

Paul Stoler

Professor of Physics

Education: B.S., Brooklyn College. Ph.D., Experimental nuclear physics, Rutgers University.

Career Highlights: Stoler joined Rensselaer in 1966, where he has conducted experimental work in nuclear and particles physics. Among his professional affiliations are the American Physical Society (fellow), the JLAB users group and the Daya Bay Collaboration.

Research Interests:

Properties of Hadrons. The experimental study of the properties of strongly interacting particles (hadrons). These studies are being carried out using precision multi-GeV electron and photon beams at the Thomas Jefferson National Accelerator Facility. The current experimental program involves the measurement of exclusive reactions at high momentum transfer (high Q^2 or high t) This includes deeply virtual reactions such as meson production or virtual Compton scattering, and reactions leading to the excitation of excited baryons. The purpose of these measurements is to map the distributions of quarks/partons in the nucleon, and to understand the interactions leading to the structure of strongly interacting matter. The PRI group, consisting of faculty, postdocs and students, carries out these experiments as part of the Jefferson Lab CLASS Collaboration. A major part of the current program also involves preparing the physics and experimental for the planned Jefferson Lab \$300 million energy upgrade. The RPI work is fully supported by the National Science Foundation and U.S. Department of Energy.

Neutrino physics: The RPI group has an active collaboration in the Daya Bay neutrino oscillation experiment. This is a major Chinese-American undertaking to measure the third neutrino oscillation angle

Selected Publications:

Stoler has published more than 200 articles in Journals. The following are some selected recent recent publication.

“Deeply virtual Compton scattering beam-spin asymmetries.” By CLAS Collaboration (F.X. Girod *et al.*). Phys.Rev.Lett.,100:162002,2008. e-Print: arXiv:0711.4805 [hep-ex]

“Exclusive Reactions At High Momentum Transfer, Proceedings.”, By A. Radyushkin and P. Stoler (eds.) River Edge, USA: World Scientific (2008).

“Search for the Θ^+ pentaquark in the reactions $\gamma p \rightarrow \bar{K}_0 K^+ n$ and $\gamma p \rightarrow \bar{K}_0 K_0 p$ ”,., By CLAS Collaboration (R. De Vita et al), Phys. Rev., D74:032001 (2006) arXiv:hep-ex/0606062

“Search for $\Theta(1540)^+$ pentaquark in high statistics measurement of $\gamma p \rightarrow \bar{K}_0 K^+ n$ at CLAS”, By CLAS Collaboration (M. Battaglieri et al.), Phys. Rev. Lett., 96, 042001, 2006 :arXiv:hep-ex/0510061.

“Measurement of the $N \rightarrow \Delta(1232)$ Transition at High Momentum Transfer by π^0 Electroproduction.”,

By CLAS Collaboration (M. Ungaro et al.), Phys. Rev. Lett., 97:112003, 2006. :arXiv:hep-ex/0606042

Contact: (518) 276-8388 stolep@rpi.edu