 13$ TeV with the ATLAS detector. <i>European Physical Journal C</i> , <b>2022</b> , 82, 1 | 4.2 | 0         |
| 82 | 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 | 0         |
| 81 | AtlFast3: The Next Generation of Fast Simulation in ATLAS. <i>Computing and Software for Big Science</i> , <b>2022</b> , 6, 1   | 6   | 0         |
| 80 | Measurement of the energy response of the ATLAS calorimeter to charged pions from $W \rightarrow \tau \rightarrow \pi \nu_{\tau} \nu_{\tau}$ events in Run2 data. <i>European Physical Journal C</i> , <b>2022</b> , 82, 1  | 4.2 | 0         |
| 79 | The ATLAS inner detector trigger performance in pp collisions at $\sqrt{s} = 13$ TeV during LHC Run 2. <i>European Physical Journal C</i> , <b>2022</b> , 82, 1   | 4.2 |           |
| 78 | 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         |
| 77 | 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         |
| 76 | 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         |
| 75 | 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         |
| 74 | 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         |
| 73 | Measurement of light-by-light scattering and search for axion-like particles with 2.2 nb <sup>-1</sup> of Pb+Pb data with the ATLAS detector. <i>Journal of High Energy Physics</i> , <b>2021</b> , 2021, 1   | 5.4 | 5         |
| 72 | 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         |
| 71 | 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         |
| 70 | 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         |
| 69 | 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         |

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|----|---|-----|----|
| 68 | 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  |
| 67 | Search for heavy resonances decaying into a pair of Z bosons in the $(e^+e^- \mu^+\mu^-)$ and $(e^+e^- \nu \bar{\nu})$ 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  |
| 66 | 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. <i>Journal of High Energy Physics</i> , <b>2021</b> , 2021, 1  | 5.4 | 6  |
| 65 | Search for a heavy Higgs boson decaying into a Z boson and another heavy Higgs boson in the $(e^+e^- \mu\mu)$ and $(e^+e^- WW)$ 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  |
| 64 | 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. <i>Journal of High Energy Physics</i> , <b>2021</b> , 2021, 1   | 5.4 | 3  |
| 63 | 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  |
| 62 | 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  |
| 61 | Measurements of Higgs bosons decaying to bottom quarks from vector boson fusion production with the ATLAS experiment at $(\sqrt{s}=13, \text{text {TeV}})$ . <i>European Physical Journal C</i> , <b>2021</b> , 81, 1   | 4.2 | 0  |
| 60 | 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  |
| 59 | Search for supersymmetry in events with four or more charged leptons in 139 $\text{fb}^{-1}$ 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  |
| 58 | 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  |
| 57 | 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  |
| 56 | A search for the decays of stopped long-lived particles at $(\sqrt{s}) = 13$ TeV with the ATLAS detector. <i>Journal of High Energy Physics</i> , <b>2021</b> , 2021, 1   | 5.4 | 1  |
| 55 | 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 |
| 54 | 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  |
| 53 | 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  |
| 52 | 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  |
| 51 | Measurements of WH and ZH production in the $(H \rightarrow \bar{b}b)$ decay channel in pp collisions at $(13, \text{text {Te}}\text{text {V}})$ with the ATLAS detector. <i>European Physical Journal C</i> , <b>2021</b> , 81, 1  | 4.2 | 7  |

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|----|---|-----|----|
| 50 | 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  |
| 49 | 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  |
| 48 | Measurement of single top-quark production in association with a W boson in the single-lepton channel at $(\sqrt{s} = 8, \text{TeV})$ with the ATLAS detector. <i>European Physical Journal C</i> , <b>2021</b> , 81, 1                         | 4.2 | 1  |
| 47 | 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 |
| 46 | 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  |
| 45 | 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  |
| 44 | 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. <i>Journal of High Energy Physics</i> , <b>2021</b> , 2021, 1     | 5.4 | 2  |
| 43 | 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  |
| 42 | 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 | 0  |
| 41 | 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 | 0  |
| 40 | 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 | 0  |
| 39 | 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  |
| 38 | 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  |
| 37 | 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. <i>Journal of High Energy Physics</i> , <b>2021</b> , 2021, 1                 | 5.4 | 0  |
| 36 | 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 |
| 35 | 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  |
| 34 | Search for squarks and gluinos in final states with same-sign leptons and jets using 139 fb <sup>-1</sup> of data collected with the ATLAS detector. <i>Journal of High Energy Physics</i> , <b>2020</b> , 2020, 1                              | 5.4 | 8  |
| 33 | Performance of electron and photon triggers in ATLAS during LHC Run 2. <i>European Physical Journal C</i> , <b>2020</b> , 80, 1   | 4.2 | 30 |

