

Syracuse University

College of Arts & Sciences

Paul Souder



Professor

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[CV \(.pdf\)](#)

[Research Page](#)

Research Interests

- Research which uses the spin property of elementary particles to study fundamental problems in nuclear physics.
- Precise measurement of small correlations between scattering rates and spin direction arising from parity violation, exploring the parity-violating components of the Standard Model of particle physics, as well as possible extensions of that model.
- Measurement of neutron radius of heavy nuclei, with implications for neutron star astrophysics and analysis of atomic parity violation

News Articles

[Syracuse Professor Receives Grant for Ongoing Work in Particle Physics](#)

Education

1977 Ph.D. in Physics
Princeton University

1966 B.S. in Physics
Wheaton College

Awards & Professional Honors

- Fellow American Physical Society (1998)
- Sigma Xi Award for Research Excellence (2001)

Selected Publications

HAPPEX Collaboration, "New Precision Limit on the Strange Vector Form Factors of the Proton", submitted to Phys. Rev. Lett. (2011).

P.A. Souder, "Parity-violating PVDIS with SoLID", AIP Conf. Proc. 1369:43-50 (2011).

P.A. Souder, "Experimental Status of Strange Form Factors", AIP Conf. Proc. 1182:941-944 (2009).

HAPPEX Collaboration, "Precision Measurements of the Nucleon Strange Form Factors at $Q^2 \sim 0.1\text{-GeV}^2$ ", Phys. Rev. Lett. 98:032301 (2007).

SLAC E158 Collaboration, "Precision measurement of the weak mixing angle in Moller scattering", Phys. Rev. Lett. 95:081601 (2005).

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