

NIP Faculty Publication
January – December 2021

63 Titles

International Journals (61)

1. Aaboud, M., Aad, G., Abbott, B., Abbott, D. C., Abdinov, O., Abed Abud, A., ... Zwalinski, L. (2021). Measurement of the relative Bc^\pm / B^\pm production cross section with the ATLAS detector at $s = 8$ TeV. *Physical Review D*, 104(1), Article number 012010. <https://doi.org/10.1103/PhysRevD.104.012010>
2. Aad, G., Abbott, B., Abbott, D. C., Abed Abud, A., & Abeling, K. (2021). Measurement of the $t t^- t t^-$ production cross section in pp collisions at $\sqrt{s} = 13$ TeV with the ATLAS detector. *Journal of High Energy Physics*, 2021(11), Article number 118. [https://doi.org/10.1007/JHEP11\(2021\)118](https://doi.org/10.1007/JHEP11(2021)118)
3. Aad, G., Abbott, B., Abbott, D. C., Abed Abud, A., & Abeling, K. (2021). 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(10), Article number 13. [https://doi.org/10.1007/JHEP10\(2021\)013](https://doi.org/10.1007/JHEP10(2021)013)
4. Aad, G., Abbott, B., Abbott, D. C., Abed Abud, A., Abeling, K., Abhayasinghe, D. K., ... Zwalinski, L. (2021). Two-particle azimuthal correlations in photonuclear ultraperipheral Pb+Pb collisions at 5.02 TeV with ATLAS. *Physical Review C*, 104(1), Article number 014903. <https://doi.org/10.1103/PhysRevC.104.014903>
5. Aad, G., Abbott, B., Abbott, D. C., Abed Abud, A., Abeling, K., Abhayasinghe, D. K., ... Zwalinski, L. (2021). Measurements of $W + W \rightarrow \geq 1$ jet production cross-sections in pp collisions at $\sqrt{s} = 13$ TeV with the ATLAS detector. *Journal of High Energy Physics*, 2021(6), Article Number 3. [https://doi.org/10.1007/JHEP06\(2021\)003](https://doi.org/10.1007/JHEP06(2021)003)
6. Aad, G., Abbott, B., Abbott, D. C., Abed Abud, A., Abeling, K., Abhayasinghe, D. K., ... Zwalinski, L. (2021). Evidence for Higgs boson decays to a low-mass dilepton system and a photon in pp collisions at $s=13$ TeV with the ATLAS detector. *Physics Letters B*, 819, Article Number 136412. <https://doi.org/10.1016/j.physletb.2021.136412>
7. Aad, G., Abbott, B., Abbott, D. C., Abed Abud, A., Abeling, K., Abhayasinghe, D. K., ... Zwalinski, L. (2021). 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(7). Article no. 173. [https://doi.org/10.1007/JHEP07\(2021\)173](https://doi.org/10.1007/JHEP07(2021)173)