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|----|---|-----|----|
| 32 | Search for top squarks in events with a Higgs or Z boson using 139 fb <sup>(-1)</sup> 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  |
| 31 | Evidence for ( $t\bar{t}$ ) production in the multilepton final state in proton-proton collisions at ( $\sqrt{s}$ =13) (TeV) with the ATLAS detector. <i>European Physical Journal C</i> , <b>2020</b> , 80, 1  | 4.2 | 8  |
| 30 | 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  |
| 29 | 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 |
| 28 | Alignment of the ATLAS Inner Detector in Run 2. <i>European Physical Journal C</i> , <b>2020</b> , 80, 1  | 4.2 | 4  |
| 27 | Determination of jet calibration and energy resolution in proton-proton collisions at ( $\sqrt{s}$ = 8~TeV) using the ATLAS detector. <i>European Physical Journal C</i> , <b>2020</b> , 80, 1  | 4.2 | 3  |
| 26 | Search for ( $\overline{t}$ ) 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  |
| 25 | 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  |
| 24 | Performance of the missing transverse momentum triggers for the ATLAS detector during Run-2 data taking. <i>Journal of High Energy Physics</i> , <b>2020</b> , 2020, 1  | 5.4 | 8  |
| 23 | 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  |
| 22 | Measurements of the Higgs boson inclusive and differential fiducial cross sections in the $4(\ell\ell)$ decay channel at ( $\sqrt{s}$ ) = 13 TeV. <i>European Physical Journal C</i> , <b>2020</b> , 80, 1  | 4.2 | 9  |
| 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. <i>European Physical Journal C</i> , <b>2020</b> , 80, 1 | 4.2 | 13 |
| 20 | Measurements of the production cross-section for a Z boson in association with b-jets in proton-proton collisions at ( $\sqrt{s}$ ) = 13 TeV with the ATLAS detector. <i>Journal of High Energy Physics</i> , <b>2020</b> , 2020, 1   | 5.4 | 5  |
| 19 | Search for the $HH \rightarrow \overline{b}b$ process via vector-boson fusion production using proton-proton collisions at ( $\sqrt{s}$ ) = 13 TeV with the ATLAS detector. <i>Journal of High Energy Physics</i> , <b>2020</b> , 2020, 1   | 5.4 | 5  |
| 18 | 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. <i>Journal of High Energy Physics</i> , <b>2020</b> , 2020, 1  | 5.4 | 5  |
| 17 | Measurements of top-quark pair spin correlations in the ( $e\mu$ ) channel at ( $\sqrt{s}$ = 13) TeV using pp collisions in the ATLAS detector. <i>European Physical Journal C</i> , <b>2020</b> , 80, 1  | 4.2 | 8  |
| 16 | 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. <i>European Physical Journal C</i> , <b>2019</b> , 79, 1  | 4.2 | 11 |
| 15 | Electron reconstruction and identification in the ATLAS experiment using the 2015 and 2016 LHC proton-proton collision data at ( $\sqrt{s}$ = 13) (TeV). <i>European Physical Journal C</i> , <b>2019</b> , 79, 1   | 4.2 | 37 |

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|----|---|-----|----|
| 14 | Measurement of $VH$ , ( $\text{mathrm{H}}$ to $\text{mathrm{b}}\overline{\text{mathrm{b}}}$ ) production as a function of the vector-boson transverse momentum in 13 TeV pp collisions with the ATLAS detector. <i>Journal of High Energy Physics</i> , <b>2019</b> , 2019, 1 | 5.4 | 8  |
| 13 | Performance of top-quark and ( $\text{varvec{W}}$ )-boson tagging with ATLAS in Run 2 of the LHC. <i>European Physical Journal C</i> , <b>2019</b> , 79, 1  | 4.2 | 19 |
| 12 | Electron and photon energy calibration with the ATLAS detector using 2015–2016 LHC proton-proton collision data. <i>Journal of Instrumentation</i> , <b>2019</b> , 14, P03017-P03017  | 1   | 25 |
| 11 | Measurement of the photon identification efficiencies with the ATLAS detector using LHC Run 2 data collected in 2015 and 2016. <i>European Physical Journal C</i> , <b>2019</b> , 79, 1   | 4.2 | 26 |
| 10 | 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. <i>Journal of High Energy Physics</i> , <b>2019</b> , 2019, 1  | 5.4 | 5  |
| 9  | Search for pair production of Higgs bosons in the ( $\text{b}\overline{\text{b}}$ ) final state using proton-proton collisions at ( $\sqrt{s}$ )=13 TeV with the ATLAS detector. <i>Journal of High Energy Physics</i> , <b>2019</b> , 2019, 1                                | 5.4 | 31 |
| 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. <i>Journal of High Energy Physics</i> , <b>2019</b> , 2019, 1  | 5.4 | 31 |
| 7  | Measurement of fiducial and differential ( $W^+W^-$ ) production cross-sections at ( $\sqrt{s}$ )=13 TeV with the ATLAS detector. <i>European Physical Journal C</i> , <b>2019</b> , 79, 1  | 4.2 | 16 |
| 6  | 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. <i>European Physical Journal C</i> , <b>2019</b> , 79, 1   | 4.2 | 4  |
| 5  | ATLAS b-jet identification performance and efficiency measurement with ( $t\bar{t}$ ) events in pp collisions at ( $\sqrt{s}$ )=13 TeV. <i>European Physical Journal C</i> , <b>2019</b> , 79, 1  | 4.2 | 43 |
| 4  | Measurements of top-quark pair differential and double-differential cross-sections in the ( $\text{ell}$ )+jets channel with pp collisions at ( $\sqrt{s}$ )=13 TeV using the ATLAS detector. <i>European Physical Journal C</i> , <b>2019</b> , 79, 1                        | 4.2 | 13 |
| 3  | 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. <i>Journal of High Energy Physics</i> , <b>2018</b> , 2018, 1   | 5.4 | 21 |
| 2  | Prompt and non-prompt and suppression at high transverse momentum in Pb+Pb collisions with the ATLAS experiment. <i>European Physical Journal C</i> , <b>2018</b> , 78, 762   | 4.2 | 23 |
| 1  | Measurements of b-jet tagging efficiency with the ATLAS detector using ( $t\bar{t}$ ) events at ( $\sqrt{s}$ )=13 TeV. <i>Journal of High Energy Physics</i> , <b>2018</b> , 2018, 1  | 5.4 | 31 |