

## List of Publications

### Articles in Refereed Journals

- [75] E. Mornacchi *et al.* (A2 Collaboration at MAMI, 62 authors)  
“Evaluation of the  $E2/M1$  ratio in the  $N \rightarrow \Delta(1232)$  transition from the  $\vec{p}\vec{\gamma} \rightarrow p\pi^0$  reaction”  
*Physical Review C* **109**, 055201 (2024)
- [74] D. Ghosal *et al.* (A2 Collaboration at MAMI, 73 authors)  
“Helicity dependent cross sections for the photoproduction of  $\pi^0\pi^\pm$  pairs from quasi-free nucleons”  
*Physics Letters B* **847**, 138273 (2023)
- [73] F. A. Geser, **D. Werthmüller**, M. M. Kasprzak, E. G. Yukihiro and S. Mayer  
“Procedure for characterization and validation of commercial clearance monitors using Monte Carlo simulations”  
*Nuclear Instruments and Methods in Physics Research Section A* **1043**, 167465 (2022)
- [72] F. Cividini *et al.* (A2 Collaboration at MAMI, 71 authors)  
“Measurement of the helicity dependence for single  $\pi^0$  photoproduction from the deuteron”  
*The European Physical Journal A* **58**, 113 (2022)
- [71] E. Mornacchi *et al.* (A2 Collaboration at MAMI, 67 authors)  
“Measurement of Compton Scattering at MAMI for the Extraction of the Electric and Magnetic Polarizabilities of the Proton”  
*Physical Review Letters* **128**, 132503 (2022)
- [70] V. Metag *et al.* (CBELSA/TAPS Collaboration, 77 authors)  
“Observation of a structure in the  $M_{p\eta}$  invariant mass distribution near 1700 MeV/c<sup>2</sup> in the  $\gamma p \rightarrow p\pi^0\eta$  reaction”  
*The European Physical Journal A* **57**, 325 (2021)
- [69] C. Mullen *et al.* (A2 Collaboration at MAMI, 82 authors)  
“Single  $\pi^0$  production off neutrons bound in deuteron with linearly polarized photons”  
*The European Physical Journal A* **57**, 205 (2021)
- [68] M. Gottschall *et al.* (CBELSA/TAPS Collaboration, 68 authors)  
“Measurement of the helicity asymmetry E for the reaction  $\gamma p \rightarrow \pi^0 p$ ”  
*The European Physical Journal A* **57**, 40 (2021)
- [67] S. Adhikari *et al.* (GlueX Collaboration, 191 authors)  
“The GlueX beamline and detector”  
*Nuclear Instruments and Methods in Physics Research Section A* **987**, 164807 (2021)
- [66] D. Paudyal *et al.* (A2 Collaboration at MAMI, 93 authors)  
“Extracting the spin polarizabilities of the proton by measurement of Compton double-polarization observables”  
*Physical Review C* **102**, 035205 (2020)
- [65] M. Dieterle *et al.* (A2 Collaboration at MAMI, 88 authors)  
“Helicity-Dependent Cross Sections for the Photoproduction of  $\pi^0$  Pairs from Nucleons”  
*Physical Review Letters* **125**, 062001 (2020)
- [64] M. Bashkanov *et al.* (A2 Collaboration at MAMI, 75 authors)  
“Signatures of the  $d^*(2380)$  Hexaquark in  $d(\gamma, p\bar{n})$ ”  
*Physical Review Letters* **124**, 132001 (2020)
- [63] V. Sokhoyan *et al.* (A2 Collaboration at MAMI, 91 authors)  
“Measurement of the beam-helicity asymmetry in photoproduction of  $\pi^0\eta$  pairs on carbon, aluminum, and lead”  
*Physics Letters B* **802**, 135243 (2020)
- [62] W. J. Briscoe *et al.* (A2 Collaboration at MAMI, 93 authors)  
