

Selected Group Bibliography

Publications July 1, 2022-July 1, 2023

- 1) J. Arrington, M. Battaglieri, A. Boehnlein, S.A. Bogacz, W.K. Brooks, E. Chudakov, I. Cloet, R. Ent, H. Gao, J. Grames, L. Harwood, X.Ji, C.Keppel, G. Krafft, R.D. McKeown, J. Napolitano, J.W. Qiu, P. Rossi, M. Schram, S. Stepanyan, J. Stevens, A.P. Szczepaniak, N. Toro, X. Zheng. "Physics with CEBAF at 12 GeV and future opportunities." *Prog. Part. Nucl. Phys.* 127 103985 (2022).
- 2) D.Gaskell, W. Henry, D. Jones, D. King, P. Souder, J. Napolitano, K. Paschke. "Accurate Determination of the Electron Spin Polarization In Magnetized Iron and Nickel Foils for Moller Polarimetry." *Nucl. Instrum. Meth. A* 1043 167444 (2022).
- 3) P. Degtiarenko, V. Kubarovsky, B. Raydo, A. Kim, A. Smith, F. Benmokhtar. "Characterization of Multianode Photomultiplier Tubes for use in the CLAS12 RICH Detector." *Nucl. Instrum. Meth. A* 1044 167446 (2022).
- 4) S. J. Paul et al. (CLAS Collaboration). "Observation of Azimuth-Dependent Suppression of Hadron Pairs in Electron Scattering off Nuclei." *Phys. Rev. Lett.* 129 182501 (2022).
- 5) M. Battaglieri et al. "Dark matter search with the BDX-MINI experiment." *Phys. Rev. D* 106 072011 (2022).
- 6) S. Li et al. "Revealing the short-range structure of the mirror nuclei ^3H and ^3He ." *Nature* 609 7925, 41-45 (2022).
- 7) R., D., Zielinski, R., Gu, C. et al. "Proton spin structure and generalized polarizabilities in the strong quantum chromodynamics regime." *Nat. Phys.* (2022).
- 8) Y. Alanazi et al. "Machine learning-based event generator for electron-proton scattering." *Phys. Rev. D* 106 096002 (2022).
- 9) M. Diefenthaler, A. Farhat, A. Verbytskyi, Y. Xu. "Deeply learning deep inelastic scattering kinematics." *The European Physical Journal C* 82, 11, 1064 (2022).
- 10) J. Zhou, V. Khachatryan, H. Gao, S. Gorbaty, D. W. Higinbotham. "Understanding the systematic differences in extractions of the proton electric form factors at low Q^2 ." *Phys. Rev. C* 106, 065505 (2022).
- 11) D.E. King et al. "Precision Moller polarimetry for PREX-2 and CREX." *Nucl. Instrum. Meth. A* 1045 167506 (2023).
- 12) Y. Tian, et al. (for the CLAS Collaboration). "Exclusive π^- electroproduction off the neutron in deuterium in the resonance region." *Phys. Rev. C* 107, 015201 (2023).
- 13) H. Avakian, et al. (for the CLAS Collaboration). "Observation of correlations between spin and transverse momenta in back-to-back dihadron production at CLAS12." *Phys. Rev. Lett.* 130, 022501 (2023).
- 14) M. Spreafico, M. Battaglieri, M. Bondí, A. Celentano, P.L. Cole, M. De Napoli, R. De Vita, L. Marsicano, N. Randazzo, E.S. Smith, D. Snowden-Ifft, M. Wood "Performance of BDX-MINI veto systems." *Nuclear Inst. and Methods in Physics Research, A* 1048 167949 (2023).
- 15) S. J. Paul et. al. (CLAS Collaboration). "Alignment of the CLAS12 central hybrid tracker with a Kalman Filter." *Nucl. Instrum. Meth. A* 1049,168032 (2023).
- 16) S. Diehl, A. Kim, K. Joo et al. "A multidimensional study of the structure function ratio σ_{LT}/σ_0 from hard exclusive π^+ electro-production off protons in the GPD regime." *Phys. Lett. B* 839 137761 (2023).

- 17) A. Garcia, W. Heidbrink, A. Sandorfi "Conceptual design of DIII-D experiments to diagnose the lifetime of spin polarized fuel." *Nuclear Fusion*, Volume 63 (2023).
- 18) P. Thomadakis, K. Garner, G. Gavalian, N. Chrisochoides. "Charged particle reconstruction in CLAS12 using Machine Learning." *Comput. Phys. Commun.* 287 108694 (2023).
- 19) A. N. Hiller Blin, V. I. Mokeev, W. Melnitchouk. "Resonant contributions to polarized proton structure functions." *Phys. Rev. C* 107 035202 (2023).

Publications July 1, 2021-July 1, 2022

- 20) Darko Androić et al. (Qweak Collaboration) "Measurement of the beam-normal single-spin asymmetry for elastic electron scattering from ^{12}C and ^{27}Al ." *Phys. Rev. C* 104, 014606 (2021).
- 21) James Maxwell, Richard Milner. "A concept for polarized ^3He targets for high luminosity scattering experiments in high magnetic field environments." *Nucl. Instrum. Meth. A* 1012, 165590 (2021).
- 22) Craig D. Roberts, David G. Richards, Tanja Horn, Lei Chang. "Insights into the emergence of mass from studies of pion and kaon structure." *Prog. Part. Nucl. Phys.* 120, 103883 (2021).
- 23) Igor Korover, Jackson Pybus, Axel Schmidt, Florian Hauenstein, Meytal Duer and Others. "korever." *Physical Review B* 820, 136522
- 24) Raphael Dupre, Mohammad Hattawy, Nathan Baltzell, Stephen Bueltmann, Raffaella De Vita and Others. "Measurement of deeply virtual Compton scattering off Helium-4 with CLAS at Jefferson Lab." *Physical Review C* 104, 025203
- 25) I. Friscic et al "Neutron Spin Structure from e- ^3He Scattering with Double Spectator Tagging at the Electron-Ion Collider." *Phys. Lett. B* 823, 136726 October (2021).
- 26) M. Dlamini et al. (Jefferson Lab Hall A Collaboration). "Deep Exclusive Electroproduction of π^0 at High Q^2 in the Quark Valence Regime." *Phys. Rev. Lett.* 127, 152301 October (2021).
- 27) M. Khachatryan et al. "Electron-beam energy reconstruction for neutrino oscillation measurements". *Nature* Vol. 599 Issue 7886 Page(s) 565-570 November (2021).
- 28) J. Rowley et al. "Improved Lambda p Elastic Scattering Cross Sections Between 0.9 and 2.0 GeV/c and Connections to the Neutron Star Equation of State". *Physical Review Letters* 127, P272303 December (2021)
- 29) P. Chatagnon et al. "First-time measurement of Timelike Compton Scattering". *Physical Review Letters* 127, 262501 December (2021)
- 30) J. Arrington et al. "Measurement of the EMC effect in light and heavy nuclei". *Physical Review C* 104, 065203 December (2021)
- 31) A. Accardi et al., "An experimental program with high duty-cycle polarized and unpolarized positron beams at Jefferson Lab", *Eur.Phys.J.A* 57 (2021) 261.
- 32) J. Pierce et al., "The PRad Windowless Gas Flow Target", *Nucl.Instrum.Meth.A* 1003 (2021) 165300.
- 33) I. Korover et al. (CLAS Collaboration), "New Scaling Measurements Map the Transition from Single-Particle to Correlated-Pair Dominance in Atomic Nuclei", submitted to *Nature* (2021).