8. Aad, G., Abbott, B., Abbott, D. C., Abed Abud, A., Abeling, K., Abhayasinghe, D. K., ... Zwalinski, L. (2021). 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(6). Article no. 179. [https://doi.org/10.1007/JHEP06\(2021\)179](https://doi.org/10.1007/JHEP06(2021)179)
9. Aad, G., Abbott, B., Abbott, D. C., Abed Abud, A., Abeling, K., Abhayasinghe, D. K., ... Zwalinski, L. (2021). Search for trilepton resonances from chargino and neutralino pair production in $s = 13$ TeV p p collisions with the ATLAS detector. *Physical Review D*, 103(11), Article 112003. <https://doi.org/10.1103/physrevd.103.112003>
10. Aad, G., Abbott, B., Abbott, D. C., Abed Abud, A., Abeling, K., Abhayasinghe, D. K., ... Zwalinski, L. (2021). Search for supersymmetry in events with four or more charged leptons in 139 fb^{-1} of $\sqrt{s} = 13$ TeV pp collisions with the ATLAS detector. *Journal of High Energy Physics*, 2021(7), Article number 167. [https://doi.org/10.1007/JHEP07\(2021\)167](https://doi.org/10.1007/JHEP07(2021)167)
11. Aad, G., Abbott, B., Abbott, D. C., Abed Abud, A., Abeling, K., Abhayasinghe, D. K., ... Zwalinski, L. (2021). Search for bottom-squark pair production in pp collision events at $s = 13$ TeV with hadronically decaying τ -leptons, b-jets, and missing transverse momentum using the ATLAS detector. *Physical Review D*, 104(3), Article number 032014. <https://doi.org/10.1103/PhysRevD.104.032014>
12. Aad, G., Abbott, B., Abbott, D. C., Abed Abud, A., Abeling, K., Abhayasinghe, D. K., ... Zwalinski, L. (2021). Search for new phenomena in events with an energetic jet and missing transverse momentum in pp collisions at $s = 13$ TeV with the ATLAS detector. *Physical Review D*, 103(11), Article number 112006. <https://doi.org/10.1103/PhysRevD.103.112006>
13. Aad, G., Abbott, B., Abbott, D. C., Abed Abud, A., Abeling, K., Abhayasinghe, D. K., ... Zwalinski, L. (2021). Search for New Phenomena in Final States with Two Leptons and One or No b-Tagged Jets at $s = 13$ TeV Using the ATLAS Detector. *Physical Review Letters*, 127(14), Article number 141801. <https://doi.org/10.1103/PhysRevLett.127.141801>
14. Aad, G., Abbott, B., Abbott, D. C., Abed Abud, A., Abeling, K., & Abhayasinghe, D. K. (2021). 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(11), Article number 169. [https://doi.org/10.1007/JHEP11\(2021\)169](https://doi.org/10.1007/JHEP11(2021)169)
15. Aad, G., Abbott, B., Abbott, D. C., Abed Abud, A., Abelling, K., & Abhayasinghe, D. K. (2021). 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(5), Article number 93. [https://doi.org/10.1007/JHEP05\(2021\)093](https://doi.org/10.1007/JHEP05(2021)093)

16. Aad, G., Abbott, B., Abbott, D. C., Abud, A. A., Abeling, K., Abhayasinghe, D. K., ... Zwalinski, L. (2021). Optimisation of large-radius jet reconstruction for the ATLAS detector in 13 TeV proton–proton collisions. *The European Physical Journal C*, 81(4), Article number 334. <https://doi.org/10.1140/epjc/s10052-021-09054-3>
17. Aad, G., Abbott, B., Abbott, D. C., Abud, A. A., Abeling, K., Abhayasinghe, D. K., ... Zwalinski, L. (2021). Muon reconstruction and identification efficiency in ATLAS using the full Run 2 pp collision data set at data set at $\sqrt{s}=13$ TeV. *The European Physical Journal C*, 81(7), Article Number 578. <https://doi.org/10.1140/epjc/s10052-021-09233-2>
18. Aad, G., Abbott, B., Abbott, D. C., Abud, A. A., Abeling, K., Abhayasinghe, D. K., ... Zwalinski, L. (2021). 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. *The European Physical Journal C*, 81(8), Article number 737. <https://doi.org/10.1140/epjc/s10052-021-09439-4>
19. Aad, G., Abbott, B., Abbott, D. C., Abud, A. A., Abeling, K., Abhayasinghe, D. K., ... Zwalinski, L. (2021). 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. *The European Physical Journal C*, 81, Article number: 1023. <https://doi.org/10.1140/epjc/s10052-021-09761-x>
20. Aad, G., Abbott, B., Abud, A. A., Abeling, K., & Abhayasinghe, D. K. (2021). Measurements of Higgs Bosons Decaying to Bottom Quarks from Vector Boson Fusion Production with the ATLAS Experiment at $\sqrt{s}=13$ TeV. *The European Physical Journal C*, 81(6), Article number 537. <https://doi.org/10.1140/epjc/s10052-021-09192-8>
21. Aad, G., Abbott, B., Abbott, D. C., Abud, A. A., & Abeling, K. (2021). Measurements of sensor radiation damage in the ATLAS inner detector using leakage currents. *Journal of Instrumentation*, 16(8), Article Number P08025. <https://iopscience.iop.org/article/10.1088/1748-0221/16/08/P08025>
22. Abac, A. G., & Esguerra, J. P. H. (2021). Implications of the generalized uncertainty principle on the Walecka model equation of state and neutron star structure. *International Journal of Modern Physics D*, 30(08), 2150055. <https://doi.org/10.1142/S0218271821500553>

