

# Robert Hankache

## List of Publications by Year in descending order

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Version: 2024-02-01

89  
papers

2,063  
citations

236925

25  
h-index

289244

40  
g-index

95  
all docs

95  
docs citations

95  
times ranked

5625  
citing authors

| #  | ARTICLE  | IF  | CITATIONS |
|----|--|-----|-----------|
| 1  | Performance of the ATLAS Level-1 topological trigger in Run 2. European Physical Journal C, 2022, 82, 1.   | 3.9 | 6         |
| 2  | Measurement of the c-jet mistagging efficiency in $\sqrt{s}=13$ TeV events using pp collision data at $\sqrt{s}=13$ TeV collected with the ATLAS detector. European Physical Journal C, 2022, 82, .  | 3.9 | 14        |
| 3  | 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         |
| 4  | 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. European Physical Journal C, 2022, 82, 1. | 3.9 | 8         |
| 5  | Search for Higgs bosons decaying into new spin-0 or spin-1 particles in four-lepton final states with the ATLAS detector with $139 \text{ fb}^{-1}$ of pp collision data at $\sqrt{s} = 13$ TeV. Journal of High Energy Physics, 2022, 2022, 1.                                  | 4.7 | 10        |
| 6  | AtlFast3: The Next Generation of Fast Simulation in ATLAS. Computing and Software for Big Science, 2022, 6, 1.   | 2.9 | 23        |
| 7  | Measurement of the energy response of the ATLAS calorimeter to charged pions from $W \rightarrow u\bar{u}(\rightarrow \pi^+ u \pi^- \bar{u})$ events in Run 2 data. European Physical Journal C, 2022, 82, 1.  | 3.9 | 4         |
| 8  | The ATLAS inner detector trigger performance in pp collisions at $\sqrt{s}=13$ TeV during LHC Run 2. European Physical Journal C, 2022, 82, 1.   | 3.9 | 5         |
| 9  | 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         |
| 10 | Measurement of the energy asymmetry in $t\bar{t}$ production at $\sqrt{s}=13$ TeV with the ATLAS experiment and interpretation in the SMEFT framework. European Physical Journal C, 2022, 82, .  | 3.9 | 2         |
| 11 | 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        |
| 12 | Machine-enhanced CP-asymmetries in the Higgs sector. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 2022, 832, 137246.  | 4.1 | 3         |
| 13 | 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         |
| 14 | 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. Journal of High Energy Physics, 2021, 2021, 1.  | 4.7 | 37        |
| 15 | 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        |
| 16 | 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        |
| 17 | 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        |
| 18 | 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        |

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|----|--|-----|-----------|
| 19 | 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. Journal of High Energy Physics, 2021, 2021, 1.   | 4.7 | 19        |
| 20 | 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         |
| 21 | 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        |
| 22 | 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        |
| 23 | 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        |
| 24 | 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        |
| 25 | Search for heavy resonances decaying into a pair of Z bosons in the $e^+e^- \rightarrow e^+e^- Z Z$ and $e^+e^- \rightarrow e^+e^- \gamma Z$ final states using 139 fb <sup>-1</sup> of proton-proton collisions at $\sqrt{s} = 13$ TeV with the ATLAS detector. European Physical Journal C, 2021, 81, 1. | 3.9 | 40        |
| 26 | 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        |
| 27 | Search for a heavy Higgs boson decaying into a Z boson and another heavy Higgs boson in the $e^+e^- \rightarrow e^+e^- \gamma Z$ and $e^+e^- \rightarrow e^+e^- W W$ final states in pp collisions at $\sqrt{s} = 13$ TeV with the ATLAS detector. European Physical Journal C, 2021, 81, 1.               | 3.9 | 26        |
| 28 | 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        |
| 29 | Measurements of $W+W+1$ jet production cross-sections in pp collisions at $\sqrt{s} = 13$ TeV with the ATLAS detector. Journal of High Energy Physics, 2021, 2021, 1.  | 4.7 | 8         |
| 30 | 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        |
| 31 | 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        |
| 32 | Search for pair production of third-generation scalar leptoquarks decaying into a top quark and a $\tau$ -lepton in pp collisions at $\sqrt{s} = 13$ TeV with the ATLAS detector. Journal of High Energy Physics, 2021, 2021, 1.   | 4.7 | 27        |
| 33 | Search for supersymmetry in events with four or more charged leptons in 139 fb <sup>-1</sup> of $\sqrt{s} = 13$ TeV pp collisions with the ATLAS detector. Journal of High Energy Physics, 2021, 2021, 1.  | 4.7 | 12        |
| 34 | 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        |
| 35 | 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         |
| 36 | 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         |

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|----|--|-----|-----------|
| 37 | 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        |
| 38 | 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        |
| 39 | Measurement of single top-quark production in association with a W boson in the single-lepton channel at $\sqrt{s} = 8, \text{ext} \{ \text{TeV} \}$ with the ATLAS detector. European Physical Journal C, 2021, 81, 1.        | 3.9 | 3         |
| 40 | 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        |
| 41 | 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. European Physical Journal C, 2021, 81, 1. | 3.9 | 12        |
| 42 | Search for dark matter produced in association with a single top quark in $\sqrt{s}=13$ TeV pp collisions with the ATLAS detector. European Physical Journal C, 2021, 81, 1.   | 3.9 | 9         |
| 43 | 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        |
| 44 | 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         |
| 45 | 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. Journal of High Energy Physics, 2021, 2021, 1.  | 4.7 | 12        |
| 46 | 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. European Physical Journal C, 2021, 81, 1.      | 3.9 | 7         |
| 47 | Measurement of the $t\bar{t}$ production cross section in pp collisions at $\sqrt{s} = 13$ TeV with the ATLAS detector. Journal of High Energy Physics, 2021, 2021, 1.   | 4.7 | 10        |
| 48 | 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        |
| 49 | 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         |
| 50 | 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         |
| 51 | 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        |
| 52 | Configuration and performance of the ATLAS b-jet triggers in Run 2. European Physical Journal C, 2021, 81, 1.  | 3.9 | 7         |
| 53 | Measurement of b-quark fragmentation properties in jets using the decay $B^{\pm} \rightarrow J/\psi K^{\pm}$ in pp collisions at $\sqrt{s} = 13$ TeV with the ATLAS detector. Journal of High Energy Physics, 2021, 2021, 1.   | 4.7 | 3         |
| 54 | 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        |