- 34) M. Khachatryan et al. (CLAS Collaboration), "Electron Beam Energy Reconstruction for Neutrino Oscillation Measurements", *Nature* 599, 565 (2021).
- 35) Y. Roblin, "Redesigning the Jefferson Lab Hall A beam line for high precision parity experiments". *JINST* 16 T12007 (2021)
- 36) A. Deur et al, "Experimental study of the behavior of the Bjorken sum at very low Q^2 ". *Physics Letters B* Volume 825, 10 February (2022), 136878
- 37) N. Alamanos, M. Battaglieri, D. Higinbotham, S. Niccolai, A. Schmidt, and E. Voutier, "Topical issue on an experimental program with positron beams at Jefferson Lab", *Eur.Phys.J.A* 58 (2022) 45.
- 38) S. Diehl et al. (CLAS Collaboration). "Multidimensional, high precision measurements of beam single spin asymmetries in semi-inclusive π^+ electroproduction off protons in the valence region." *Physical Review Letters* 128, 062005 (2022)
- 39) E. Isupov et al. (CLAS Collaboration). "Polarized structure function $\sigma_{LT'}$ from $\pi^0 p$ electroproduction data in the resonance region at $0.4\text{GeV}^2 < Q^2 < 1.0\text{GeV}^2$." *Physical Review C* 105, L022201 (2022)
- 40) D. Higinbotham. "EIC detector overview." *JINST* 17, C02018 (2022).
- 41) E. Q. Sun. "Multi-scale nonlinear stress analysis of Nb3Sn superconducting accelerator magnets." *Superconducting Science Technology* 35, 045019 (2022)
- 42) A. Blitstein, B. Wojtsekhowski. "Simulation of the spatial shift in detector response for polarized protons within a calorimeter." *Nuclear Instruments and Methods in Physics Research A* 1031, 166565 (2022).
- 43) S. Adhikari, GlueX Collaboration. "Search for photoproduction of axionlike particles at GlueX." *Physics Review D* 105, 5, 052007 (2022).
- 44) M. E. Christy et al. "Form Factors and Two-Photon Exchange in High-Energy Elastic Electron-Proton Scattering." *Physical Review Letters* 128 (2022) 10, 102002
- 45) J. Collins, T. C. Rogers and N. Sato. "Positivity and renormalization of parton densities." *Phys. Rev. Lett.* 128, 142501 (2022).
- 46) I. Strakovsky, S. Širca, W. J. Briscoe, A. Deur, A. Schmidt and R. L. Workman. "Single-pion contribution to the Gerasimov-Drell-Hearn sum rule and related integrals." *Phys. Rev. C* 105, 045202 (2022).
- 47) D. Androić et al. (Qweak Collaboration). "Determination of the ^{27}Al Neutron Distribution Radius from a Parity-Violating Electron Scattering Measurement." *Phys. Rev. Lett.* 128, 132501 (2022).
- 48) D. Abrams et al. (Jefferson Lab Hall A Tritium Collaboration). "Measurement of the Nucleon Fn^2/Fp^2 Structure Function Ratio by the Jefferson Lab MARATHON Tritium/Helium-3 Deep Inelastic Scattering Experiment." *Phys. Rev. Lett.* 128, 132003 (2022).
- 49) F. Hauenstein et al. "Measuring recoiling nucleons from the nucleus with the future Electron Ion Collider." *Phys. Rev. C* 105, 034001 (2022).
- 50) N. Zachariou et al. "Beam-spin asymmetry Σ for Σ^- hyperon photoproduction off the neutron." *Phys. Lett. B* 827 136985 (2022).
- 51) D. Adhikari, et al. (PREX and CREX Collaborations). "New Measurements of the Beam-Normal Single Spin Asymmetry in Elastic Electron Scattering Over a Range of Spin-0 Nuclei." *Phys. Rev. Lett.* 128, 142501 (2022)
- 52) J. Collins, T. C. Rogers and N. Sato. "Positivity and renormalization of parton densities." *Phys. Rev. Lett.* 128, 142501 (2022).

- 53) I. Strakovsky, S. Širca, W. J. Briscoe, A. Deur, A. Schmidt and R. L. Workman. "Single-pion contribution to the Gerasimov-Drell-Hearn sum rule and related integrals." *Phys. Rev. C* 105, 045202 (2022).
- 54) M. Boglione, M. Diefenthaler, S. Dolan, L. Gamberg, W. Melnitchouk, D. Pitonyak, A. Prokudin, N. Sato, Z. Scalyer (Jefferson Lab Angular Momentum (JAM) Collaboration). "New tool for kinematic regime estimation in semi-inclusive deep-inelastic scattering." *JHEP* 04, 084 (2022).
- 55) P. Thomadakis, A. Angelopoulos, G. Gavalian and N. Chrisochoides. "Using machine learning for particle track identification in the CLAS12 detector." *Comput. Phys. Commun.* 276 108360 (2022).
- 56) S.J. Brodsky, A. Deur, C.D. Roberts. "Artificial dynamical effects in quantum field theory." *Nat. Rev. Phys.* (2022).
- 57) B. Pandey *et al.* (Hall A Collaboration). "Spectroscopic study of a possible Λ_{nn} resonance and a pair of ΣNN states using the $(e,e'K^+)$ reaction with a tritium target." *Phys. Rev. C* 105, L051001 (2022).
- 58) V.V. Chesnokov, A.A. Golubenko, B.S. Ishkhanov, V.I. Mokeev. "CLAS Database for Studies of the Structure of Hadrons in Electromagnetic Processes." *Phys. Part. Nucl.* 53, 2, 184-190, (2022).
- 59) O. Bruning, A. Seryi and S. Verdu-Andres. "Electron-Hadron Colliders: EIC, LHeC and FCC-eh." *Front. in Phys.* 10, 886473 (2022).
- 60) A. Deur, V. Burkert, J.-P. Chen, W. Korsch. "Experimental determination of the QCD effective charge $\alpha_{g1}(Q)$." *Particles* 5(2), 171-179 (2022).
- 61) D.S. Carman *et al.* (CLAS Collaboration). "Beam-Recoil Transferred Polarization in K^+Y Electroproduction in the Nucleon Resonance Region with CLAS12." *Phys. Rev. C* 105 065201(2022).
- 62) S. Iqbal *et al.* (Jefferson Lab Hall A Collaboration). "Probing for high momentum protons in ^4He via the $^4\text{He}(e,e'p)X$ reaction." *Phys. Rev. C* 105 064003 (2022).
- 63) F. Georges *et al.* (Jefferson Lab Hall A Collaboration). "Deeply virtual Compton scattering cross section at high Bjorken x_B ." *Phys. Rev. Lett.* 128 252002 (2022).
- 64) T. Hu *et al.* (CLAS Collaboration), "First Comprehensive Measurement of Spin Observables and Differential Cross Sections ds/dt in γ Photoproduction off the Proton for $2.7 < E_\gamma < 5.2$ GeV Using CLAS", arXiv:2006.01361, submitted to *Phys. Rev. Lett.* (2022).
- 65) Y. Tian *et al.* (CLAS Collaboration), "Exclusive p^- Electroproduction off the Neutron in Deuterium in the Resonance Region", arXiv:2203.16785, submitted to *Phys. Rev. C* (2022).
- 66) D. Bhetuwal (Hall C Collaboration) "Constraints on the onset of color transparency from quasi-elastic $^{12}\text{C}(e,e'p)$ up to $Q^2=14.2(\text{GeV}c)^2$ ePrint: 2205.13495 [nucl-ex]
- 67) L. Jiang *et al.* (Jefferson Lab Hall A Collaboration). "Determination of the argon spectral function from $(e,e'p)$ data", *Phys. Rev. D* 105, 112002 (2022).

