

Curriculum Vitae

Ye Tian

Physics Department

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EDUCATION

University of South Carolina, Columbia, SC *Dec. 2016*
PhD in Experimental Nuclear Physics

Lanzhou University, Lanzhou, Gansu, China *June 2008*
M.S. in Particle and Nuclear Physics

Lanzhou University, Lanzhou, Gansu, China *June 2005*
B.S. in Physics

RESEARCH EXPERIENCE

PhD Candidate at University of South Carolina **Advisor: Ralf W. Gothe**
Dissertation Research: Exclusive π^- Electroproduction off the Neutron in Deuterium in the Resonance Region

Analysis based on the Hall-B CLAS "e1e" data from Jefferson Lab *Nov. 2010 – Dec. 2016*

- My PhD research is to provide the exclusive $\gamma^*(n) \rightarrow p^+\pi^-$ reaction cross section from deuterium data and kinematical final-state-interaction (FSI) contribution factors (R_{FSI}) that can be determined from the data set itself.
- I modified the existing $\gamma^*(n) \rightarrow p^+\pi^-$ event generator to include the spectator (proton) information based on the CD-Bonn potential to simulate the real data process. With my developed method, the exclusive quasi-free process is isolated successfully as demonstrated by the comparison of the spectator momentum distribution of simulation and data. The kinematical R_{FSI} is extracted directly from the data according to the ratio between the exclusive quasi-free and full cross sections.

Research on the CLAS12 Forward Time-of-Flight upgrade project *May 2009 – Jan. 2014*

- During the five-year experience in the FToF12 project, I took on broad responsibilities that include (1) optimizing testing, construction, and quality assurance processes, (2) assisting in developing and automating analysis methods, (3) updating the results in the database, tracking and solving all testing problems, (4) training new project participants, and (5) documentation of the technical developments.

Master Student **Advisors: Jinzhang Xu and Shubin Du**
Research at China Institute of Atomic Energy *Aug. 2006 – May 2008*

- I took part in the full life-cycle (designing, preparing, and measuring) of the experiment to measure the x-ray production cross section in metal by O^{+5} , C^{+4} , F^{+5} , and Cu^{+8} ions on the HI-13 model tandem accelerator.

Undergraduate Student
Research at Lanzhou University

Advisor: Xueqin Liu
Mar. 2005 – May 2005

- I did research on preparing porous silica film with mixing some HF and analyzing its electrical properties.

AWARDS AND HONORS

- Rising Stars in Physics: An Academic Career Workshop for Women, MIT, Cambridge, MA, 2016 (by invitation only)
- Graduate Student Research Award, Department of Physics & Astronomy, University of South Carolina (2015-2016)
- JSA/Jefferson Lab Graduate Fellowship (2013-2014 and 2014-2015)
- Third-class presentation prize in the 22th China Institute of Atomic Energy young researcher's conference (May 2008)

PUBLICATIONS

Journal publications

1. *A New Time of Flight System for CLAS12*, R. W. Gothe, G. V. Fedotov, G. D. Hollis, E. Phelps, Y. Tian, A. Trivedi, N. S. Tyler, **in preparation**
2. *Measurement of L-shell X-ray Production Cross Section of Tantalum by 20-55 MeV Fluorine-Ion Bombardment*, Ye Tian, Zhihu Yang, Yanping Zhang, Hongwei Chang, Haozhi Yang, Jinzhang Xu, Shubin Du, Atomic Energy Science and Technology Vol. 43, Issue. 7, (2009) 406-411

Proceeding

1. *Exclusive π^- Electroproduction off the Neutron in Deuterium in the Resonance Region*, Ye Tian, Ralf W. Gothe, Published online: <http://dx.doi.org/10.1051/epjconf/201611305007>

CLAS Collaboration

1. Target and Beam-Target Spin Asymmetries in Exclusive π^+ and π^- Electroproduction with 1.6 to 5.7 GeV Electrons, P.E. Bosted *et al.* (The CLAS Collaboration), e-Print: arXiv:1604.04350
2. A search for baryon- and lepton-number violating decays of Λ hyperons using the CLAS detector at Jefferson Laboratory, M.E. McCracken *et al.* (The CLAS Collaboration), e-Print: arXiv:1507.03859
3. First measurement of the helicity asymmetry E in π^0 photoproduction on the proton, I. Senderovich *et al.* (The CLAS Collaboration), e-Print: arXiv:1507.00325
4. Precise Determination of the Deuteron Spin Structure at Low to Moderate Q^2 with CLAS and Extraction of the Neutron Contribution, N. Guler *et al.* (The CLAS Collaboration), e-Print: arXiv:1505.07877
5. Determination of the beam-spin asymmetry of deuteron photodisintegration in the energy region $E = 1.1 - 2.3 \text{ GeV}$, N. Zachariou *et al.* (The CLAS Collaboration), Phys.Rev. C91 (2015) 5, 055202
6. First Measurement of the Polarization Observable E in the $\vec{p}(\vec{\gamma}, \pi^+)n$ Reaction up to 2.25 GeV, S. Strauch *et al.* (The CLAS Collaboration), e-Print: arXiv:1503.05163

