

**ՓՈՐՁԱՐԱՐԱԿԱՆ ՖԻԶԻԿԱՅԻ ԲԱԺԱՆՄՈՒՆՔԻ ԳԻՏԱԿԱՆ
ՀՐԱՊԱՐԱԿՈՒՄՆԵՐԻ ՑԱՆԿ**

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1. A. Tumasyan et al. (CMS Collaboration), Measurement of prompt open-charm production cross sections in proton-proton collisions at root s=13 TeV, Journal of High Energy Physics, 11 (2021) 225.
2. A. Tumasyan et al. (CMS Collaboration), Search for new particles in events with energetic jets and large missing transverse momentum in proton-proton collisions at $\sqrt{s}=13$ TeV, Journal of High Energy Physics, 11 (2021) 153.
3. A. Tumasyan et al. (CMS Collaboration), Observation of tW production in the single-lepton channel in pp collisions at $\sqrt{s} = 13$ TeV, Journal of High Energy Physics, 11 (2021) 111.
4. A. Tumasyan et al. (CMS Collaboration), Search for a heavy Higgs boson decaying into two lighter Higgs bosons in the tau tau bb final state at 13TeV, Journal of High Energy Physics, 11 (2021) 057.
5. A. Tumasyan et al. (CMS Collaboration), Measurements of the Electroweak Diboson Production Cross Sections in Proton-Proton Collisions at $\sqrt{s}=5.02$ TeV Using Leptonic Decays, Physical Review Letters, 127, (2021) 191801.
6. A. Tumasyan et al. (CMS Collaboration), Combined searches for the production of supersymmetric top quark partners in proton-proton collisions at $\sqrt{s} = 13$ TeV, The European Physical Journal C 81 (2021) 970.
7. A. Tumasyan et al. (CMS Collaboration), Measurement of differential $t(t)\bar{t}$ production cross sections in the full kinematic range using lepton plus jets events from proton-proton collisions at $\sqrt{s} = 13$ TeV, Physical Review D 104 (2021) 092013.
8. A. Tumasyan et al. (CMS Collaboration), Measurements of the pp $\rightarrow W\gamma\gamma$ and pp $\rightarrow Z\gamma\gamma$ cross sections at $\sqrt{s} = 13$ TeV and limits on anomalous quartic gauge couplings, Journal of High Energy Physics, 10 (2021) 174.
9. A. Tumasyan et al. (CMS Collaboration), Study of Z boson plus jets events using variables sensitive to double-parton scattering in pp collisions at $\sqrt{s} = 13$ TeV, Journal of High Energy Physics, 10 (2021) 176.
10. A. Tumasyan et al. (CMS Collaboration), Search for chargino-neutralino production in events with Higgs and W bosons using 137 fb^{-1} of proton-proton collisions at $\sqrt{s} = 13$ TeV, Journal of High Energy Physics, 10 (2021) 176.
11. A. Tumasyan et al. (CMS Collaboration), Measurement of the electroweak production of Z gamma and two jets in proton-proton collisions at $\sqrt{s}=13$ TeV and constraints on anomalous quartic gauge couplings, Physical Review D 104 (2021) 072001.
12. A.M. Sirunyan, A. Tumasyan et al. (CMS Collaboration), Search for long-lived particles decaying to jets with displaced vertices in proton-proton collisions at $\sqrt{s} = 13$ TeV, Physical Review D 104 (2021) 052011.

13. A.M. Sirunyan, A. Tumasyan et al. (CMS Collaboration), Constraints on anomalous Higgs boson couplings to vector bosons and fermions in its production and decay using the four-lepton final state, *Physical Review D* 104 (2021) 052004.
14. A.M. Sirunyan, A. Tumasyan et al. (CMS Collaboration), Observation of Forward Neutron Multiplicity Dependence of Dimuon Acoplanarity in Ultraperipheral Pb-Pb Collisions at $\sqrt{S_{NN}}=5.02$ TeV, *Physical Review Letters*, 127, (2021) 122001.
15. A.M. Sirunyan, A. Tumasyan et al. (CMS Collaboration), Search for top squark production in fully hadronic final states in proton-proton collisions at $\sqrt{s} = 13$ TeV, *Physical Review D* 104 (2021) 052001.
16. A.M. Sirunyan, A. Tumasyan et al. (CMS Collaboration), Search for W' bosons decaying to a top and a bottom quark at $\sqrt{s} = 13$ TeV in the hadronic final state, *Physics Letters B* 820 (2021) 136535.
17. A.M. Sirunyan, A. Tumasyan et al. (CMS Collaboration), First measurement of the cross section for top quark pair production with additional charm jets using dileptonic final states in pp collisions at $\sqrt{s} = 13$ TeV, *Physics Letters B* 820 (2021) 136565.
