

Curriculum Vitae

Wei Xie, Ph. D.
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CURRENT AFFILIATION

RIKEN-BNL Fellow

RIKEN-BNL Research Center at Brookhaven National Laboratory.
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EDUCATION

Doctor of Philosophy, Particle Physics (July/1997)

Institute of High Energy Physics, Chinese Academy of Sciences
Beijing, China

Dissertation: *Study of Nuclei and Hadrons in Cosmic-rays Using Large Scale Iron Emulsion Chamber at Mt. Kanbala*

Master of Science, Particle Physics (July/1994)

Department of Physics, Shandong University
Jinan, Shandong, China

Thesis: *Simulations of propagation of Super-high Energy Cosmic-rays in the Atmosphere*

Bachelor of Science, Semi-Conductor Physics (July/1991)

Department of Physics, Shandong University
Jinan, Shandong Province, China

PROFESSIONAL EXPERIENCE

RIKEN-BNL Research Fellow (January/2004 ---Present)

RIKEN-BNL Research Center at Brookhaven National Laboratory,
Upton, New York, USA

Major Contributions:

- Co-leading the project of developing and designing Relative-Luminosity-Monitoring-telescope for PHENIX experiment at Relativistic Heavy-ion Collider (i.e. **RHIC**) in Brookhaven National Laboratory.
- Senior-collaborator of the NSF fund on the project of Level-1 trigger upgrade to detect W bosons.
- Co-Convener of one of the PHENIX physics working group.

- Chair of a PHENIX Internal Review Committee for publication in the *Physical Review Letter*.
- Leading the *final* analysis of J/ψ particle in electron channel in PHENIX at RHIC during the deuteron-gold collision run in 2003.

Assistant Research Physicist (September/2003-January/2004)

University of California at Riverside
Riverside, California, USA

Major Contributions:

- Led the simulation project on PHENIX Level-1 trigger upgrade to detector W bosons, which leads to the conclusion of detector performance requirement for the upgraded trigger.
- Led the *preliminary* analysis on J/ψ particle in electron channel in PHENIX at RHIC during the *deuteron-gold* collision run in 2003.

Postgraduate Researcher (March/2000-September/2003)

University of California at Riverside
Riverside, California, USA

Major Contributions:

- Co-Led the *final* analysis of J/ψ particle in electron channel in PHENIX at RHIC during the *proton-proton* collision running in year 2002. Served as a member of paper preparation taskforce to enable this important result being published in Physical Review Letters (see publications)
- Led the project of developing all the PHENIX level-2 electron triggers which are crucial to detecting J/ψ particle in *gold-gold* collision in year 2002.
- Played a key role in the analysis on J/ψ particle in *gold-gold* collision. Later served as a member of paper preparation taskforce to enable publication of the results (see publications)
- Led and developed the methods of evaluating PHENIX level-1 electron trigger performance. Played a key role in design, testing and commissioning of the trigger.
- Served as a member of taskforce on the project of π^0 particle analysis in deuteron-gold collision runs in year 2003.

Postgraduate Researcher (October/1997-March/2000)

Weizmann Institute of Sciences
Rehovot, Israel

Major Contributions:

- Played a key role in the conceptual simulation study on the Hadron-Blind detector (one of PHENIX major upgrade project in the near future).
- Played a key role in the project of design, development of PHENIX pad chamber (one of the key component of PHENIX track reconstruction system).

- Played a key role in the project of Time-Projection Chamber construction for NA45 experiment at European Organization for Nuclear Research at Geneva, Switzerland (i.e. CERN).

Doctoral Research Assistant (September/1994-July/1997)

Institute of High Energy Physics
Beijing, P.R. China

Major Contributions:

- Led the construction of high mountain Emulsion chamber for the *China-Japan Mt. Kanbala experiment* in year 1996
- Initiated the method of using Artificial Neural network to disentangle primary cosmic-ray composition.
- Carried on large scale Monte Carlo simulation project of simulating propagation of cosmic-ray in earth atmosphere.

Graduate Research Assistant (September/1991-July/1994)

Shandong University
Jinan, Shandong, P.R. China

Major Contributions:

- Comprehensive upgrade of one of the model to simulate cosmic-ray interaction with nucleus.