Publications July 1, 2020-July 1, 2021

- 1) CLAS Collaboration, Double polarization observable G for single pion photoproduction from the proton, *Phys.Lett.B* 817, 136304, 2021
- 2) J.P. Chen *et al.*, Measurement of the generalized spin polarizabilities of the neutron in the low Q^2 region, *Nature Phys.* 17, 6, 687-692, 2021

- 3) A. Camsonne et al., Deeply virtual Compton scattering using a positron beam in Hall-C at Jefferson Lab, 2105.06540 [nucl-ex]
- 4) M. Battaglieri et al., Light dark matter searches with positrons, 2105.04540 [hep-ex]
- 5) D. Higinbotham et al., Nucleon off-shell structure and the free neutron valence structure from $A=3$ inclusive electron scattering measurements, 2104.07130 [hep-ph]
- 6) C.E. Keppel et al., Isovector EMC effect from global QCD analysis with MARATHON data, 2104.06946 [hep-ph]
- 7) MARATHON Collaboration, Measurement of the Nucleon F_2/F_p Structure Function Ratio by the Jefferson Lab MARATHON Tritium/Helium-3 Deep Inelastic Scattering Experiment, 2104.05850 [hep-ex]
- 8) B. Wojtsekhowski et al., Local Lorentz invariance tests for photons and hadrons at the Gamma Factory, *Annalen Phys.*, 2100141, 2021
- 9) R. Ent et al., Science Requirements and Detector Concepts for the Electron-Ion Collider: EIC Yellow Report, 2103.05419 [physics.ins-det]
- 10) V. Burkert et al., Determination of shear forces inside the proton, 2104.02031 [nucl-ex]
- 11) A. Camsonne et al., Double deeply virtual Compton scattering with positron beams at SoLID, 2103.12773 [nucl-ex]
- 12) CLAS Collaboration, Beam charge asymmetries for deeply virtual Compton scattering off the proton, *Eur.Phys.J.A* 57, 6, 186, 2021
- 13) M. Diefenthaler et al., A.I. for nuclear physics, *Eur.Phys.J.A* 57, 3, 100, 2021
- 14) QWeak Collaboration, Measurement of the Beam-Normal Single-Spin Asymmetry for Elastic Electron Scattering from ^{12}C and ^{27}Al , 2103.09758 [nucl-ex]
- 15) V.D. Burkert et al., Determination of two-photon exchange via e^+p/e^-p Scattering with CLAS12, *Eur.Phys.J.A* 57, 4, 144, 2021
- 16) E97-110 Collaboration, Puzzle with the precession of the neutron spin, 2103.03333 [nucl-ex]
- 17) A. Camsonne et al., Form factors and two-photon exchange in high-energy elastic electron-proton scattering, 2103.01842 [nucl-ex]
- 18) D. Higinbotham et al., The PRad Windowless Gas Flow Target, *Nucl.Instrum.Meth.A* 1003, 165300, 2021
- 19) R. Ent et al., Revealing the structure of light pseudoscalar mesons at the electron-ion collider, *J.Phys.G* 48, 7, 075106, 2021
- 20) D. Higinbotham et al., Elastic positron-proton scattering at low Q^2 , *Eur.Phys.J.A* 57, 6, 199, 2021
- 21) PREX Collaboration, Accurate Determination of the Neutron Skin Thickness of ^{208}Pb through Parity-Violation in Electron Scattering, *Phys.Rev.Lett.* 126, 17, 172502, 2021
- 22) HKS Collaboration, Spectroscopy of $A=9$ hyperlithium with the $(e,e'K^+)$ reaction, *Phys.Rev.C* 103, 4, L041301, 2021
- 23) CLAS Collaboration, Measurement of the proton spin structure at long distances, *Nature Phys.* 17, 6, 736-741, 2021
- 24) CLAS Collaboration, Differential cross sections for $\Lambda(1520)$ using photoproduction at CLAS, *Phys.Rev.C* 103, 2, 025206, 2021
- 25) H. Avakian et al., Observation of Beam Spin Asymmetries in the Process $ep \rightarrow e' \pi^+ \pi^- X$ with CLAS12, *Phys.Rev.Lett.* 126, 152501, 2021
- 26) CLAS Collaboration, First multidimensional, high precision measurements of semi-inclusive π^+ beam single spin asymmetries from the proton over a wide range of kinematics, 2101.03544 [hep-ex]

- 27) Hall A Collaboration, Measurement of the $\text{Ar}(e,e' p)$ and $\text{Ti}(e,e' p)$ cross sections in Jefferson Lab Hall A, *Phys.Rev.C* 103, 3, 034604, 2021
- 28) Hall A Collaboration, Deep exclusive electroproduction of π^0 at high Q^2 in the quark valence regime, 2011.11125 [hep-ex]
- 29) M. Battaglieri et al., The BDx-MINI detector for Light Dark Matter search at JLab, *Eur.Phys.J.C* 81, 2, 164, 2021
- 30) 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, *Phys.Rev.Lett.* 126 (2021) 8, 082301
- 31) CLAS Collaboration, Photoproduction of the $f_2(1270)$ meson using the CLAS detector, *Phys.Rev.Lett.* 126, 8, 082002, 2021
- 32) CLAS Collaboration, Beam Spin Asymmetry in Semi-Inclusive Electroproduction of Hadron Pairs, *Phys.Rev.Lett.* 126, 6, 062002, 2021
- 33) D. Higinbotham et al., Advanced extraction of the deuteron charge radius from electron-deuteron scattering data, *Phys.Rev.C* 103, 2, 024002, 2021
- 34) PRad Collaboration, PRad-II: A New Upgraded High Precision Measurement of the Proton Charge Radius, 2009.10510 [nucl-ex]
- 35) GlueX Collaboration, Measurement of beam asymmetry for $\pi^-\Delta^{++}$ photoproduction on the proton at $E_\gamma=8.5$ GeV, *Phys.Rev.C* 103, 2, L022201, 2021
- 36) L. Pentchev et al., J/ψ - p Scattering Length from the Total and Differential Photoproduction Cross Sections, *Eur.Phys.J.A* 57, 2, 56, 2021
- 37) Y. Furletova et al., Charm jets as a probe for strangeness at the future Electron-Ion Collider, *Phys.Rev.D* 103, 7, 074023, 2021
- 38) D. Higinbotham et al., Short-range correlations and the nuclear EMC effect in deuterium and helium-3, *Phys.Rev.Res.* 3, 2, 023240, 2021
- 39) GlueX Collaboration, The GLUEX beamline and detector, *Nucl.Instrum.Meth.A* 987, 164807, 2021
- 40) CLAS Collaboration, Beam-target helicity asymmetry E in $K^+\Sigma^-$ photoproduction on the neutron, *Phys.Lett.B* 808, 135662, 2020
- 41) CLAS Collaboration, Precision measurements of $A=3$ nuclei in HallB, 2009.03413 [nucl-ex]
- 42) A. Deur et al., Measurement of the high-energy contribution to the Gerasimov-Drell-Hearn sum rule, 2008.11059 [nucl-ex]
- 43) KLF Collaboration, Strange Hadron Spectroscopy with Secondary KL Beam in Hall D, 2008.08215 [nucl-ex]
- 44) Hall C Collaboration, Probing the Deuteron at Very Large Internal Momenta, *Phys.Rev.Lett.* 125, 26, 262501, 2020
- 45) CLAS Collaboration, Extraction of Beam-Spin Asymmetries from the Hard Exclusive π^+ Channel off Protons in a Wide Range of Kinematics, *Phys.Rev.Lett.* 125, 18, 182001, 2020
- 46) V. Burkert et al., The CLAS12 high threshold Cherenkov counter, *Nucl.Instrum.Meth.A* 968, 163824, 2020
- 47) V. Burkert et al., Λ and Σ Excitations and the Quark Model, *Eur.Phys.J.A* 56, 10, 261, 2020
- 48) QWeak Collaboration, Precision Measurement of the Beam-Normal Single-Spin Asymmetry in Forward-Angle Elastic Electron-Proton Scattering, *Phys.Rev.Lett.* 125, 11, 112502, 2020
- 49) CLAS Collaboration, Photoproduction of η mesons off the proton for $1.2 < E_\gamma < 4.7$ GeV using CLAS at Jefferson Laboratory, *Phys.Rev.C* 102, 6, 065203, 2020
- 50) Hall A Collaboration, Novel observation of isospin structure of short-range correlations in calcium isotopes, *Phys.Rev.C* 102, 6, 064004, 2020

- 51) CLAS Collaboration, First measurement of direct photoproduction of $a_2(1320)^0$ meson on the proton, Phys.Rev.C 102, 3, 032201, 2020
- 52) D. Higinbotham et al., Precise determination of the proton magnetic radius from electron scattering data, Phys.Rev.C 102, 3, 035203, 2020