18. A.M. Sirunyan, A. Tumasyan et al. (CMS Collaboration), Measurements of angular distance and momentum ratio distributions in three-jet and Z + two-jet final states in pp collisions, *The European Physical Journal C* 81 (2021) 852.
19. A.M. Sirunyan, A. Tumasyan et al. (CMS Collaboration), Precision luminosity measurement in proton-proton collisions at $\sqrt{s}= 13$ TeV in 2015 and 2016 at CMS, *The European Physical Journal C* 81 (2021) 800.
20. A.M. Sirunyan, A. Tumasyan et al. (CMS Collaboration), Search for lepton-flavor violating decays of the Higgs boson in the mu tau and e tau final states in proton-proton collisions at $\sqrt{s} = 13$ TeV, *Physical Review D* 104 (2021) 032013.
21. A.M. Sirunyan, A. Tumasyan et al. (CMS Collaboration), Constraints on the Initial State of Pb-Pb Collisions via Measurements of Z-Boson Yields and Azimuthal Anisotropy at $\sqrt{S_{NN}} = 5.02$ TeV, *Physical Review Letters*, 127, (2021) 102002.
22. A.M. Sirunyan, A. Tumasyan et al. (CMS Collaboration), Hard color-singlet exchange in dijet events in proton-proton collisions at $\sqrt{s} = 13$ TeV, *Physical Review D* 104 (2021) 032009.
23. A.M. Sirunyan, A. Tumasyan et al. (CMS Collaboration), Search for top squarks in final states with two top quarks and several light-flavor jets in proton-proton collisions at $\sqrt{s} = 13$ TeV, *Physical Review D* 104 (2021) 032006.
24. A.M. Sirunyan, A. Tumasyan et al. (CMS Collaboration), Search for the rare decay of the W boson into a pion and a photon in proton-proton collisions at $\sqrt{s} = 13$ TeV, *Physics Letters B* 819 (2021) 136409.
25. A.M. Sirunyan, A. Tumasyan et al. (CMS Collaboration), Measurement of the azimuthal anisotropy of Y(1S) and Y(2S) mesons in PbPb collisions at $\sqrt{S_{NN}}=5.02$ TeV, *Physics Letters B* 819 (2021) 136385.
26. A.M. Sirunyan, A. Tumasyan et al. (CMS Collaboration), Search for singly and pair-produced leptoquarks coupling to third-generation fermions in proton-proton collisions at $\sqrt{s} = 13$ TeV, *Physics Letters B* 819 (2021) 136446.
27. A.M. Sirunyan, A. Tumasyan et al. (CMS Collaboration), Search for a heavy vector resonance decaying to a Z boson and a Higgs boson in proton-proton collisions at $\sqrt{s}= 13$ TeV, *The European Physical Journal C* 81 (2021) 688.

28. A.M. Sirunyan, A. Tumasyan et al. (CMS Collaboration), Search for charged Higgs bosons produced in vector boson fusion processes and decaying into vector boson pairs in proton-proton collisions at $\sqrt{s} = 13$ TeV, *The European Physical Journal C* 81 (2021) 723.
29. A.M. Sirunyan, A. Tumasyan et al. (CMS Collaboration), Search for long-lived particles using displaced jets in proton-proton collisions at $\sqrt{s} = 13$ TeV, *Physical Review D* 104 (2021) 012015.
30. A.M. Sirunyan, A. Tumasyan et al. (CMS Collaboration), Search for resonant and nonresonant new phenomena in high-mass dilepton final states at $\sqrt{s} = 13$ TeV, *Journal of High Energy Physics*, 07 (2021) 208.
31. A.M. Sirunyan, A. Tumasyan et al. (CMS Collaboration), Measurements of Higgs boson production cross sections and couplings in the diphoton decay channel at $\sqrt{s} = 13$ TeV, *Journal of High Energy Physics*, 07 (2021) 027.
32. A.M. Sirunyan, A. Tumasyan et al. (CMS Collaboration), MUSiC: a model-unspecific search for new physics in proton-proton collisions at $\sqrt{s} = 13$ TeV, *The European Physical Journal C* 81 (2021) 629.
33. A.M. Sirunyan, A. Tumasyan et al. (CMS Collaboration), Observation of a New Excited Beauty Strange Baryon Decaying to $\Xi(-)(b)\pi(+) \pi(-)$, *Physical Review Letters*, 126, (2021) 252003.
34. A.M. Sirunyan, A. Tumasyan et al. (CMS Collaboration), Measurement of the W gamma Production Cross Section in Proton-Proton Collisions at $\sqrt{s} = 13$ TeV and Constraints on Effective Field Theory Coefficients, *Physical Review Letters*, 126, (2021) 252002.