PROFESSIONAL MEMBERSHIP

- American Physical Society, member since 2000

HONORS AND AWARDS

- *Feinberg Fellowship Award*
Weizmann Institute of Science in Israel, 1998-2000
- *Guang Hua Fellowship Award*
Shandong University of China, 1988

JUDGE OF THE WORK OF OTHERS

- **Mentor/Advisor** -- Advising graduate and undergraduate students; supervising graduate students in developing simulation software and constructing detectors.
- **Chair** – One PHENIX Internal Review Committee for publication in the *Physical Review Letter*.

EXPERTISE

- Highly experienced in Computer Simulation and Data analysis.
- Experienced on application of *Artificial Neural Networks* ,
- Highly experienced in C++, C and Fortran languages

- Design and construction of multi-wire proportional chambers and chamber simulation and monitoring software for Heavy-Ion scientific research.
- Design *level-1 and level-2 trigger* for Heavy-Ion scientific research.

CONFERENCE PRESENTATIONS

1. "*Study of J/ψ Production in $p+p$ and $d+Au$ collisions at $\sqrt{s_{NN}} = 200$ GeV in the PHENIX experiment at RHIC*",
Wei Xie for the PHENIX Collaboration, 18th International Conference on Nucleus-Nucleus Collision, August 4-9, Budapest, Hungary (Quark Matter 2005).
2. "*Prospect for W physics at RHIC* "
Wei Xie, DIS2005, XIII International Workshop on Deep Inelastic Scattering, Madison, Wisconsin, April 27-May 1, 2005
3. "*PHENIX Muon Trigger Upgrade for the study of quark/anti-quark contribution to proton spin structure*"
Wei Xie, 21st International Workshop on Nuclear Dynamics, Breckenridge, Colorado, February 5-12, 2005
4. " *$p-p$ Physics from PHENIX Forward Upgrade* "
Wei Xie, Muon Physics and Forward Upgrade Workshop at Santa Fe, NM in June 2004
5. "*PHENIX Charm Results in $p-p$, $d-Au$ and $Au-Au$ collisions* "
Wei Xie for PHENIX Collaboration, Workshop on Heavy Flavor Physics in 2004 RHIC-AGS users meeting, Brookhaven National Lab, Upton, New York.
6. "*PHENIX Muon LL1 Trigger Performance and Upgrade Possibilities*"
Wei Xie for PHENIX Collaboration, Workshop on Physics with PHENIX Detector Upgrades in the Forward and Very Forward Region, November 8-9, 2003 at University of Illinois at Urbana-Champaign, IL.
7. "*PHENIX Heavy Flavor Production in Heavy-ion Collisions*"
Wei Xie for PHENIX Collaboration, International Workshop on Heavy Quarkonium, September 20-22, 2003 at Fermi National Lab, Batavia, IL.
8. "*PHENIX Light/Heavy Vector Mesons*"
Wei Xie for PHENIX Collaboration, PHENIX Collaboration Meeting, June 9-12, 2003 at Vanderbilt University, Nashville, Tennessee
9. "*Study of $J/\psi \rightarrow e+e-$ in $d-Au$ Collision with Electron Triggers in PHENIX*"
Wei Xie for PHENIX Collaboration, The April Meeting 2003 of the American Physical Society, April 5 - 8, 2003; Philadelphia.

10. "*PHENIX J/Psi Measurements at $\sqrt{s}=200$ GeV*"
Wei Xie for PHENIX Collaboration, 19th International Workshop on Nuclear Dynamics, Breckenridge, Colorado, February 9-14, 2003
11. "*PHENIX p+p and Spin Results*"
Wei Xie for PHENIX Collaboration, RHIC/AGS Users Meeting, September 20-21 2002 at BNL.
12. "*Study of $J/\Psi \rightarrow e+e-$ in pp collisions with the Level-1 electron trigger in PHENIX*"
Wei Xie for PHENIX Collaboration, Quark Matter 2002, July 18-24 2002, in Nantes, France
13. "*Measuring ΔG using Single Electron*"
Wei Xie for PHENIX Collaboration, Session JD, DNP Meeting at Williamsburg, Virginia, Oct. 2000