Publications July 1, 2013-July 1, 2020

- 1) CLAS Collaboration, Photoproduction of $\eta\eta$ mesons off the proton for $1.2 < E_\gamma < 4.7$ GeV using CLAS at Jefferson Laboratory, arXiv:2006.01361 [nucl-ex]
- 2) D. Higinbotham et al., Probing short-range correlations in the deuteron via incoherent diffractive $J/\psi/\psi$ production with spectator tagging at the EIC, arXiv:2005.14706 [nucl-ex]
- 3) Qweak Collaboration, A Precision Measurement of the Beam-Normal Single-Spin Asymmetry in Forward-Angle Elastic Electron-Proton Scattering, submitted to PRL June 23, 2020, arXiv:2006.12435
- 4) V. Burkert et al., Hyperon III: $K-p-\pi\Sigma K-p-\pi\Sigma$ coupled-channel dynamics in the $(1405)\Lambda(1405)$ mass region, Eur.Phys.J. A56, no.5, 139, 2020
- 5) E. Chudakov et al., Installation and Commissioning of the GlueX DIRC, arXiv:2005.07195 [physics.ins-det]
- 6) E. Chudakov et al., The GlueX Beamline and Detector, arXiv:2005.14272 [physics.ins-det]
- 7) V. Mokeev et al., Evidence for the $N'(1720)3/2+N'(1720)3/2+$ Nucleon Resonance from Combined Studies of CLAS $\pi+\pi-p\pi+\pi-p$ Photo- and Electroproduction Data, Phys.Lett. B805, 135457, 2020
- 8) V. Burkert et al., The CLAS12 high threshold Cherenkov counter, Nucl.Instrum.Meth. A968, 163824, 2020
- 9) CLAS Collaboration, First measurement of direct photoproduction of the $a_2(1320)^0$ meson on the proton, arXiv:2004.05359 [nucl-ex]
- 10) N. Baltzell et al., The CLAS12 Data Acquisition System, Nucl.Instrum.Meth. A966, 163698, 2020
- 11) M. Battaglieri et al., The BDX detector prototype for dark matter searches in a Beam Dump experiment at JLAB, JINST 15, no.04, C04022, 2020
- 12) P. Rossi et al., The CLAS12 Ring Imaging Cherenkov detector, Nucl.Instrum.Meth. A964, 163791, 2020
- 13) V. Burkert et al., The CLAS12 superconducting magnets, Nucl.Instrum.Meth. A962, 163578, 2020
- 14) Pasyuk et al., Precision measurement of the neutral pion lifetime, Science 368, 6490, 2020
- 15) A. Yegneswaran et al., The CLAS12 Silicon Vertex Tracker, Nucl.Instrum.Meth. A962, 163701, 2020
- 16) V. Kubarovsky et al., The CLAS12 Trigger System, Nucl.Instrum.Meth. A960, 163529, 2020
- 17) GlueX Collaboration, Measurement of the Photon Beam Asymmetry in $\gamma^*p \rightarrow K+\Sigma^0\gamma$ $p \rightarrow K+\Sigma^0$ at $E_\gamma=8.5$ GeV, Phys.Rev.C 101, 6, 065206, 2020
- 18) V. Burkert et al., The CLAS12 Spectrometer at Jefferson Laboratory, Nucl.Instrum.Meth. A959, 163419, 2020
- 19) V. Ziegler et al., The CLAS12 software framework and event reconstruction, Nucl.Instrum.Meth. A959, 163472, 2020
- 20) M. Mestayer et al., The CLAS12 drift chamber system, Nucl.Instrum.Meth. A959, 163518, 2020
- 21) M. Ungaro et al., The CLAS12 Geant4 simulation, Nucl.Instrum.Meth. A959, 163422, 2020
- 22) N. Baltzell et al., The CLAS12 beamline and its performance, Nucl.Instrum.Meth. A959, 163475, 2020
- 23) M. Battaglieri et al., The CLAS12 Forward Tagger, Nucl.Instrum.Meth. A959, 163475, 2020
- 24) S. Stepanyan et al., The CLAS12 forward electromagnetic calorimeter, Nucl.Instrum.Meth. A959, 163425, 2020

- 25) D. Higinbotham et al., Precise determination of proton magnetic radius from electron scattering data, arXiv:2002.05167 [hep-ph]
- 26) E. Chudakov et al., Conceptual Design of Beryllium Target for the KLF Project, arXiv:2002.04442 [physics.ins-det]
- 27) D. Higinbotham et al., Reinterpretation of Classic Proton Charge Form Factor Measurements, arXiv:2003.03816 [nucl-ex]
- 28) M. Ungaro et al., The CLAS12 Low Threshold Cherenkov detector, Nucl.Instrum.Meth. A957, 163420, 2020
- 29) A. Camsonne et al., Deeply virtual Compton scattering off the neutron, Nature Phys. 16, no.2, 191-198, 2020
- 30) L. Pentchev et al., Comparative analysis of $\omega p \omega p$, $\phi p \phi p$, and $J/\psi p J/\psi p$ scattering lengths from A2, CLAS, and GlueX threshold measurements, Phys.Rev. C101, no.4, 045201, 2020
- 31) Jefferson Lab Hall A Tritium Collaboration, Probing few-body nuclear dynamics via ${}^{33}\text{H}$ and ${}^{33}\text{He}$ ($e, {}^{\prime}pe, e^{\prime}p$)pn cross-section measurements, Phys.Rev.Lett. 124, no.21, 212501, 2020
- 32) L. Pentchev et al., $J/\psi p J/\psi p$ Scattering Length from GlueX Threshold Measurements, Phys.Rev. C101, no.4, 042201, 2020
- 33) B. Wojtsekhowski, Flavor Decomposition of Nucleon Form Factors, arXiv:2001.02190 [nucl-ex]
- 34) T. Horn et al., Scintillating crystals for the Neutral Particle Spectrometer in Hall C at JLab, Nucl.Instrum.Meth. A956, 163375, 2020
- 35) B. Wojtsekhowski et al., Limit on the anisotropy of the one-way maximum attainable speed of the electron, Phys.Rev. D101 (2020) no.3, 032004
- 36) QWeak Collaboration, Parity-Violating Inelastic Electron-Proton Scattering at Low Q^2 Above the Resonance Region, Phys.Rev. C101, no.5, 055503, 2020
- 37) B. Zihlmann et al., The Central Drift Chamber for GlueX, Nucl.Instrum.Meth. A962, 163727, 2020
- 38) A. Deur et al., Unified Description of Polarized and Unpolarized Quark Distributions in the Proton, Phys.Rev.Lett. 124, no.8, 082003, 2020
- 39) Jefferson Lab E97-110 Collaboration, Measurement of the ${}^3\text{He}$ spin-structure functions and of neutron (${}^{33}\text{He}$) spin-dependent sum rules at $0.035 \leq Q^2 \leq 0.240$, Phys.Lett. B805, 135428, 2020
- 40) D. Higinbotham et al., Neutron Valence Structure from Nuclear Deep Inelastic Scattering, Phys.Rev.Lett. 124, no.9, 092002, 2020
- 41) CLAS Collaboration, Exclusive $\pi^0 p \pi^0 p$ electroproduction off protons in the resonance region at photon virtualities $0.4 \text{ GeV}^2 \leq Q^2 \leq 1 \text{ GeV}^2$, Phys.Rev. C101, no.1, 015208, 2020
- 42) E. Pasyuk et al., Photoproduction Reactions and Non-Strange Baryon Spectroscopy, Prog.Part.Nucl.Phys. 111, 103752, 2020
- 43) SANE Collaboration, Proton form factor ratio $\mu p G_E / G_M$ from double spin asymmetry, Phys.Rev. C101, no.3, 035206, 2020
- 44) E. Chudakov et al., Status of the GlueX DIRC, Nucl.Instrum.Meth.A 952, 161756, 2020
- 45) Jefferson Lab Hall A Collaboration, Dispersive corrections in elastic electron-nucleus scattering: an investigation in the intermediate energy regime and their impact on the nuclear matter, Eur.Phys.J. A56, no.5, 126, 2020
- 46) E. Pasyuk et al., A small proton charge radius from an electron–proton scattering experiment, Nature 575, no.7781, 147-150, 2019
- 47) R. Carlini et al., Testing the Standard Model at the Precision Frontier with the Qweak Experiment, Nucl.Phys.News 29, no.4, 15-20, 2019
- 48) D. Gaskell et al., Exclusive $\pi^+ \pi^+$ electroproduction off the proton from low to high- t , Phys.Rev. C100, no.6, 065204, 2019