35. A.M. Sirunyan, A. Tumasyan et al. (CMS Collaboration), Measurements of production cross sections of the Higgs boson in the four-lepton final state in proton-proton collisions at $\sqrt{s} = 13$ TeV, *The European Physical Journal C* 81 (2021) 488.
36. A.M. Sirunyan, A. Tumasyan et al. (CMS Collaboration), Measurements of the differential cross sections of the production of Z plus jets and gamma plus jets and of Z boson emission collinear with a jet in pp collisions at $\sqrt{s} = 13$ TeV, *Journal of High Energy Physics*, 05 (2021) 285.
37. A.M. Sirunyan, A. Tumasyan et al. (CMS Collaboration), Measurement of the Z boson differential production cross section using its invisible decay mode ($Z \rightarrow \nu\bar{\nu}$) in proton-proton collisions at $\sqrt{s} = 13$ TeV, *Journal of High Energy Physics*, 05 (2021) 285.
38. A.M. Sirunyan, A. Tumasyan et al. (CMS Collaboration), Study of Drell-Yan dimuon production in proton-lead collisions at $\sqrt{S_{NN}} = 8.16$ TeV, *Journal of High Energy Physics*, 05 (2021) 182.
39. A.M. Sirunyan, A. Tumasyan et al. (CMS Collaboration), In-medium modification of dijets in PbPb collisions at $\sqrt{S_{NN}} = 5.02$ TeV, *Journal of High Energy Physics*, 05 (2021) 116.
40. A.M. Sirunyan, A. Tumasyan et al. (CMS Collaboration), Measurement of the CP-violating phase $\phi(s)$ in the $B_s(0) \rightarrow J/\psi \phi(1020) \rightarrow \mu(+) \mu(-) K^+ K^-$ channel in proton-proton collisions at $\sqrt{s} = 13$ TeV, *Physics Letters B* 816 (2021) 136188.
41. A.M. Sirunyan, A. Tumasyan et al. (CMS Collaboration), Measurement of prompt D-0 and D-0 meson azimuthal anisotropy and search for strong electric fields in PbPb collisions at $\sqrt{S_{NN}} = 5.02$ TeV, *Physics Letters B* 816 (2021) 136253.
42. A.M. Sirunyan, A. Tumasyan et al. (CMS Collaboration), Measurement of b jet shapes in proton-proton collisions at $\sqrt{s} = 5.02$ TeV, *Journal of High Energy Physics*, 05 (2021) 054.

43. A.M. Sirunyan, A. Tumasyan et al. (CMS Collaboration), Electron and photon reconstruction and identification with the CMS experiment at the CERN LHC, JINST 16 (2021) P05014.
44. A.M. Sirunyan, A. Tumasyan et al. (CMS Collaboration), Angular analysis of the decay $B \rightarrow K^*(892)(+)\mu(+) \mu(-)$ in proton-proton collisions at $\sqrt{s} = 8$ TeV, Journal of High Energy Physics, 04 (2021) 124.
45. A.M. Sirunyan, A. Tumasyan et al. (CMS Collaboration), Search for supersymmetry in final states with two oppositely charged same-flavor leptons and missing transverse momentum in proton-proton collisions at $\sqrt{s} = 13$ TeV, Journal of High Energy Physics, 04 (2021) 123.
46. A.M. Sirunyan, A. Tumasyan et al. (CMS Collaboration), Measurement of differential cross sections for Z bosons produced in association with charm jets in pp collisions at $\sqrt{s} = 13$ TeV, Journal of High Energy Physics, 04 (2021) 109.
47. A.M. Sirunyan, A. Tumasyan et al. (CMS Collaboration), Search for dark matter produced in association with a leptonically decaying Z boson in proton-proton collisions at $\sqrt{s} = 13$ TeV, The European Physical Journal C 81 (2021) 13, Erratum, The European Physical Journal C 81 (2021) 333.
48. A.M. Sirunyan, A. Tumasyan et al. (CMS Collaboration), Development and validation of HERWIG 7 tunes from CMS underlying-event measurements, The European Physical Journal C 81 (2021) 312.
49. A.M. Sirunyan, A. Tumasyan et al. (CMS Collaboration), Search for nonresonant Higgs boson pair production in final states with two bottom quarks and two photons in proton-proton collisions at $\sqrt{s} = 13$ TeV, Journal of High Energy Physics, 03 (2021) 257.
50. A.M. Sirunyan, A. Tumasyan et al. (CMS Collaboration), Measurement of differential $t(t\bar{t})$ production cross sections using top quarks at large transverse momenta in pp collisions at $\sqrt{s} = 13$ TeV, Physical Review D 103 (2021) 052008.