7. Single and double spin asymmetries for deeply virtual Compton scattering measured with CLAS and a longitudinally polarized proton target , S. Pisano *et al.* (The CLAS Collaboration), Phys.Rev. D91 (2015) 5, 052014
8. Measurements of $ep \rightarrow e' \pi + n$ at $W = 1.6 - 2.0 \text{ GeV}$ and extraction of nucleon resonance electrocouplings at CLAS , K. Park *et al.* (The CLAS Collaboration), Phys.Rev. C91 (2015) 045203
9. Towards a resolution of the proton form factor problem: new electron and positron scattering data, D. Adikaram *et al.* (The CLAS Collaboration), Phys.Rev.Lett. 114 (2015) 6, 062003
10. Strangeness Suppression of qq^- Creation Observed in Exclusive Reactions, M. Mestayer *et al.* (The CLAS Collaboration), Phys.Rev.Lett. 113 (2014) 15, 152004
11. Exclusive π^0 electroproduction at $W > 2 \text{ GeV}$ with CLAS, I. Bedlinskiy *et al.* (The CLAS Collaboration), Phys.Rev. C90 (2014) 2, 025205, Phys.Rev. C90 (2014) 3, 039901
12. Beam asymmetry Σ for π^+ and π^0 photoproduction on the proton for photon energies from 1.102 to 1.862 GeV, M. Dugger *et al.* (The CLAS Collaboration), Phys.Rev. C88 (2013) 6, 065203, Phys.Rev. C89 (2014) 2, 029901
13. ϕ -meson photoproduction on Hydrogen in the neutral decay mode, K.P. Adhikari *et al.* (The CLAS Collaboration), Phys.Rev. C89 (2014) 5, 055206
14. Demonstration of a novel technique to measure two-photon exchange effects in elastic $e^\pm p$ scattering, M. Moteabbed *et al.* (The CLAS Collaboration), Phys.Rev. C88 (2013) 025210
15. Cross sections for the $\gamma p \rightarrow K^* + \Lambda$ and $\gamma p \rightarrow K^* + \Sigma^0$ reactions measured at CLAS, W. Tang *et al.* (The CLAS Collaboration), Phys.Rev. C87 (2013) 6, 065204
16. Transverse polarization of $\Sigma^+(1189)$ in photoproduction on a hydrogen target in CLAS, C.S. Nepali *et al.* (The CLAS Collaboration), Phys.Rev. C87 (2013) 4, 045206
17. Measurement of the $\Sigma\pi$ photoproduction line shapes near the (1405), K. Moriya *et al.* (The CLAS Collaboration), Phys.Rev. C87 (2013) 3, 035206
18. Measurement of transparency ratios for protons from short-range correlated pairs, O. Hen *et al.* (The CLAS Collaboration), Phys.Lett. B722 (2013) 63-68
19. Deep exclusive π^+ electroproduction off the proton at CLAS, K. Park *et al.* (The CLAS Collaboration), Eur.Phys.J. A49 (2013) 16
20. Measurement of Exclusive π^0 Electroproduction Structure Functions and their Relationship to Transversity GPDs, I. Bedlinskiy *et al.* (The CLAS Collaboration), Phys.Rev.Lett. 109 (2012) 112001
21. *Experimental Study of the P11(1440) and D13(1520) resonances from CLAS data on $ep \rightarrow e' + \pi^+ \pi^- p'$* , V.I. Mokeev *et al.* (The CLAS Collaboration), Phys.Rev. C86 (2012)

CONFERENCE TALKS, POSTERS AND SUMMER SCHOOL

Invited Talk

- *Exclusive π^- Electroproduction off the Neutron in Deuterium in the Resonance Region*
2013 Fall Meeting of the APS Division of Nuclear Physics, Newport News, VA Oct. 2013

Contributed Talks

- *Exclusive π^- Electroproduction off the Neutron in Deuterium in the Resonance Region*
CLAS Collaboration Meeting, Newport News, VA *June 2016*
- *Exclusive π^- Electroproduction off the Neutron in Deuterium in the Resonance Region*
CLAS Collaboration Meeting, Newport News, VA *June 2015*
- *Exclusive π^- Electroproduction off the Neutron in Deuterium in the Resonance Region*
21st International Conference on Few-Body Problems in Physics, Chicago, IL *May 2015*
- *Exclusive π^- Electroproduction off the Neutron in Deuterium in the Resonance Region*
81st Annual Meeting of the APS Southeastern Section, Columbia, SC *Nov. 2014*
- *Exclusive π^- Electroproduction in the Resonance Region*
USC graduate student day, Columbia, SC *Apr. 2013*
- *Measurements of the Attenuation Length of Scintillators*
Jefferson Lab FToF12 Technical System Review, Newport News, VA *Dec. 2009*

Poster

Time-of-Flight Detector with World-Record Time Resolution for the Jefferson Lab 12-GeV Upgrade at USC
USC graduate student day, Columbia, SC *Apr. 2012*

Summer School

USC Summer Academy on Non-Perturbative Physics three-week graduate student summer school on Dyson-Schwinger Equations (DSEs) to tackle non-perturbative physics, their applications in Quantum Chromodynamics (QCD) and condensed matter physics, and their mathematical connection to the Hopf algebras, Columbia, SC *July 2012*

TEACHING

Instructor, Department of Physics and Astronomy, University of South Carolina

PHYS 201L, General Physics, Fall 2008, Spring 2009, and Fall 2009

PHYS 211L, Essentials of Physics, Spring 2010 and Fall 2010

Graduate Teaching Assistant, Department of Physics and Astronomy, University of South Carolina

PHYS 511, Nuclear Physics lab, Spring 2011 and Spring 2012