- 49) D. Gaskell et al., Unique Access to uu -Channel Physics: Exclusive Backward-Angle Omega Meson Electroproduction, *Phys.Rev.Lett.* 123, no.18, 182501, 2019
- 50) V. Moiseev, Two Pion Photo- and Electroproduction with CLAS, arXiv:1909.08746 [nucl-ex]
- 51) R. Carlini et al., Determination of the Proton's Weak Charge and Its Constraints on the Standard Model, *Ann.Rev.Nucl.Part.Sci.* 69, 191-217, 2019
- 52) GlueX Collaboration, Beam Asymmetry $\Sigma\Sigma$ for the Photoproduction of $\eta\eta$ and $\eta'\eta'$ Mesons at $E_\gamma=8.8$ GeV, *Phys.Rev.* C100, no.5, 052201, 2019
- 53) A. Camsonne et al., Measurement of the cross sections for inclusive electron scattering in the E12-14-012 experiment at Jefferson Lab, *Phys.Rev.* C100, no.5, 054606, 2019
- 54) CLAS12 Run Group, Neutron DVCS Measurements with BONuS12 in CLAS12, arXiv:1908.00949 [nucl-ex]
- 55) R. Ent et al., Pion and Kaon Structure at the Electron-Ion Collider, *Eur.Phys.J.* A55, no.10, 190, 2019
- 56) D. Higinbotham et al., Measurement of the single-spin asymmetry $A_{0y}A_{y0}$ in quasi-elastic $^3\text{He} \uparrow \uparrow (e, e'ne, e'n)$ scattering at $0.4 < Q^2 < 1.00$ $4 < Q^2 < 1.0$ GeV/ c^2 , *Phys.Lett.* B797, 134875, 2019
- 57) GlueX Collaboration, First Measurement of Near-Threshold J/ψ Exclusive Photoproduction off the Proton, *Phys.Rev.Lett.* 123, no.7, 072001, 2019
- 58) PrimEx Collaboration, High Precision Measurement of Compton Scattering in the 5 GeV region, *Phys.Lett.* B797, 134884, 2019
- 59) CLAS Collaboration, Modified structure of protons and neutrons in correlated pairs, *Nature* 566, no.7744, 354-358, 2019
- 60) Jefferson Lab Hall A Tritium Collaboration, Comparing proton momentum distributions in $A=2$ and 3 nuclei via ^2H ^3H and ^3He $(e, 'p)(e, e'p)$ measurements, *Phys.Lett.* B797, 134890, 2019
- 61) V. Moiseev et al., Evaluation of the inclusive electron scattering observables in the resonance region from the experimental data, *Phys.Part.Nucl.* 50, no.5, 587-592, 2019
- 62) CLAS Collaboration, Exploring the Structure of the Bound Proton with Deeply Virtual Compton Scattering, *Phys.Rev.Lett.* 123, no.3, 032502, 2019
- 63) CLAS Collaboration, Measurement of Nuclear Transparency Ratios for Protons and Neutrons, *Phys.Lett.* B797, 134792, 2019
- 64) R. Ent et al., Measurements of Non-Singlet Moments of the Nucleon Structure Functions and Comparison to Predictions from Lattice QCD for $Q^2=4$ GeV 2 , *Phys.Rev.Lett.* 123, no.2, 022501, 2019

Publications July 1, 2018-July 1, 2019

- 1) Y. Sharabian et al., CLAS Collaboration, Direct Observation of Proton-Neutron Short-Range Correlation Dominance in Heavy Nuclei, *Phys. Rev. Lett.* 122, no.17, 172502, 2019
- 2) H. Avakian, Spin orbit correlations and the structure of the nucleon, *Riv. Nuovo Cimento* 42, 1-48. 10.1393/ncr/i2019-10155-3, 2019
- 3) D. Carman et al., Excited Nucleon Spectrum and Structure Studies with CLAS and CLAS12, arXiv:1907.02407 [nucl-ex]
- 4) E. Pasyuk et al., Photoproduction Reactions and Non-Strange Baryon Spectroscopy, arXiv:1906.04228 [nucl-ex]

- 5) D.W. Higinbotham et al, Measurement of the single-spin asymmetry A_0y in quasi-elastic $^3\text{He}\uparrow(e,e'n)$ scattering at $0.4 < Q^2 < 1.0$ GeV/c², arXiv:1906.04075 [nucl-ex]
- 6) GlueX Collaboration, First measurement of near-threshold J/ψ exclusive photoproduction off the proton, arXiv:1905.10811 [nucl-ex]
- 7) D. W. Higinbotham et al, The Double Spin Asymmetry of Nitrogen in Elastic and Quasielastic Kinematics from a Solid Ammonia Dynamically Polarized target, arXiv:1905.12550 [nucl-ex]
- 8) V. Burkert et al, Hyperon I: Study of the $\Lambda(1405)$, arXiv:1905.05456 [nucl-ex]
- 9) D. W. Higinbotham et al, Comment on Searching for flavor dependence in nuclear quark behavior, arXiv:1905.02172 [nucl-ex]
- 10) Hall A Collaboration, Probing for high momentum protons in ^4He via the $^4\text{He}(e,e'p)X$ reaction, arXiv:1905.00541 [nucl-ex]
- 11) V. Burkert et al, Nucleon resonance contributions to unpolarised inclusive electron scattering, arXiv:1904.08016 [hep-ph]
- 12) A. Deur et al, Experimental studies at low Q^2 of the spin structure of the nucleon at Jefferson Lab, arXiv:1903.05661 [nucl-ex]
- 13) T. Horn et al, Search for polarized antiproton production, *Hyperfine Interact.* 240, no.1, 22, 2019
- 14) CLAS Collaboration, Modified structure of protons and neutrons in correlated pairs, *Nature* 566, no.7744, 354-358, 2019
- 15) E. S. Smith et al, Measurements of the muon flux produced by 10.6 GeV electrons in a beam dump, *Nucl.Instrum.Meth.* A925, 116-122, 2019
- 16) Hall A Tritium Collaboration, Comparing proton momentum distributions in $A=3$ nuclei via ^3He and $^3\text{H}(e,e'p)$ measurements, arXiv:1902.06358 [nucl-ex]
- 17) V. Mokeev et al, Evaluation of the inclusive electron scattering observables in the resonance region from the experimental data, arXiv:1902.02900 [hep-ex]
- 18) V. Kubarovsky et al, Status of the Experimental Studies on DVMP and Transversity GPDs, arXiv:1902.02643 [hep-ph]
- 19) V. Burkert et al, The nucleon resonance structure from exclusive $\pi^+\pi^-p$ photo-/electroproduction off protons, arXiv:1901.09709 [nucl-ex]
- 20) CLAS Collaboration, Measurement of the beam spin asymmetry of $\rightarrow e p \rightarrow e' p' \eta$ in the deep-inelastic regime with CLAS, *Phys.Lett.* B789, 426-431, 2019
- 21) M. Ito et al, The GlueX Start Counter Detector, *Nucl.Instrum.Meth.* A927, 330-342, 2019
- 22) R. Ent et al, The "DIS and Related Subjects" Strategy Document: Fundamental Science from Lepton-Hadron Scattering, arXiv:1812.08110 [hep-ph]
- 23) CLAS Collaboration, Deeply Virtual Compton Scattering measurement off bound protons, arXiv:1812.07628 [nucl-ex]
- 24) D. W. Higinbotham et al, Bias-Variance Trade-off and Model Selection for Proton Radius Extractions, arXiv:1812.05706 [physics.data-an]
- 25) CLAS Collaboration, First Measurements of the Double-Polarization Observables F , P , and H in ω Photoproduction off Transversely Polarized Protons in the N^* Resonance Region, *Phys.Rev.Lett.* 122, no.16, 162301, 2019
- 26) D. W. Higinbotham et al, Density Changes in Low Pressure Gas Targets for Electron Scattering Experiments, *Nucl.Instrum.Meth.* A940, 351-358, 2019
- 27) CLAS Collaboration, Measurement of Nuclear Transparency Ratios for Protons and Neutrons, arXiv:1811.01823 [nucl-ex]
- 28) A. Camsonne et al, First measurement of the $\text{Ar}(e,e')X$ cross section at Jefferson Laboratory, *Phys.Rev.* C99, no.5, 054608, 2019
- 29) D. W. Higinbotham et al, Proton charge radius extraction from electron scattering data using dispersively improved chiral effective field theory, *Phys.Rev.* C99, no.4, 044303, 2019
- 30) A. Deur, Nucleon spin structure measurements at Jefferson Lab, arXiv:1810.08073 [nucl-ex]