51. A.M. Sirunyan, A. Tumasyan et al. (CMS Collaboration), Search for new physics in top quark production with additional leptons in proton-proton collisions at $\sqrt{s} = 13$ TeV using effective field theory, Journal of High Energy Physics, 03 (2021) 095.
52. A.M. Sirunyan, A. Tumasyan et al. (CMS Collaboration), Measurements of $pp \rightarrow ZZ$ production cross sections and constraints on anomalous triple gauge couplings at $\sqrt{s} = 13$ TeV, The European Physical Journal C 81 (2021) 200.
53. A.M. Sirunyan, A. Tumasyan et al. (CMS Collaboration), Search for dark photons in Higgs boson production via vector boson fusion in proton-proton collisions at $\sqrt{s} = 13$ TeV, Journal of High Energy Physics, 03 (2021) 011.
54. A.M. Sirunyan, A. Tumasyan et al. (CMS Collaboration), Measurement of the inclusive and differential Higgs boson production cross sections in the leptonic WW decay mode at $p\sqrt{s} = 13$ TeV, Journal of High Energy Physics, 03 (2021) 003.
55. A.M. Sirunyan, A. Tumasyan et al. (CMS Collaboration), Studies of charm and beauty hadron long-range correlations in pp and pPb collisions at LHC energies, Physics Letters B 813 (2021) 136036.
56. V. Khachatryan, A.M. Sirunyan, A. Tumasyan et al. (CMS Collaboration), The very forward CASTOR calorimeter of the CMS experiment, JINST 16 (2021) P02010.
57. A.M. Sirunyan, A. Tumasyan et al. (CMS Collaboration), Search for the lepton flavor violating decay $\tau \rightarrow 3 \mu$ in proton-proton collisions at $\sqrt{s} = 13$ TeV, Journal of High Energy Physics, 01 (2021) 163.

58. A.M. Sirunyan, A. Tumasyan et al. (CMS Collaboration), Evidence for Higgs boson decay to a pair of muons, , Journal of High Energy Physics, 01 (2021) 148.
59. A.M. Sirunyan, A. Tumasyan et al. (CMS Collaboration), Correlations of azimuthal anisotropy Fourier harmonics with subevent cumulants in pPb collisions at $\sqrt{s_{NN}}=8.16$ TeV, Physical Review C 103 (2021) 014902.
60. A.M. Sirunyan, A. Tumasyan et al. (CMS Collaboration), Evidence for electroweak production of four charged leptons and two jets in proton-proton collisions at $\sqrt{s} = 13$ TeV, Physics Letters B 812 (2021) 135992.
61. A.M. Sirunyan, A. Tumasyan et al. (CMS Collaboration), Measurements of production cross sections of polarized same-sign W boson pairs in association with two jets in proton-proton collisions at $\sqrt{s} = 13$ TeV, Physics Letters B 812 (2021) 136018.
62. A.M. Sirunyan, A. Tumasyan et al. (CMS Collaboration), Search for top squark pair production using dilepton final states in pp collision data collected at $\sqrt{s}= 13$ TeV, The European Physical Journal C 81 (2021) 3.
63. S. Acharya, D. Adamová, A. Adler, et al. (ALICE Collaboration), Soft-Dielectron Excess in Proton-Proton Collisions at $\sqrt{s} = 13$ TeV, Physical Review Letters, 127, (2021) 4, 042302.
64. S. Acharya, D. Adamová, A. Adler, et al. (ALICE Collaboration), ΛK femtoscopy in Pb-Pb collisions at $\sqrt{s_{NN}} = 2.76$ TeV, Physical Review C 103 (2021) 5, 055201.
65. S. Acharya, D. Adamová, A. Adler, et al. (ALICE Collaboration), Production of light-flavor hadrons in pp collisions at $\sqrt{s_{NN}} = 7$ and $\sqrt{s_{NN}} = 13$ TeV, The European Physical Journal C 81 (2021) 3, 256.
66. S. Acharya, D. Adamová, A. Adler, et al. (ALICE Collaboration), Elliptic Flow of Electrons from Beauty-Hadron Decays in Pb-Pb Collisions at $\sqrt{s_{NN}} = 5.02$ TeV / Physical Review Letters 126 (2021) 16, 162001.
67. S. Acharya, D. Adamová, A. Adler, et al. (ALICE Collaboration), Transverse-momentum and event-shape dependence of D-meson flow harmonics in Pb–Pb collisions at $\sqrt{s_{NN}} = 5.02$ TeV, Physics Letters B 813 (2021) 136054.
68. S. Acharya, D. Adamová, A. Adler, et al. (ALICE Collaboration), First measurement of quarkonium polarization in nuclear collisions at the LHC, Physics Letters B 815 (2021) 136146.