“Cross section for  $\gamma n \rightarrow \pi^0 n$  measured at the Mainz A2 experiment”  
*Physical Review C* **100**, 065205 (2019)

- [61] C. S. Akondi *et al.* (A2 Collaboration at MAMI, 81 authors)  
 “Experimental study of the  $\gamma p \rightarrow K^0 \Sigma^+$ ,  $\gamma n \rightarrow K^0 \Lambda$ , and  $\gamma n \rightarrow K^0 \Sigma^0$  reactions at the Mainz Microtron”  
*The European Physical Journal A* **55**, 202 (2019)
- [60] A. Ali *et al.* (GlueX Collaboration, 134 authors)  
 “First Measurement of Near-Threshold  $J/\psi$  Exclusive Photoproduction off the Proton”  
*Physical Review Letters* **123**, 072001 (2019)
- [59] M. Bashkanov *et al.* (A2 Collaboration at MAMI, 73 authors)  
 “Deuteron photodisintegration by polarized photons in the region of the  $d^*(2380)$ ”  
*Physics Letters B* **789**, 7 (2019)
- [58] M. Nanova *et al.* (CBELSA/TAPS Collaboration, 61 authors)  
 “The  $\eta'$ -carbon potential at low meson momenta”  
*The European Physical Journal A* **54**, 182 (2018)
- [57] A. Käser *et al.* (A2 Collaboration at MAMI, 83 authors)  
 “First measurement of helicity-dependent cross sections in  $\pi^0 \eta$  photoproduction from quasi-free nucleons”  
*Physics Letters B* **786**, 305 (2018)
- [56] P. Adlarson *et al.* (A2 Collaboration at MAMI, 79 authors)  
 “Measurement of the decay  $\eta' \rightarrow \pi^0 \pi^0 \eta$  at MAMI”  
*Physical Review D* **98**, 012001 (2018)
- [55] M. Dieterle, **D. Werthmüller** *et al.* (A2 Collaboration at MAMI, 84 authors)  
 “Photoproduction of  $\pi^0$  mesons off protons and neutrons in the second and third nucleon resonance regions”  
*Physical Review C* **97**, 065205 (2018)
- [54] S. Prakhov *et al.* (A2 Collaboration at MAMI, 89 authors)  
 “High-statistics measurement of the  $\eta \rightarrow 3\pi^0$  decay at the Mainz Microtron”  
*Physical Review C* **97**, 065203 (2018)
- [53] V. Sokhoyan *et al.* (A2 Collaboration at MAMI, 90 authors)  
 “Experimental study of the  $\gamma p \rightarrow \pi^0 \eta p$  reaction with the A2 setup at the Mainz Microtron”  
*Physical Review C* **97**, 055212 (2018)
- [52] M. Dieterle *et al.* (A2 Collaboration at MAMI, 88 authors)  
 “First measurement of the polarization observable  $E$  and helicity-dependent cross sections in single  $\pi^0$  photoproduction from quasi-free nucleons”  
*Physics Letters B* **770**, 523 (2017)
- [51] V. L. Kashevarov *et al.* (A2 Collaboration at MAMI, 91 authors)  
 “Study of  $\eta$  and  $\eta'$  Photoproduction at MAMI”  
*Physical Review Letters* **118**, 212001 (2017)
- [50] L. Witthauer *et al.* (A2 Collaboration at MAMI, 87 authors)  
 “Helicity-dependent cross sections and double-polarization observable  $E$  in  $\eta$  photoproduction from quasifree protons and neutrons”  
*Physical Review C* **95**, 055201 (2017)
- [49] H. Al Ghouli *et al.* (GlueX Collaboration, 125 authors)  
 “Measurement of the beam asymmetry  $\Sigma$  for  $\pi^0$  and  $\eta$  photoproduction on the proton at  $E_\gamma = 9$  GeV”  
*Physical Review C* **95**, 042201 (2017)