- 31) Hall A Collaboration, High-resolution hypernuclear spectroscopy at Jefferson Lab, Hall A, Phys.Rev. C99, no.5, 054309, 2019
- 32) CLAS Collaboration, First results on nucleon resonance photocouplings from the $\gamma p \rightarrow \pi^+ \pi^- p$ reaction, Phys.Lett. B788, 371-379, 2019
- 33) SANE Collaboration, Revealing Color Forces with Transverse Polarized Electron Scattering, Phys.Rev.Lett. 122, no.2, 022002, 2019
- 34) Hall A Collaboration, Measurement of double-polarization asymmetries in the quasi-elastic $^3\text{He} \rightarrow (e \rightarrow, e'p)$ process, Phys.Lett. B788, 117-121, 2019
- 35) T. Horn et al, Kaon transverse charge density from space- and timelike data, Phys.Rev. C99, no.3, 039901, 2019
- 36) CLAS Collaboration, Measurement of Unpolarized and Polarized Cross Sections for Deeply Virtual Compton Scattering on the Proton at Jefferson Laboratory with CLAS, Phys.Rev. C98, no.4, 045203, 2018
- 37) V. Burkert et al, Evaluation of the Integrated Cross Sections of Reactions of Exclusive Pion and Kaon Electroproduction off Protons in the Resonance Region at Photon Virtualities from 5 to 12 GeV², Moscow Univ.Phys.Bull. 73, no.4, 343-350, 2018
- 38) A. Deur et al, Nonperturbative strange-quark sea from lattice QCD, light-front holography, and meson-baryon fluctuation models, Phys.Rev. D98, no.11, 114004, 2018
- 39) CLAS Collaboration, Study of Ξ^* Photoproduction from Threshold to $W=3.3$ GeV, Phys.Rev. C98, no.6, 062201, 2018
- 40) M. Diefenthaler et al, The Electron Ion Collider Science, ICFA Beam Dyn.Newslett. 74, 10-23, 2018
- 41) V. Burkert et al, Review of Particle Physics, Phys.Rev. D98, no.3, 030001, 2018
- 42) CLAS Collaboration, Probing high-momentum protons and neutrons in neutron-rich nuclei, Nature 560, no.7720, 617-621, 2018
- 43) CLAS Collaboration, Photoproduction of K^+K^- meson pairs on the proton, Phys.Rev. D98, no.5, 052009, 2018
- 44) V. Burkert, Jefferson Lab at 12 GeV: The Science Program, Ann.Rev.Nucl.Part.Sci. 68, 405-428, 2018
- 45) HPS Collaboration, Search for a dark photon in electroproduced e^+e^- pairs with the Heavy Photon Search experiment at JLab, Phys.Rev. D98, no.9, 091101, 2018
- 46) D. Gaskell et al, Measurements of Non-Singlet Moments of the Nucleon Structure Functions and Comparison to Predictions from Lattice QCD for $Q^2=4$ GeV², arXiv:1807.06061 [nucl-ex]
- 47) A. Deur et al, The Spin Structure of the Nucleon, arXiv:1807.05250 [hep-ph]
- 48) CLAS Collaboration, Beam-target helicity asymmetry E in $K^0\Lambda$ and $K^0\Sigma^0$ photoproduction on the neutron, Phys.Rev. C98, no.4, 045205, 2018
- 49) Q Weak Collaboration, Precision measurement of the weak charge of the proton, Nature 557, no.7704, 207-211, 2018
- 50) CLAS Collaboration, Center of Mass Motion of Short-Range Correlated Nucleon Pairs studied via the $A(e, e'pp)$ Reaction, Phys.Rev.Lett. 121, no.9, 092501, 2018
- 51) CLAS Collaboration, Measurements of the $\gamma p \rightarrow p' \pi^+ \pi^-$ cross section with the CLAS detector for $0.4 \text{ GeV}^2 < Q^2 < 1.0 \text{ GeV}^2$ and $1.3 \text{ GeV} < W < 1.825 \text{ GeV}$, Phys.Rev. C98, no.2, 025203, 2018
- 52) CLAS Collaboration, First measurement of Ξ^- polarization in photoproduction, Phys.Lett. B783, 280-286, 2018
- 53) V. Burkert et al, Proton- η' interactions at threshold, Phys.Lett. B785, 626-630, 2018
- 54) Hall A Collaboration, Robust extraction of the proton charge radius from electron-proton scattering data, Phys.Rev. C98, no.1, 014617, 2018
- 55) D. W. Higinbotham et al, Robust extraction of the proton charge radius from electron-proton scattering data, Phys.Rev. C98, no.2, 025204, 2018

- 56) CLAS Collaboration, Differential cross section for $\gamma d \rightarrow \omega d$ using CLAS at Jefferson Lab, Phys.Lett. B782, 646-651, 2018
- 57) E. Chudakov et al, Construction and Performance of the Barrel Electromagnetic Calorimeter for the GlueX Experiment, Nucl.Instrum.Meth. A896, 24-42, 2018
- 58) CLAS Collaboration, Exclusive photoproduction of π^0 up to large values of Mandelstam variables s,t and u with CLAS, Phys.Rev. C98, no.1, 015207, 2018
- 59) CLAS Collaboration, Semi-Inclusive π^0 target and beam-target asymmetries from 6 GeV electron scattering with CLAS, Phys.Lett. B782, 662-667, 2018
- 60) S. A. Wood et al, Experimental techniques and performance of Λ -hypernuclear spectroscopy with the $(e,e'K^+)$ reaction, Nucl.Instrum.Meth. A900, 69-83, 2018
- 61) M.K. Jones et al, Technical Supplement to "Polarization Transfer Observables in Elastic Electron-Proton Scattering at $Q^2 = 2.5, 5.2, 6.8$, and 8.5 GeV^2 ", Nucl.Instrum.Meth. A910, 54-78, 2018
- 62) S. Stepanyan et al, A radial time projection chamber for α detection in CLAS at JLab, Nucl.Instrum.Meth. A898, 90-97, 2018
- 63) A. Camsonne et al, First measurement of the Ti $(e,e')X$ cross section at Jefferson Lab, Phys.Rev. C98, 014617 (2018)

Publications July 1, 2017-July 1, 2018

- 1) CLAS Collaboration, First results on nucleon resonance photocouplings from the $\gamma p \rightarrow \pi^+ \pi^- p$ reaction, arXiv:1806.01767 [nucl-ex]
- 2) Hall A Collaboration, Dispersive Corrections to the Born Approximation in Elastic Electron-Nucleus Scattering in the Intermediate Energy Regime, arXiv:1805.12441 [nucl-ex]
- 3) SANE Collaboration, Revealing Color Forces with Transverse Polarized Electron Scattering, arXiv:1805.08835 [nucl-ex]
- 4) V.D. Burkert et al, The pressure distribution inside the proton, Nature 557, no.7705, 396-399, 2018
- 5) CLAS Collaboration, Beam-Target Helicity Asymmetry E in $K^0 \Lambda$ and $K^0 \Sigma^0$ Photoproduction on the Neutron, arXiv:1805.04561 [nucl-ex]
- 6) Qweak Collaboration, Precision measurement of the weak charge of the proton, Nature 557, no.7704, 207-211, 2018
- 7) CLAS Collaboration, The center of mass motion of short-range correlated nucleon pairs studied via the $A(e,e'pp)$ reaction, arXiv:1805.01981 [nucl-ex]
- 8) B. Wojtsekhowski, On anisotropy of the maximum attainable speed of low-mass particles, arXiv:1805.00408 [hep-ph]
- 9) Hall A Collaboration, Measurement of double-polarization asymmetries in the quasi-elastic $^3\text{He}(e, e'p)$ process, arXiv:1804.06043 [nucl-ex], Submitted to: Phys.Rev.Lett.
- 10) CLAS Collaboration, Measurements of the $\gamma p \rightarrow p' \pi^+ \pi^-$ cross section with the CLAS detector for $0.4 \text{ GeV}^2 < Q^2 < 1.0 \text{ GeV}^2$ and $1.3 \text{ GeV} < W < 1.825 \text{ GeV}$, arXiv:1804.05136 [nucl-ex]
- 11) CLAS Collaboration, First Measurement of Ξ^- Polarization in Photoproduction. arXiv:1804.04564 [nucl-ex]