69. S. Acharya, D. Adamová, A. Adler, et al. (ALICE Collaboration), Unveiling the strong interaction among hadrons at the LHC, Nature 588 (2020) 232-238, Nature 590 (2021) E13.
70. S. Acharya, D. Adamová, A. Adler, et al. (ALICE Collaboration), K_S^0 - and (anti-) Lambda-hadron correlations in pp collisions at $\sqrt{s} = 13$ TeV, The European Physical Journal C, 81 (2021), 10, 945.
71. S. Acharya, D. Adamová, A. Adler, et al. (ALICE Collaboration), Anisotropic flow of identified hadrons in Xe-Xe collisions at $\sqrt{s_{NN}} = 5.44$ TeV, Journal of High Energy Physics, 10 (2021) 152.
72. S. Acharya, D. Adamová, A. Adler, et al. (ALICE Collaboration), Kaon–proton strong interaction at low relative momentum via femtoscopy in Pb–Pb collisions at the LHC, Physics Letters B 822 (2021) 136708.
73. S. Acharya, D. Adamová, A. Adler, et al. (ALICE Collaboration), Measurement of the production cross section of prompt C0 baryons at midrapidity in pp collisions at $\sqrt{s} = 5.02$ TeV, Journal of High Energy Physics, 10 (2021) 159.

74. S. Acharya, D. Adamová, A. Adler, et al. (ALICE Collaboration), Experimental Evidence for an Attractive Interaction, *Physical Review Letters* 127 (2021) 17, 172301.
75. S. Acharya, D. Adamová, A. Adler, et al. (ALICE Collaboration), Charged-particle multiplicity fluctuations in Pb–Pb collisions at $\sqrt{s_{\text{NN}}} = 2.76 \text{ TeV}$ / *The European Physical Journal C* 81 (2021) 11, 1012.
76. S. Acharya, D. Adamová, A. Adler, et al. (ALICE Collaboration), Energy dependence of phi meson production at forward rapidity in pp collisions at the LHC, *The European Physical Journal C* 81 (2021) 8, 772.
77. S. Acharya, D. Adamová, A. Adler, et al. (ALICE Collaboration), Measurement of beauty and charm production in pp collisions at $\sqrt{s} = 5.02 \text{ TeV}$ via non-prompt and prompt D mesons, *Journal of High Energy Physics* 05 (2021) 220.
78. S. Acharya, D. Adamová, A. Adler, et al. (ALICE Collaboration), Measurements of mixed harmonic cumulants in Pb–Pb collisions at $\sqrt{s_{\text{NN}}} = 5.02 \text{ TeV}$, *Physics Letters B* 818 (2021) 136354.
79. S. Acharya, D. Adamová, A. Adler, et al. (ALICE Collaboration), Coherent J/ψ and φ' photoproduction at midrapidity in ultra-peripheral Pb–Pb collisions at $\sqrt{s_{\text{NN}}} = 5.02 \text{ TeV}$, *The European Physical Journal C* 81 (2021) 8, 712.
80. S. Acharya, D. Adamová, A. Adler, et al. (ALICE Collaboration), First Measurement of the $|t|$ - dependence of coherent J/ψ photonuclear production, *Physics Letters B* 817 (2021) 136280.
81. S. Acharya, D. Adamová, A. Adler, et al. (ALICE Collaboration), Production of pions, kaons, (anti-) protons and φ mesons in Xe–Xe collisions at $\sqrt{s_{\text{NN}}} = 5.44 \text{ TeV}$, *The European Physical Journal C* 81 (2021) 7, 584.
82. S. Acharya, D. Adamová, A. Adler, et al. (ALICE Collaboration), Long- and short-range correlations and their event-scale dependence in high-multiplicity pp collisions at $\sqrt{s} = 13 \text{ TeV}$, *Journal of High Energy Physics* 05 (2021) 290.
83. S. Acharya, D. Adamová, A. Adler, et al. (ALICE Collaboration), Multiharmonic Correlations of Different Flow Amplitudes in Pb–Pb Collisions at $\sqrt{s_{\text{NN}}} = 2.76 \text{ TeV}$, *Physical Review Letters* 127 (2021) 9, 092302.
84. S. Acharya, D. Adamová, A. Adler, et al. (ALICE Collaboration), First measurement of coherent ρ^0 photoproduction in ultra-peripheral Xe–Xe collisions at $\sqrt{s_{\text{NN}}} = 5.44 \text{ TeV}$, *Physics Letters B* 820 (2021) 136481.