- [48] L. Witthauer *et al.* (CBELSA/TAPS Collaboration, 73 authors)  
 “Photoproduction of  $\eta$  mesons from the neutron: Cross sections and double polarization observable  $E$ ”  
*The European Physical Journal A* **53**, 58 (2017)

- [47] P. Adlarson *et al.* (A2 Collaboration at MAMI, 95 authors)  
 “Measurement of the  $\omega \rightarrow \pi^0 e^+ e^-$  and  $\eta \rightarrow e^+ e^- \gamma$  Dalitz decays with the A2 setup at the Mainz Microtron”  
*Physical Review C* **95**, 035208 (2017)
- [46] P. Adlarson *et al.* (A2 Collaboration at MAMI, 97 authors)  
 “Measurement of the  $\pi^0 \rightarrow e^+ e^- \gamma$  Dalitz decay at the Mainz Microtron”  
*Physical Review C* **95**, 025202 (2017)
- [45] V. Sokhoyan *et al.* (A2 Collaboration at MAMI, 77 authors)  
 “Determination of the scalar polarizabilities of the proton using beam asymmetry  $\Sigma_3$  in Compton scattering”  
*The European Physical Journal A* **53**, 14 (2017)
- [44] S. Gardner *et al.* (A2 Collaboration at MAMI, 101 authors)  
 “Photon asymmetry measurements of  $\vec{\gamma} p \rightarrow \pi^0 p$  for  $E_\gamma = 320\text{--}650$  MeV”  
*The European Physical Journal A* **52**, 333 (2016)
- [43] S. Friedrich *et al.* (CBELSA/TAPS Collaboration, 60 authors)  
 “Momentum dependence of the imaginary part of the  $\omega$ - and  $\eta'$ -nucleus optical potential”  
*The European Physical Journal A* **52**, 297 (2016)
- [42] L. Witthauer *et al.* (A2 Collaboration at MAMI, 86 authors)  
 “Insight into the Narrow Structure in  $\eta$  Photoproduction on the Neutron from Helicity-Dependent Cross Sections”  
*Physical Review Letters* **117**, 132502 (2016)
- [41] A. Käser *et al.* (A2 Collaboration at MAMI, 69 authors)  
 “Photoproduction of  $\eta\pi$  pairs off nucleons and deuterons”  
*The European Physical Journal A* **52**, 272 (2016)
- [40] M. Nanova *et al.* (CBELSA/TAPS Collaboration, 54 authors)  
 “Determination of the real part of the  $\eta'$ -Nb optical potential”  
*Physical Review C* **94**, 025205 (2016)
- [39] J. R. M. Annand *et al.* (A2 Collaboration at MAMI, 67 authors)  
 “ $T$  and  $F$  asymmetries in  $\pi^0$  photoproduction on the proton”  
*Physical Review C* **93**, 055209 (2016)
- [38] **D. Werthmüller**, L. Witthauer, D. I. Glazier and B. Krusche  
 “Comment on “Evidence for narrow resonant structures at  $W \approx 1.68$  GeV and  $W \approx 1.72$  GeV in real Compton scattering off the proton””  
*Physical Review C* **92**, 069801 (2015)
- [37] M. Dieterle *et al.* (A2 Collaboration at MAMI, 74 authors)  
 “Photoproduction of  $\pi^0$ -pairs off protons and off neutrons”  
*The European Physical Journal A* **51**, 142 (2015)
- [36] S. Schumann *et al.* (A2 Collaboration at MAMI, 74 authors)  
 “Threshold  $\pi^0$  photoproduction on transverse polarised protons at MAMI”  
*Physics Letters B* **750**, 252 (2015)
- [35] P. Adlarson *et al.* (A2 Collaboration at MAMI, 91 authors)  
 “Measurement of  $\pi^0$  photoproduction on the proton at MAMI C”  
*Physical Review C* **92**, 024617 (2015)
- [34] A. Käser *et al.* (A2 Collaboration at MAMI, 74 authors)  
