

PV Experiment	Energy (GeV)	Pol (%)	I (μA)	Target	A_{pv} (ppb)	Charge Asym (ppb)	Position Diff (nm)	Angle Diff (nrad)	Size Asym($\delta\sigma/\sigma$)	Refs.
HAPPEx-I 1998 – 1999	3.3	38.8 68.8	100 40	^1H (15 cm)	15,050	200	12	3	$<10^{-3}$	[1, 2, 3]
G0-Forward 2003 – 2004	3.0	73.7	40	^1H (20 cm)	3,000-40,000	300 ± 300	7 ± 4	3 ± 1	$<10^{-3}$	[4]
HAPPEx-II 2004 – 2005	3.03	87.1	55	$^1\text{H}, ^4\text{He}$ (20 cm)	-1,580, 6,400	400	2	0.25	$<10^{-3}$	[5, 6, 7]
G0-Backward 2006 – 2007	0.359, 0.688	85.8	60	$^1\text{H}, ^2\text{H}$ (20 cm)	9,700-37,400	-30 ± 300	47 ± 9	1.2 ± 0.5	$<10^{-3}$	[8]
HAPPEx-III 2009	3.484	89.4	100	^1H (25 cm)	23,800	200 ± 10	3	0.5 ± 0.1	$<10^{-3}$	[9]
PVDIS 2009	6.067	89.0	105	^2H (20 cm)	60,000-160,000	100	100	40	$<10^{-3}$	[10, 11, 12]
PREx-I 2010	1.056	89.2	70	^{208}Pb (0.5 mm)	657 ± 60	85 ± 1	4	1	$<10^{-4}$	[13]
QWeak 2010 – 2012	1.162	88.7	180	^1H (34 cm)	226.5 ± 9.3	20.5 ± 1.7	-4.6 ± 0.2	-0.07 ± 0.01	$<10^{-4}$	[14, 15, 16, 17]
PREx-II 2019	0.953	89.7	70	^{208}Pb (0.5 mm)	550 ± 18	20.7 ± 0.2	2.2 ± 4	-0.3 ± 0.3	$<6\times 10^{-5}$	[18]
CREx 2019-2020	2.18	87.1	150	^{48}Ca (5 mm)	2668 ± 113	-88 ± 26	-5.2 ± 3.6	-0.13 ± 0.08	$<6\times 10^{-5}$	[19]
MOLLER 2025-2027	11	90	65	^1H (125 cm)	35.6 ± 0.74	<10	<0.6	<0.12	$<10^{-5}$	[20]
SoLID 2030-2032	11	90	50	$^1\text{H}, ^2\text{H}$ (40 cm)	$500,000\pm 3,000$	<200	<3	<1	$<10^{-4}$	[21]