- 12) V. Burkert et al, Proton- η' interactions at threshold, arXiv:1803.06814 [nucl-ex]
- 13) A. Camsonne et al, First Measurement of the $Ti(e,e')X$ Cross Section at Jefferson Lab, arXiv:1803.01910 [nucl-ex]
- 14) D.W. Higinbotham et al, Robust extraction of proton charge radius from electron-proton scattering data, arXiv:1803.01629 [nucl-ex]
- 15) CLAS Collaboration, Differential cross section for $\gamma d \rightarrow \omega d$ using CLAS at Jefferson Lab, Phys.Lett. B782, 646-651, 2018
- 16) S. Covrig Dosa et al, The P2 Experiment - A future high-precision measurement of the electroweak mixing angle at low momentum transfer, arXiv:1802.04759 [nucl-ex]
- 17) A. Deur et al, Universality of Generalized Parton Distributions in Light-Front Holographic QCD, Phys.Rev.Lett. 120, no.18, 182001, 2018
- 18) E. Chudakov et al, Construction and Performance of the Barrel Electromagnetic Calorimeter for the GlueX Experiment, Nucl.Instrum.Meth. A896, 24-42, 2018
- 19) M. Carmignotto et al, Separated Kaon Electroproduction Cross Section and the Kaon Form Factor from 6 GeV JLab Data, Phys.Rev. C97, no.2, 025204, 2018
- 20) CLAS Collaboration, Exclusive photoproduction of π^0 up to large values of Mandelstam variables s, t and u with CLAS, arXiv:1712.10314 [hep-ex]
- 21) Hall A Collaboration, Search for three-nucleon short-range correlations in light nuclei, Phys.Rev. C97, no.6, 065204, 2018
- 22) A. Camsonne et al, Nucleon and nuclear structure through dilepton production, Acta Phys.Polon. B49, 741-784, 2018
- 23) CLAS Collaboration, Double K_S^0 Photoproduction off the Proton at CLAS, Phys.Rev. C97, no.2, 025203, 2018
- 24) M.K. Jones et al, Design and Performance of the Spin Asymmetries of the Nucleon Experiment, Nucl.Instrum.Meth. A885, 145-159, 2018
- 25) CLAS Collaboration, Hard exclusive pion electroproduction at backward angles with CLAS, Phys.Lett. B780, 340-345, 2018
- 26) CLAS Collaboration, Measurement of the beam asymmetry Σ and the target asymmetry T in the photoproduction of ω mesons off the proton using CLAS at Jefferson Laboratory, Phys.Rev. C97, no.5, 055202, 2018
- 27) CLAS Collaboration, Measurement of the Q^2 Dependence of the Deuteron Spin Structure Function g_1 and its Moments at Low Q^2 with CLAS, Phys.Rev.Lett. 120, no.6, 062501, 2018
- 28) H. Avakian et al, Semi-Inclusive π^0 target and beam-target asymmetries from 6 GeV electron scattering with CLAS, Phys.Lett. B782, 662-667, 2018
- 29) L. Tang et al, Experimental techniques and performance of Λ -hypernuclear spectroscopy with the $(e,e'K^+)$ reaction, Nucl.Instrum.Meth. A900, 69-83, 2018
- 30) M.K. Jones et al, Measurements of the separated longitudinal structure function F_L from hydrogen and deuterium targets at low Q^2 , Phys.Rev. C97, no.4, 045204, 2018
- 31) S. Stepanyan et al, A radial time projection chamber for α detection in CLAS at JLab, Nucl.Instrum.Meth. A898, 90-97, 2018

- 32) L. Tang et al, Direct measurements of the lifetime of medium-heavy hypernuclei, Nucl.Phys. A973, 116-148, 2018
- 33) V. Burkert et al, Roper resonance -- solution to the fifty year puzzle, arXiv:1710.02549 [nucl-ex]
- 34) V. Burkert et al, N^* resonances from $K\Lambda$ amplitudes in sliced bins in energy, Eur.Phys.J. A53, no.12, 242, 2017
- 35) V. Burkert et al, Neutron helicity amplitudes, Phys.Rev. C96, no.5, 055202, 2017
- 36) T. Horn et al, Kaon transverse charge density from space- and timelike data, Phys.Rev. C96, no.6, 065207, 2017
- 37) R.E. McClellan et al, Dependencies of lepton angular distribution coefficients on the transverse momentum and rapidity of Z bosons produced in pp collisions at the LHC, Phys.Rev. D96, no.5, 054020, 2017
- 38) V. Burkert et al, Strong evidence for nucleon resonances near 1900 MeV, Phys.Rev.Lett. 119, no.6, 062004, 2017
- 39) P. Rossi et al, Modular focusing ring imaging Cherenkov detector for electron-ion collider experiments, Nucl.Instrum.Meth. A871, 13-19, 2017
- 40) D.W. Higinbotham et al, New Results on Short-Range Correlations in Nuclei, Ann.Rev.Nucl.Part.Sci. 67, 129-159, 2017
- 41) M.K. Jones et al, Polarization Transfer Observables in Elastic Electron Proton Scattering at $Q^2=2.5, 5.2, 6.8$, and 8.5 GeV^2 , Phys.Rev. C96, no.5, 055203, 2017
- 42) M.K. Jones et al, Technical Supplement to "Polarization Transfer Observables in Elastic Electron-Proton Scattering at $Q^2 = 2.5, 5.2, 6.8$, and 8.5 GeV^2 ", arXiv:1707.07750 [nucl-ex]
- 43) CLAS Collaboration, First Exclusive Measurement of Deeply Virtual Compton Scattering off ^4He : Toward the 3D Tomography of Nuclei, Phys.Rev.Lett. 119, no.20, 202004, 2017
- 44) M. Kohl et al, Measurement of the Vector and Tensor Asymmetries at Large Missing Momentum in Quasielastic $(\vec{e}, e'p)$ Electron Scattering from Deuterium, Phys.Rev.Lett. 119, no.18, 182501, 2017
- 45) A. Deur et al, Determination of the proton spin structure functions for $0.05 < Q^2 < 5 \text{ GeV}^2$ using CLAS, Phys.Rev. C96, no.6, 065208, 2017
- 46) V. Burkert et al, $N^* \rightarrow N\eta'$ decays from photoproduction of η' -mesons off protons, Phys.Lett. B772, 247-252, 2017
- 47) H. Avakian et al, Measurement of the differential and total cross sections of the $\gamma d \rightarrow K^0 \Lambda(p)$ reaction within the resonance region, Phys.Rev. C96, no.6, 065201, 2017
- 48) V. Burkert et al, Photon beam asymmetry Σ in the reaction $\vec{\gamma} p \rightarrow p \omega$ for $E_\gamma = 1.152$ to 1.876 GeV , Phys.Lett. B773, 112-120, 2017
- 49) D.S. Carman et al, Differential cross section measurements for $\gamma n \rightarrow \pi^- p$ above the first nucleon resonance region, Phys.Rev. C96, no.3, 035204, 2017
- 50) C. Keppel et al, Comparison of the Structure Function F_2 as Measured by Charged Lepton and Neutrino Scattering from Iron Targets, Phys.Rev. C96, no.3, 032201, 2017