 “The isospin structure of photoproduction of  $\eta\pi$  pairs from the nucleon in the threshold region”  
*Physics Letters B* **748**, 244 (2015)
- [33] A.V. Anisovich, E. Klempt, B. Krusche, V.A. Nikonov, A.V. Sarantsev, U. Thoma and **D. Werthmüller**  
 “Interference phenomena in the  $J^P = 1/2^-$  wave in  $\eta$  photoproduction”  
*The European Physical Journal A* **51**, 72 (2015)

- [32] J. R. M. Annand *et al.* (A2 Collaboration at MAMI, 67 authors)  
 “First measurement of target and beam-target asymmetries in the  $\gamma p \rightarrow \pi^0 \eta p$  reaction”  
*Physical Review C* **91**, 055208 (2015)
- [31] M. Martemianov *et al.* (A2 Collaboration at MAMI, 71 authors)  
 “A new measurement of the neutron detection efficiency for the NaI Crystal Ball detector”  
*Journal of Instrumentation* **10**, T04001 (2015)
- [30] I. I. Strakovsky *et al.* (A2 Collaboration at MAMI, 74 authors)  
 “Photoproduction of the  $\omega$  meson on the proton near threshold”  
*Physical Review C* **91**, 045207 (2015)
- [29] P. P. Martel *et al.* (A2 Collaboration at MAMI, 79 authors)  
 “Measurements of Double-Polarized Compton Scattering Asymmetries and Extraction of the Proton Spin Polarizabilities”  
*Physical Review Letters* **114**, 112501 (2015)
- [28] S. Costanza *et al.* (A2 Collaboration at MAMI, 68 authors)  
 “Helicity dependence of the  $\gamma^3\text{He} \rightarrow \pi X$  reactions in the  $\Delta(1232)$  resonance region”  
*The European Physical Journal A* **50**, 173 (2014)
- [27] C. S. Akondi *et al.* (A2 Collaboration at MAMI, 70 authors)  
 “Measurement of the Transverse Target and Beam-Target Asymmetries in  $\eta$  Meson Photoproduction at MAMI”  
*Physical Review Letters* **113**, 102001 (2014)
- [26] B. M. K. Nefkens *et al.* (A2 Collaboration at MAMI, 79 authors)  
 “New measurement of the rare decay  $\eta \rightarrow \pi^0 \gamma \gamma$  with the Crystal Ball/TAPS detectors at the Mainz Microtron”  
*Physical Review C* **90**, 025206 (2014)
- [25] T. C. Jude *et al.* (A2 Collaboration at MAMI, 72 authors)  
 “ $K^+\Lambda$  and  $K^+\Sigma^0$  photoproduction with fine center-of-mass energy resolution”  
*Physics Letters B* **735**, 112 (2014)
- [24] **D. Werthmüller** *et al.* (A2 Collaboration at MAMI, 74 authors)  
 “Quasifree photoproduction of  $\eta$  mesons off protons and neutrons”  
*Physical Review C* **90**, 015205 (2014)
- [23] P. Aguar-Bartolomé *et al.* (A2 Collaboration at MAMI, 76 authors)  
 “New determination of the  $\eta$  transition form factor in the Dalitz decay  $\eta \rightarrow e^+ e^- \gamma$  with the Crystal Ball/TAPS detectors at the Mainz Microtron”  
*Physical Review C* **89**, 044608 (2014)
- [22] M. Dieterle *et al.* (A2 Collaboration at MAMI, 74 authors)  
 “Photoproduction of  $\pi^0$  Mesons off Neutrons in the Nucleon Resonance Region”  
*Physical Review Letters* **112**, 142001 (2014)
- [21] M. Oberle *et al.* (A2 Collaboration at MAMI, 75 authors)  
 “Measurement of the beam-helicity asymmetry  $I^\odot$  in the photoproduction of  $\pi^0 \pi^\pm$  pairs off protons and off neutrons”  