85. S. Acharya, D. Adamová, A. Adler, et al. (ALICE Collaboration), Inclusive heavy-flavour production at central and forward rapidity in Xe–Xe collisions at $\sqrt{s_{\text{NN}}} = 5.44 \text{ TeV}$, *Physics Letters B* 819 (2021) 136437.
86. S. Acharya, D. Adamová, A. Adler, et al. (ALICE Collaboration), Λ_c^+ Production and Baryon-to-Meson Ratios in pp and p–Pb Collisions at the LHC, *Physical Review Letters* 127 (2021) 20, 202301.
87. S. Acharya, D. Adamová, A. Adler, et al. (ALICE Collaboration), Production of muons from heavy-flavour hadron decays at high transverse momentum in Pb–Pb collisions at $\sqrt{s_{\text{NN}}} = 5.02$ and 2.76 TeV , *Physics Letters B* 820 (2021) 136558.
88. S. Acharya, D. Adamová, A. Adler, et al. (ALICE Collaboration), Jet fragmentation transverse momentum distribution in pp and p–Pb collisions at $\sqrt{s_{\text{NN}}} = 5.02 \text{ TeV}$, *Journal of High Energy Physics* 09 (2021) 211.
89. S. Acharya, D. Adamová, A. Adler, et al. (ALICE Collaboration), Jet-associated deuteron production in pp collisions at 13 TeV, *Physics Letters B* 819 (2021) 136440.

90. S. Acharya, D. Adamová, A. Adler, et al. (ALICE Collaboration), Λ_c^+ production in pp and in p-Pb collisions at $\sqrt{s_{\text{NN}}} = 5.02$ TeV, *Physical Review C* 104 (2021) 5, 054905.
91. S. Acharya, D. Adamová, A. Adler, et al. (ALICE Collaboration), Υ production and nuclear modification at forward rapidity in Pb–Pb collisions at $\sqrt{s_{\text{NN}}} = 5.02$ TeV, *Physics Letters B* 822 (2021) 136579.
92. S. Acharya, D. Adamová, A. Adler, et al. (ALICE Collaboration), Pseudorapidity distributions of charged particles as a function of mid- and forward rapidity multiplicities in pp collisions at $\sqrt{s} = 5.02, 7$ and 13 TeV, *The European Physical Journal C* 81 (2021) 7, 630.
93. S. Acharya, D. Adamová, A. Adler, et al. (ALICE Collaboration), Centrality dependence of J/ψ and $\psi(2S)$ production and nuclear modification in p-Pb collisions at $\sqrt{s_{\text{NN}}} = 8.16$ TeV, *Journal of High Energy Physics* 02 (2021) 002.
94. S. Acharya, D. Adamová, A. Adler, et al. (ALICE Collaboration), Pion–kaon femtoscopy and the lifetime of the hadronic phase in Pb–Pb collisions at $\sqrt{s_{\text{NN}}} = 2.76$ TeV, *Physics Letters B* 813 (2021) 136030.
95. Smbat Grigoryan, A three component model for hadron p_T -spectra in pp and Pb–Pb collisions at the LHC, *The European Physical Journal A* 57 (2021) 12, 328.
96. G. Aad, B. Abbott, D.C. Abbott et al. (ATLAS Collaboration), Measurement of single top-quark production in association with a W boson in the single-lepton channel at $\sqrt{s} = 8$ TeV with the ATLAS detector, *The European Physical Journal C* 81 (2021) 8, 720.
97. G. Aad, B. Abbott, D.C. Abbott et al. (ATLAS Collaboration), Measurement of the CP-violating phase φ_s in $B^{\pm} \rightarrow J/\psi \varphi$ decays in ATLAS at 13 TeV, *The European Physical Journal C* 81 (2021) 4, 342.
98. G. Aad, B. Abbott, D.C. Abbott et al. (ATLAS Collaboration), Search for the $HH \rightarrow bbbb$ process via vector-boson fusion production using proton–proton collisions at $\sqrt{s} = 13$ TeV with the ATLAS detector, *Journal of High Energy Physics* 07 (2020) 108, *Journal of High Energy Physics* 01 (2021) 145 (erratum), *Journal of High Energy Physics* 05 (2021) 207 (erratum).
99. M. Aaboud, G. Aad, B. Abbott et al. (ATLAS Collaboration), Measurement of the relative $B^{\pm c}/B^{\pm}$ production cross section with the ATLAS detector at $\sqrt{s} = 8$ TeV, *Physical Review D* 104 (2021) 1, 012010.
100. G. Aad, B. Abbott, D.C. Abbott et al. (ATLAS Collaboration), Measurement of the jet mass in high transverse momentum $Z(\rightarrow bb)\gamma$ production at $\sqrt{s} = 13$ TeV using the ATLAS detector, *Physics Letters B* 812 (2021) 135991.