- 51) V. Burkert et al, Differential cross sections and polarization observables from CLAS K^* photoproduction and the search for new N^* states, Phys.Lett. B771, 142-150, 2017
- 52) V. Burkert et al, Measurements of $ep \rightarrow e'\pi^+\pi^-p'$ Cross Sections with CLAS at 1.40 GeV $<W < 2.0$ GeV and $2.0 \text{ GeV}^2 < Q^2 < 5.0 \text{ GeV}^2$, Phys.Rev. C96, no.2, 025209, 2017
- 53) D.W. Higinbotham et al, Extraction of the Neutron Electric Form Factor from Measurements of Inclusive Double Spin Asymmetries, Phys.Rev. C96, no.6, 065206, 2017
- 54) A. Camsonne et al, A glimpse of gluons through deeply virtual compton scattering on the proton, Nature Commun. 8, no.1, 1408, 2017
- 55) H. Avakian et al, Photon beam asymmetry Σ for η and η' photoproduction from the proton, Phys.Lett. B771, 213-221, 2017
- 56) A. Camsonne et al, JLab Measurements of the ^3He Form Factors at Large Momentum Transfers, Phys.Rev.Lett. 119, no.20, 209901, 2017
- 57) A. Deur et al, Determination of $\Lambda\overline{M}\overline{S}$ at five loops from holographic QCD, J.Phys. G44, no.10, 105005, 2017

Magnet Group Publications (2018-2023) –

1. E. Sun, P. Ghoshal, D. Kashy, R. Rajput-Ghoshal, D. Young, R. Fair "Comparison of Multi-scale Nonlinear and Conventional Linear Methods for Stress Analysis of Nb3Sn Superconducting Magnets", *IEEE Transactions on Applied Superconductivity (ASC2022)*, DOI: 10.1109/TASC.2023.3249654
2. Eric Qiuli Sun, "Multi-scale nonlinear stress analysis of Nb3Sn superconducting accelerator magnets", *Superconductor Science and Technology*, V 35, 2022, 045019, <https://doi.org/10.1088/1361-6668/ac5a11>.
3. P. K. Ghoshal, et al., "General Failure Modes and Effects Analysis for Accelerator and Detector Magnet Design at JLab", *IEEE Trans on Appl. Superconductivity*, V30(8), Dec 2020, 4501011, DOI 10.1109/TASC.2020.3022993
4. D. Kashy, R. Fair, P. K. Ghoshal, R. Rajput-Ghoshal, "Interactions observed between Torus and Solenoid Superconducting magnets at JLab", *IEEE Trans on Appl. Superconductivity*, V30 (4), June 2020, 4500605, DOI: 10.1109/TASC.2020.2989474
5. R. Fair, et al., "The CLAS12 Superconducting magnets", *Nuclear Inst. and Methods in Physics Research, A* 962 (2020) 163578, DOI: 10.1016/j.nima.2020.163578.
6. Eric Sun, Steven Lassiter, Probir Ghoshal, Ruben Fair, Paul Brindza, "Test Results of Fast Decaying Current-Induced AC Losses in SHMS Superconducting Magnets at Jefferson Lab", *IEEE Trans on Appl. Superconductivity*, Vol 30 (4), June 2020, 4101005, DOI: 10.1109/TASC.2020.2974850
7. R. Rajput-Ghoshal, R. Fair, P. K. Ghoshal, GianLuca Sabbi, "Optimization of an Interaction Region Quadrupole Magnet for a Future Electron-Ion Collider at JLab", *IEEE Trans on Appl. Superconductivity*, Vol 30 (4), June 2020, 4001705, DOI: 10.1109/TASC.2020.2972217.
8. V. D. Burkert, et al., "The CLAS12 Spectrometer at Jefferson Laboratory", *Nuclear Inst. and Methods in Physics Research, A* 959 (2020) 163419, DOI: 10.1016/j.nima.2020.163419.
9. M. Ungaro, et al., "The CLAS12 Geant4 Simulation", *Nuclear Inst. and Methods in Physics Research, A* 959 (2020) 163422, DOI: 10.1016/j.nima.2020.163422
10. P. K. Ghoshal, R. Bachimanchi, P. Bonneau, P. Campero Rojas, B. J. Eng, R. J. Fair, T. Lemon, and N. R. Sandoval, "Development of FPGA-based multi-sensor excitation low voltage (MSELV) chassis at Jefferson Lab", *Rev. Sci. Instrum.*, 90(12), 124701, Dec 2019 (DOI: 10.1063/1.5127460)
11. Eric Sun, Probir K Ghoshal, Ruben Fair, Steven Lassiter, Paul Brindza, "Quench-back Management for Fast Decaying Currents in SHMS Superconducting Magnets at Jefferson Lab", *IEEE Trans on Appl. Superconductivity*, Vol 30 (3), April 2020, 4700313 (DOI 10.1109/TASC.2019.2931978)
12. Probir K. Ghoshal, D. Chavez, R. Fair, S. Gopinath, D. Kashy, P. McIntyre, T. Michalski, R. Rajput-Ghoshal, A. Sattarov, "Preliminary Design Study of a Fast-Ramping magnet for Pre-concept Design of an Electron-Ion Collider at Jefferson Lab", *IEEE Trans on Appl. Superconductivity*, Vol 30 (1), Jan 2020, 4700211 (Digital Object Identifier 10.1109/TASC.2019.2929495)

13. P. K. Ghoshal, R. Banchimanchi, G. Biallas, P. Campero, B. Eng, R. Fair, A. Hoebel, J. Hogan, D. Insley, D. Kashy, O. Kumar, C. Luongo, T. Lemon, J. Matalevich, M. Mestayer, R. Miller, W. Moore, R. Rajput-Ghoshal, N. Sandoval, G. Young, "Commissioning of the CLAS12 Hall-B Solenoid & Torus Detector Magnets at Jefferson Lab", *JLAB-PHY-18-2856*; DOE reference DOE/OR/23177-4570.
14. Mark Wiseman, Chuck Hutton, Fanglei Lin, Vasiliy Morozov, and Renuka Rajput-Ghoshal, "Preliminary Design of the Interaction Region Beam Transport Systems for JLEIC", *IEEE Trans on Appl. Superconductivity*, V29(5), Aug. 2019, DOI: 10.1109/TASC.2019.2896378
15. Renuka Rajput-Ghoshal, Ruben Fair, Probir K. Ghoshal, Chuck Hutton, Eric Sun, and Mark Wiseman, "Conceptual Design of the Interaction Region Magnets for Future Electron-Ion Collider at Jefferson Lab" - *IEEE Trans on Appl. Superconductivity*, Vol 29. No. 5, August 2019 (Digital Object Identifier 10.1109/TASC.2019.2901590).
16. Probir K. Ghoshal, J. Michael Beck, Ruben J. Fair, David H. Kashy, Mac D. Mestayer, Joseph Meyers, Joseph Newton, Renuka Rajput-Ghoshal, Kelly Tremblay, and Cyril L. Wiggins, "Magnetic Field Mapping of the CLAS12 Torus—A Comparative Study Between the Engineering Model and Measurements at JLab" - *IEEE Trans on Appl. Superconductivity*, Vol 29. No. 4, June 2019 (Digital Object Identifier 10.1109/TASC.2018.2884968).
17. Probir K. Ghoshal, Ramakrishna Bachimanchi, Ruben J. Fair, David Kashy, Renuka Rajput-Ghoshal, John Hogan, Nicholas Sandoval, Glenn Young, "Instrumentation and Control Selection for the 12 GeV Hall-B Magnets at Jefferson Lab" – *Supercond. Sci. Technol.*, 2018 (Digital Object Identifier 10.1088/1361-6668/aad277).
18. Probir K. Ghoshal, George H. Biallas, Ruben J. Fair, David H. Kashy, Joseph R. Matalevich, Cesar A. Luongo, "Commissioning Validation of CLAS-12 Torus Magnet Protection and Cryogenic Safety System" - *IEEE Trans on Appl. Superconductivity*, Vol 28. No. 6, Sept 2018 (Digital Object Identifier 10.1109/TASC.2018.2841928)