*The European Physical Journal A* **50**, 54 (2014)
- [20] M. H. Sikora *et al.* (A2 Collaboration at MAMI, 79 authors)  
 “Measurement of the  $^1\text{H}(\vec{\gamma}, \vec{p})\pi^0$  Reaction Using a Novel Nucleon Spin Polarimeter”  
*Physical Review Letters* **112**, 022501 (2014)
- [19] **D. Werthmüller** *et al.* (A2 Collaboration at MAMI, 72 authors)  
 “Narrow Structure in the Excitation Function of  $\eta$  Photoproduction off the Neutron”  
*Physical Review Letters* **111**, 232001 (2013)
- [18] L. Witthauer, **D. Werthmüller** *et al.* (A2 Collaboration at MAMI, 73 authors)  
 “Quasi-free photoproduction of  $\eta$ -mesons off  $^3\text{He}$  nuclei”  
*The European Physical Journal A* **49**, 154 (2013)

- [17] P. Aguar-Bartolomé *et al.* (A2 Collaboration at MAMI, 78 authors)  
 “Measurement of the  $\gamma p \rightarrow K^0 \Sigma^+$  reaction with the Crystal Ball/TAPS detectors at the Mainz Microtron”  
*Physical Review C* **88**, 044601 (2013)
- [16] M. Thiel *et al.* (A2 Collaboration at MAMI, 67 authors)  
 “In-medium modifications of the  $\omega$  meson near the production threshold”  
*The European Physical Journal A* **49**, 132 (2013)
- [15] D. Hornidge *et al.* (A2 Collaboration at MAMI, 67 authors)  
 “Accurate Test of Chiral Dynamics in the  $\vec{\gamma} p \rightarrow \pi^0 p$  Reaction”  
*Physical Review Letters* **111**, 062004 (2013)
- [14] P. Aguar Bartolomé *et al.* (A2 Collaboration at MAMI, 65 authors)  
 “First measurement of the helicity dependence of  $^3\text{He}$  photoreactions in the  $\Delta(1232)$  resonance region”  
*Physics Letters B* **723**, 71 (2013)
- [13] Y. Maghrbi *et al.* (A2 Collaboration at MAMI, 63 authors)  
 “Double pion photoproduction off nuclei – Are there effects beyond final-state interaction?”  
*Physics Letters B* **722**, 69 (2013)
- [12] J. Robinson *et al.* (A2 Collaboration at MAMI, 73 authors)  
 “Measurements of  $^{12}\text{C}(\vec{\gamma}, pp)$  photon asymmetries for  $E_\gamma = 200\text{--}450$  MeV”  
*The European Physical Journal A* **49**, 65 (2013)
- [11] M. Oberle *et al.* (A2 Collaboration at MAMI, 75 authors)  
 “Measurement of the beam-helicity asymmetry  $I^\odot$  in the photoproduction of  $\pi^0$ -pairs off the proton and off the neutron”  
*Physics Letters B* **721**, 237 (2013)
- [10] Y. Maghrbi *et al.* (A2 Collaboration at MAMI, 63 authors)  
 “Coherent photoproduction of  $\pi^0$ - and  $\eta$ -mesons off  $^7\text{Li}$ ”  
*The European Physical Journal A* **49**, 38 (2013)
- [9] V. L. Kashevarov *et al.* (A2 Collaboration at MAMI, 71 authors)  
 “Experimental study of the  $\gamma p \rightarrow \pi^0 \pi^0 p$  reaction with the Crystal Ball/TAPS detector system at the Mainz Microtron”  
*Physical Review C* **85**, 064610 (2012)
- [8] F. Pheron *et al.* (A2 Collaboration at MAMI, 74 authors)  
 “Coherent photoproduction of  $\eta$ -mesons off  $^3\text{He}$  – search for  $\eta$ -mesic nuclei”  
*Physics Letters B* **709**, 21 (2012)
- [7] I. Jaegle *et al.* (CBELSA/TAPS Collaboration, 72 authors)  