101. J. Abdallah, S. Angelidakis, G. Arabidze et al., Study of energy response and resolution of the ATLAS Tile Calorimeter to hadrons of energies from 16 to 30 GeV, *The European Physical Journal C* 81(2021) 549.
102. A. Accardi; A. Afanasev; I. Albayrak et al. (Jefferson Lab Hall A & Hall C Collaborations), An experimental program with high duty-cycle polarized and unpolarized positron beams at Jefferson Lab, *The European Physical Journal A* 57 (2021) 261.
103. M. Dlamini; B. Karki; S. F. Ali; et al. (Hall A Collaboration), Deep Exclusive Electroproduction of π^0 at High Q^2 in the Quark Valence Regime, *Physical Review Letters* 127 (2021) 15, 152301.

104. D. Adhikari, H. Albataineh, D. Androic et al. (PREX Collaboration), Accurate Determination of the Neutron Skin Thickness of ^{208}Pb through Parity-Violation in Electron Scattering, *Physical Review Letters* 126 (2021) 172502.
105. N. Zachariou, D.P. Watts, J. McAndrew et al. (CLAS Collaboration), Double polarisation observable G for single pion photoproduction from the proton, *Physics Letters B* 817 (2021) 136304.
106. U. Shrestha, T. Chetry, C. Djalali et al. (CLAS Collaboration), Differential cross sections for $\Lambda(1520)$ using photoproduction at CLAS, *Physical Review C* 103 (2021) 2, 025206.
107. T.B. Hayward, C. Dilks, A. Vossen et al. (CLAS Collaboration), Observation of Beam Spin Asymmetries in the Process $e\bar{p} \rightarrow e'\pi^+\pi^-X$ with CLAS12, *Physical Review Letters* 126 (2021) 15, 152501.
108. R. Dupré, M. Hattawy, N.A. Baltzell et al. (CLAS Collaboration), Measurement of deeply virtual Compton scattering off He4 with the CEBAF Large Acceptance Spectrometer at Jefferson Lab, *Physical Review C* 104 (2021) 025203.
109. X. Zheng, A. Deur, H. Kang et al. (CLAS Collaboration), Measurement of the proton spin structure at long distances, *Nature Physics* 17 (2021) 736.
110. M. Khachatryan, A. Papadopoulou, A. Ashkenazi et al. (CLAS and e4v Collaborations), Electron-beam energy reconstruction for neutrino oscillation measurements, *Nature Physics* 599 (2021) 565.
111. D. Bhetuwal, J. Matter, H. Szumila-Vance et al. (Hall C Collaboration), Ruling out Color Transparency in Quasielastic $^{12}\text{C}(e,e'p)$ up to Q^2 of 14.2 (GeV/c) 2 , *Physical Review Letters* 126 (2021) 082301.
112. D Androic, DS Armstrong, A Asaturyan et al. (Qweak Collaboration), Measurement of the Beam-Normal Single-Spin Asymmetry for Elastic Electron Scattering from ^{12}C and ^{27}Al , *Physical Review C* 104 (2021) 014606.
113. T. Gogami, C Chen, D Kawama et al. (Hall C Collaboration), Spectroscopy of A=9 hyperlithium with the $(e,e'K^+)$ reaction, *Physical Review C* 103 (2021) 041301.
114. A. Asaturyan, F. Barbosa, V. Berdnikov et al. (NPS Collaboration), Electromagnetic calorimeters based on the scintillating lead tungstate crystals for experiments at Jefferson Lab, *Nuclear Instruments & Methods A* 1013 (2021) 165683.
115. S. Adhikari, C. S. Akondi, A. Ali, et al. (GlueX Collaboration), Measurement of beam asymmetry for $\pi^- \Delta^{++}$ photoproduction on the proton at $E\gamma=8.5$ GeV, *Physical Review C* 103 (2021) 2, L022201.
116. S. Adhikari, C.S. Akondig, H. Al Ghoul et al. (GlueX Collaboration), The GlueX Beamline and Detector, *Nuclear Instruments & Methods A* 987 (2021) 164807.
117. J.C. Bernauer, A. Schmidt, B.S. Henderson et al. (OLYMPUS collaboration), Measurement of the Charge-Averaged Elastic Lepton-Proton Scattering Cross Section by the OLYMPUS Experiment, *Physical Review Letters* 126 (2021) 16, 162501.
118. V. Andreev, A. Bagdasaryan, A. Baty et al. (H1 Collaboration), Measurement of charged particle multiplicity distributions in DIS at HERA and its implication to entanglement entropy of partons, *The European Physical Journal C* 81 (2021) 3, 212.