References

1. Measurement of the neutral weak form factors of the proton, K. A. Aniol et al., Phys. Rev. Lett. 82, 1096 (1999). <https://doi.org/10.1103/PhysRevLett.82.1096>
2. New Measurement of Parity Violation in Elastic Electron-Proton Scattering and Implications for Strange Form Factors. K. A. Aniol et al., Phys. Lett. B 509, 211 (2001). [https://doi.org/10.1016/S0370-2693\(01\)00446-4](https://doi.org/10.1016/S0370-2693(01)00446-4)
3. Parity-violating Electroweak Asymmetry in e^-p Scattering. K. A. Aniol et al., Phys. Rev. C 69, 065501 (2004). <https://doi.org/10.1103/PhysRevC.69.065501>
4. Strange-Quark Contributions to Parity-Violating Asymmetries in the Forward G0 Electron-Proton Scattering Experiment, D. S. Armstrong et al. Phys. Rev. Lett. 95, 092001 (2005). <https://doi.org/10.1103/PhysRevLett.95.092001>
5. Parity-Violating Electron Scattering from ^4He and the Strange Electric Form Factor of the Nucleon, K. A. Aniol et al., Phys. Rev. Lett. 96, 022003 (2006). <https://doi.org/10.1103/PhysRevLett.96.022003>
6. Constraints on the nucleon strange form factors at $Q^2 \sim 0.1 \text{ GeV}^2$. K. A. Aniol et al., Phys. Lett. B 635, 275 (2006). <https://doi.org/10.1016/j.physletb.2006.03.011>
7. Precision Measurements of the Nucleon Strange Form Factors at $Q^2 \sim 0.1 \text{ GeV}^2$, A. Acha et al., Phys. Rev. Lett. 98, 032301 (2007). <https://doi.org/10.1103/PhysRevLett.98.032301>
8. Strange Quark Contributions to Parity-Violating Asymmetries in the Backward Angle G0 Electron Scattering Experiment, D. Androić et al., Phys. Rev. Lett. 104, 012001 (2010). <https://doi.org/10.1103/PhysRevLett.104.012001>
9. New Precision Limit on the Strange Vector Form Factors of the Proton, Z. Ahmed et al., Phys. Rev. Lett. 108, 102001 (2012). <https://doi.org/10.1103/PhysRevLett.108.102001>
10. Measurements of Parity-Violating Asymmetries in Electron-Deuteron Scattering in the Nucleon Resonance Region. D. Wang et al., Phys. Rev. Lett. 111, 082501 (2013). <https://doi.org/10.1103/PhysRevLett.111.082501>
11. Measurement of parity violation in electron-quark scattering. D. Wang et al., Nature 506, 67 (2014). <https://doi.org/10.1038/nature12964>

12. Measurement of parity-violating asymmetry in electron-deuteron inelastic scattering. D. Wang et al., Phys. Rev. C 91, 045506 (2015).
<https://doi.org/10.1103/PhysRevC.91.045506>
13. Measurement of the Neutron Radius of ^{208}Pb through Parity Violation in Electron Scattering, S. Abrahamyan et al., Phys. Rev. Lett. 108, 112502 (2012).
<https://doi.org/10.1103/PhysRevLett.108.112502>
14. First Determination of the Weak Charge of the Proton, D. Androic et al., Phys. Rev. Lett. 111, 141803 (2013). <https://doi.org/10.1103/PhysRevLett.111.141803>
15. Precision measurement of the weak charge of the proton. D. Androić et al., Nature 557, 207 (2018). <https://doi.org/10.1038/s41586-018-0096-0>
16. Parity-violating inelastic electron-proton scattering at low Q^2 above the resonance region, D. Androić et al., Phys. Rev. C 101, 055503 (2020).
<https://doi.org/10.1103/PhysRevC.101.055503>
17. Determination of the ^{27}Al Neutron Distribution Radius from a Parity-Violating Electron Scattering Measurement, D. Androić et al., Phys. Rev. Lett. 128, 132501 (2022).
<https://doi.org/10.1103/PhysRevLett.128.132501>
18. Accurate Determination of the Neutron Skin Thickness of ^{208}Pb through Parity-Violation in Electron Scattering, D. Adhikari et al., Phys. Rev. Lett. 126, 172502 (2021).
<https://doi.org/10.1103/PhysRevLett.126.172502>
19. Precision Determination of the Neutral Weak Form Factor of ^{48}Ca , D. Adhikari et al., Phys. Rev. Lett. 129, 042501 (2022). <https://doi.org/10.1103/PhysRevLett.129.042501>
20. The MOLLER Experiment: An Ultra-Precise Measurement of the Weak Mixing Angle Using Møller Scattering, J. Benesch et al., arXiv:1411.4088.
<https://doi.org/10.48550/arXiv.1411.4088>
21. SoLID (Solenoidal Large Intensity Device), Updated Preliminary Conceptual Design Report, The SoLID Collaboration, November 2019.
<https://solid.jlab.org/DocDB/0002/000282/001/solid-precdr-2019Nov.pdf>