23. Abac, A. G., Esguerra, J. P. H., & Otadoy, R. E. S. (2021). Modified structure equations and mass–radius relations of white dwarfs arising from the linear generalized uncertainty principle. *International Journal of Modern Physics D*, 30(01), 2150005. <https://doi.org/10.1142/S021827182150005X>
24. Abella, A. P. (2021). Vorticity of wave-based octupole metamaterials. *Materials Letters*, 283, 128720. <https://doi.org/10.1016/j.matlet.2020.128720>
25. Afalla, J., Prieto, E. A., Husay, H. A., Gonzales, K. C., Catindig, G., Abulikemu, A., Somintac, A., Salvador, A., Estacio, E., Tani, M., & Hase, M. (2021). Effect of heteroepitaxial growth on LT-GaAs: Ultrafast optical properties. *Journal of Physics: Condensed Matter*, 33(31), 315704. <https://doi.org/10.1088/1361-648X/ac04cc>
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38. Bernardo, R. C. & Vega, I. (2021). Stealth black hole perturbations in kinetic gravity braiding. *Journal of Mathematical Physics*, 62(7), 072501. <https://doi.org/10.1063/5.0048929>
39. Bruzon, D. A. V., Tapang, G. A., & Martinez, I. S. (2021). An electrochemical setup designed for carbon dioxide solubility measurements in ionic liquids. *Review of Scientific Instruments*, 92(2), 024102. <https://doi.org/10.1063/5.0019479>
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50. Olaya, C. M., Hayazawa, N., Balois-Oguchi, M. V., Hermosa, N., & Tanaka, T. (2021). Molecular monolayer sensing using surface plasmon resonance and angular goos-hänchen shift. *Sensors*, 21(13), 4593. <https://doi.org/10.3390/s21134593>

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60. Veloria, A., Perez, G. J., Tapang, G., & Comiso, J. (2021). Improved rainfall data in the Philippines through concurrent use of gpm imerg and ground-based measurements. *Remote Sensing*, 13(15), 2859. <https://doi.org/10.3390/rs13152859>
61. Villanueva, L. L., & Galapon, E. A. (2021). Finite-part integration in the presence of competing singularities: Transformation equations for the hypergeometric functions arising from finite-part integration. *Journal of Mathematical Physics*, 62(4), 043505. <https://doi.org/10.1063/5.0038274>

Local Journal (1)

1. Veloria, A.I., Hernandez, D.T., Tapang, G.A. & Aragones, L.V. (2021). Characterization of Open Water Explosions from Confiscated Explosives in the Philippines – Possible Implications to Local Marine Mammals. *Science Diliman* 33(1), Pages 5-21. <https://journals.upd.edu.ph/index.php/sciencediliman/article/view/7756>

Proceedings (1)

1. Ferrolino, J. P., Cabello, N. I., De Los Reyes, A., Mag-Usara, V. K., Afalla, J. P., Bardaloza, H., Verona, I. C., Talara, M., Kitahara, H., Somintac, A., Salvador, A., Tani, M., & Estacio, E. (2021). Spintronic terahertz emission from Ni/Pt bilayer grown on MgO. *Journal of Physics: Conference Series*, 1943(1), 012035. <https://doi.org/10.1088/1742-6596/1943/1/012035>

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