119. H. Abdalla, F. Aharonian, F. Ait Benkhali et al. (H.E.S.S. Collaboration), Revealing x-ray and gamma ray temporal and spectral similarities in the GRB 190829A afterglow, *Science* 372 (2021) 6546, 1081.

120. H. Abdalla, F. Aharonian, F. Ait Benkhali et al. (H.E.S.S. Collaboration), TeV emission of Galactic plane sources with HAWC and H.E.S.S., *The Astrophysical Journal*, 917 (2021) 6.
121. H. Abdalla, F. Aharonian, F. Ait Benkhali et al. (H.E.S.S. Collaboration), Evidence of 100 TeV γ -ray emission from HESS J1702-420: A new PeVatron candidate, *Astronomy and Astrophysics* 653 (2021) A152.
122. H. Abdalla, F. Aharonian, F. Ait Benkhali et al. (H.E.S.S. Collaboration), Search for Dark Matter Annihilation Signals from Unidentified Fermi-LAT Objects with H.E.S.S., *The Astrophysical Journal*, Volume 918 17 (2021).
123. H. Abdalla, F. Aharonian, F. Ait Benkhali et al. (H.E.S.S. Collaboration), Search for dark matter annihilation in the Wolf-Lundmark-Melotte dwarf irregular galaxy with H.E.S.S., *Physical Review D* 103 (2021) 102002.
124. H. Abdalla R. Adam, F. Aharonian et al. (The EHT MWL Science Working Group,..., H.E.S.S. Collaboration), Broadband Multi-wavelength Properties of M87 during the 2017 Event Horizon Telescope Campaign, *The Astrophysical Journal Letters*, 911, L11 (2021).
125. V. A. Acciari, S. Ansoldi, L. A. Antonelli et al. (H.E.S.S. Collaboration, MAGIC Collaboration), H.E.S.S. and MAGIC observations of a sudden cessation of a very-high-energy γ -ray flare in PKS 1510-089 in May 2016, *Astronomy and Astrophysics* 648 (2021) A23.
126. T. Gogami,..., A. Margaryan, S. Zhamkochyan et al. (HKS Collaboration), Spectroscopy of A=9 hyperlithium with the $(e, e'K^+)$ reaction”, *Physical Review C* 103 (2021) L041301.
127. A. Accardi, A. Afanasev, I. Albayrak et al., An experimental program with high duty-cycle polarized and unpolarized positron beams at Jefferson Lab, *The European Physical Journal A* 57 (2021) 8, 261.
128. V Gurzadyan, A Margaryan, Ultrahigh accuracy time synchronization technique operation on the Moon, *The European Physical Journal Plus* 136 (2021) 1.
129. V Sulkosky, S. Peng, J.P. Chen et al., Measurement of the generalized spin polarizabilities of the neutron in the low-Q² region, *Nature Physics* 17 (2021) 687.
130. N. Margaryan, N. Kokanyan, E. Kokanyan, Investigation of Properties of Graphene Quantum Dots and Carbon Nanotubes Synthesized in a Colloid Solution, *Journal of Contemporary Physics (Armenian Academy of Sciences)*, 56 (2021) 260.
131. N. Margaryan, Synthesis and Topological Study of Graphene Layers. Երևանի Հայֆուսակ համալսարանի գիտամեթոդական հանդես (2021) 91-95.
132. R.V. Avetisyan, A.E. Avetisyan, A.G. Barseghyan, R.K. Dallakyan, Yu. A. Gharibyan, A.V. Gyurjinyan, I.A. Kerobyan, H.A. Mkrtchyan, Measurement of average cross sections and isomer ratios for natRe (γ , xn) reactions at the end-point bremsstrahlung energies of 30 MeV and 40 MeV, *Nuclear Instruments & Methods B* 507 (2021) 7.
133. A.E. Avetisyan, R.V. Avetisyan, A.G. Barseghyan, Yu.A. Gharibyan, A.V. Gyurjinyan, R.K. Dallakyan, I.A. Kerobyan, H.A. Mkrtchyan, Investigation of Flux-Weighted Average Cross Sections for Reactions on ⁹³Nb with Bremsstrahlung of LUE-75, *Physics of Atomic Nuclei* 84 (2021) 245.
134. R.V. Avetisyan, A.G. Barseghyan, Yu.A. Garibyan, A.V. Gyurdjinyan, I.A. Kerobyan, H.A. Mkrtchyan, Production of ¹⁸⁶g Re Medical Isotope on the Proton Beam of

Cyclotron C18/18, Journal of Contemporary Physics (Armenian Academy of Sciences) 56 (2021) 1, 1.

135. A.S. Hakobyan, Journal of Contemporary Physics (Armenian Academy of Sciences) 56 (2021) 3, 169.