 “Quasi-free photoproduction of  $\eta$ -mesons off the deuteron”  
*The European Physical Journal A* **47**, 89 (2011)
- [6] H. Berghäuser *et al.* (A2 Collaboration at MAMI, 70 authors)  
 “Determination of the  $\eta$ -transition form factor in the  $\gamma p \rightarrow p \eta \rightarrow p \gamma e^+ e^-$  reaction”  
*Physics Letters B* **701**, 562 (2011)
- [5] H. Moeini *et al.* (EXL Collaboration, 28 authors)  
 “First feasibility experiment for the EXL project with prototype detectors at the ESR storage ring”  
*Nuclear Instruments and Methods in Physics Research Section A* **634**, 77 (2011)
- [4] V. L. Kashevarov *et al.* (A2 Collaboration at MAMI, 77 authors)  
 “First measurement of the circular beam asymmetry in the  $\vec{\gamma} p \rightarrow \pi^0 \eta p$  reaction”  
*Physics Letters B* **693**, 551 (2010)
- [3] E. F. McNicoll *et al.* (A2 Collaboration at MAMI, 84 authors)  
 “Experimental study of the  $\gamma p \rightarrow \eta p$  reaction with the Crystal Ball detector at the Mainz Microtron (MAMI-C)”  
*Physical Review C* **82**, 035208 (2010)

- [2] N. Kalantar-Nayestanaki *et al.* (EXL Collaboration, 31 authors)  
 “First Feasibility Study For EXL With Prototype Detectors At The ESR and Detector Simulations”  
*International Journal of Modern Physics E* **18**, 524 (2009)
- [1] S. Ilieva *et al.* (EXL Collaboration, 28 authors)  
 “Feasibility studies of the EXL setup for FAIR using the GSI storage ring ESR”  
*The European Physical Journal Special Topics* **150**, 357 (2007)

### Articles in Conference Proceedings

- [VI] M.I. Besana, E. Hohmann, M. Sapinski, J. Snuverink and **D. Werthmüller**  
 “Investigation of Long Radial Probe Activation in the PSI Main Ring Cyclotron”  
*Proc. 23rd Int. Conf. Cyclotrons Appl. (CYCLOTRONS'22)*, 163 (2023)
- [V] **D. Werthmüller**  
 “Search for the  $N(1685)$  in  $\eta\pi$ -Photoproduction”  
*Proceedings of the Workshop on the Physics of Excited Nucleons – NSTAR2019, June 2019, Bonn (Germany)*  
*EPJ Web of Conferences* **241**, 01019 (2020)
- [IV] **D. Werthmüller**  
 “Strangeness Photoproduction on Quasifree Neutrons”  
*Proceedings of the Workshop on the Physics of Excited Nucleons – NSTAR2015, May 2015, Osaka (Japan)*  
*JPS Conference Proceedings* **10**, 032008 (2016)
- [III] I. Keshelashvili, **D. Werthmüller** and L. Witthauer  
 “Quasi-free Photoproduction of  $\eta$ -Mesons off  $^2\text{H}$  and  $^3\text{He}$ ”  
*Proceedings of the Workshop on the Physics of Excited Nucleons – NSTAR2013, May 2013, Peñíscola (Spain)*  
*International Journal of Modern Physics: Conference Series* **26**, 1460114 (2014)
- [II] **D. Werthmüller** and L. Witthauer  
 “Investigation of the anomaly in  $\eta$ -photoproduction off the neutron”  
*Proceedings of the second International PrimeNet Workshop, September 2011, Jülich (Germany)*  
*arXiv:1204.5509 [nucl-ex]* (2012)
- [I] **D. Werthmüller**  
 “Investigation of the anomaly in  $\eta$ -photoproduction off the neutron”  
*Proceedings of the Workshop on the Physics of Excited Nucleons – NSTAR2009, April 2009, Beijing (PRC)*  
*Chinese Physics C* **33**, 1345 (2009)