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|----|--|-----|-----------|
| 55 | 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        |
| 56 | Measurements of the Higgs boson inclusive and differential fiducial cross sections in the $4\ell$ decay channel at $\sqrt{s} = 13$ TeV. European Physical Journal C, 2020, 80, 1.  | 3.9 | 32        |
| 57 | 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        |
| 58 | 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. Journal of High Energy Physics, 2020, 2020, 1.   | 4.7 | 11        |
| 59 | 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        |
| 60 | 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        |
| 61 | Measurements of top-quark pair spin correlations in the $e\mu$ channel at $\sqrt{s} = 13$ TeV using pp collisions in the ATLAS detector. European Physical Journal C, 2020, 80, 1.   | 3.9 | 22        |
| 62 | 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. European Physical Journal C, 2020, 80, 1.  | 3.9 | 41        |
| 63 | 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        |
| 64 | 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. Journal of High Energy Physics, 2020, 2020, 1.  | 4.7 | 19        |
| 65 | Search for $t\bar{t}$ 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        |
| 66 | Reconstruction and identification of boosted di- $\tau$ 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         |
| 67 | Performance of electron and photon triggers in ATLAS during LHC Run 2. European Physical Journal C, 2020, 80, 1.   | 3.9 | 93        |
| 68 | 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. European Physical Journal C, 2020, 80, 1.   | 3.9 | 4         |
| 69 | 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        |
| 70 | 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        |
| 71 | 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        |
| 72 | Alignment of the ATLAS Inner Detector in Run 2. European Physical Journal C, 2020, 80, 1.  | 3.9 | 12        |

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|----|---|-----|-----------|
| 73 | Determination of jet calibration and energy resolution in proton-proton collisions at $\sqrt{s} = 8\text{--}13\text{ TeV}$ using the ATLAS detector. European Physical Journal C, 2020, 80, 1.  | 3.9 | 15        |
| 74 | Constraints on mediator-based dark matter and scalar dark energy models using $\sqrt{s} = 13\text{ TeV}$ pp collision data collected by the ATLAS detector. Journal of High Energy Physics, 2019, 2019, 1.  | 4.7 | 49        |
| 75 | Measurement of the cross-section and charge asymmetry of W bosons produced in proton-proton collisions at $\sqrt{s} = 8\text{--}13\text{ TeV}$ with the ATLAS detector. European Physical Journal C, 2019, 79, 1.                                   | 3.9 | 24        |
| 76 | Electron reconstruction and identification in the ATLAS experiment using the 2015 and 2016 LHC proton-proton collision data at $\sqrt{s} = 13\text{--}14\text{ TeV}$ . European Physical Journal C, 2019, 79, 1.                                    | 3.9 | 77        |
| 77 | Measurement of $VH$ , $\mathcal{H} \rightarrow \mathcal{H} \overline{\mathcal{H}}$ 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        |
| 78 | 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        |
| 79 | 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        |
| 80 | 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        |
| 81 | 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         |
| 82 | Search for pair production of Higgs bosons in the $b\overline{b}$ final state using proton-proton collisions at $\sqrt{s} = 13\text{ TeV}$ with the ATLAS detector. Journal of High Energy Physics, 2019, 2019, 1.                                  | 4.7 | 55        |
| 83 | Measurement of fiducial and differential $W^+W^-$ production cross-sections at $\sqrt{s} = 13\text{ TeV}$ with the ATLAS detector. European Physical Journal C, 2019, 79, 1.  | 3.9 | 24        |
| 84 | Measurement of the inclusive cross-section for the production of jets in association with a Z boson in proton-proton collisions at $8\text{ TeV}$ using the ATLAS detector. European Physical Journal C, 2019, 79, 1.                               | 3.9 | 9         |
| 85 | ATLAS b-jet identification performance and efficiency measurement with $t\overline{t}$ events in pp collisions at $\sqrt{s} = 13\text{ TeV}$ . European Physical Journal C, 2019, 79, 1.  | 3.9 | 130       |
| 86 | Measurements of top-quark pair differential and double-differential cross-sections in the $ell + jets$ channel with pp collisions at $\sqrt{s} = 13\text{ TeV}$ using the ATLAS detector. European Physical Journal C, 2019, 79, 1.                 | 3.9 | 34        |
| 87 | Search for new phenomena in events with same-charge leptons and b-jets in pp collisions at $\sqrt{s} = 13\text{ TeV}$ with the ATLAS detector. Journal of High Energy Physics, 2018, 2018, 1.   | 4.7 | 30        |
| 88 | Prompt and non-prompt $J/\psi$ and $\psi(2S)$ suppression at high transverse momentum in $5.02\text{--}5.02\text{ TeV}$ Pb+Pb collisions with the ATLAS experiment. European Physical Journal C, 2018, 78, 762.                                     | 3.9 | 61        |
| 89 | Measurements of b-jet tagging efficiency with the ATLAS detector using $t\overline{t}$ events at $\sqrt{s} = 13\text{ TeV}$ . Journal of High Energy Physics, 2018, 2018, 1.  | 4.7 | 40        |