SELECTED PUBLICATIONS

1. "*Study of J/ψ Production in p+p and d+Au collisions at $\sqrt{s_{NN}} = 200$ GeV in the PHENIX experiment at RHIC*",
Wei Xie for the PHENIX Collaboration, proceedings of 18th International Conference on Nucleus-Nucleus Collision, August 4-9, Budapest, Hungary (Quark Matter 2005).
2. "*Prospect for W physics at RHIC*"
Wei Xie, Proceedings of XIII International Workshop on Deep Inelastic Scattering, Madison, Wisconsin, April 27-May 1, 2005 (DIS2005)
3. "*Bose-Einstein Correlations of Charged Pion Pairs in Au+Au Collision*"
S.S. Adler, ... **W. Xie**, et al.* , Submitted for publication in Physical Review Letters, Jan. 05, 2004.
4. "*Measurement of Non-Random Event-by-Event Average Transverse Momentum Fluctuations in $\sqrt{s_{NN}}=200$ GeV Au+Au Collisions*"
S.S. Adler, ... **W. Xie**, et al.* , Physical Review Letters 93, 092301(2004)
5. "*High-pt Charged Hadron Suppression in Au+Au Collisions at $\sqrt{s_{NN}} = 200$ GeV*"
S. S. Adler, ... **W. Xie**, et al.* , Physical Review C 69, 034910 (2004)
6. "*Identified Charged Particle Spectra and Yields in Au-Au Collisions at $\sqrt{s_{NN}} = 200$ GeV*"
S. S. Adler, ... **W. Xie**, et al.* , Physical Review C 69, 034909 (2004)
7. "*Single Identified Hadron Spectra from $\sqrt{s_{NN}} = 130$ GeV Au+Au Collisions*",
K. Adcox , ... **W. Xie**, et al.* , Physical Review C 69, 024904 (2004).
8. "*J/psi production from proton-proton collisions at $\sqrt{s} = 200$ GeV*"
S.S. Adler, ... **W. Xie**, et al.* , Physical Review Letters 92, 051802 (2004)

9. "*J/Psi Production in Au-Au Collisions at $\sqrt{s}=200$ GeV at the Relativistic Heavy Ion Collider*"
S.S. Adler , ... **W. Xie**, et al.* , Physical Review C 69, 014901 (2004)
10. "PHENIX J/Psi Measurements at $\sqrt{s_{NN}}=200$ GeV" .
Wei Xie for the PHENIX Collaboration, proceedings of 19th International Workshop on Nuclear Dynamics, Breckenridge, Colorado, February 9-14, 2003
11. "*Absence of Suppression in Particle Production at Large Transverse Momentum in $\sqrt{s_{NN}} = 200$ GeV d+Au Collisions*"
S.S. Adler, ... **W. Xie**, et al.* , Physical Review Letters 91, 072303 (2003).
12. "*Scaling properties of proton and anti-proton production in $\sqrt{s_{NN}} = 200$ GeV Au+Au collisions*"
S.S. Adler, ... **W. Xie**, et al.* , Physical Review Letters 91, 172301 (2003).
13. "*Elliptic Flow of Identified Hadrons in Au+Au Collisions at $\sqrt{s_{NN}} = 200$ GeV*"
S.S. Adler, ... **W. Xie**, et al.* , Physical Review Letters 91, 182301(2003).
14. "*Midrapidity Neutral Pion Production in Proton-Proton Collisions at $\sqrt{s} = 200$ GeV*"
S.S. Adler, ... **W. Xie**, et al.* , Physical Review Letters 91, 241803 (2003)
15. "*Suppressed π^0 Production at Large Transverse Momentum in Central Au+Au Collisions at $\sqrt{s_{NN}} = 200$ GeV*"
S.S. Adler, ... **W. Xie**, et al.* , Physical Review Letters 91, 072301 (2003).
16. "*Centrality Dependence of the High p_T Charged Hadron Suppression in Au+Au collisions at $\sqrt{s_{NN}} = 130$ GeV*",
K. Adcox, ... **W. Xie**, et al.* , Physics Letters B, Vol. 561, Issues 1-2 , 22 May 2003, Pages 82-92
17. "*Beam energy and centrality dependence of two-pion Bose-Einstein correlations at SPS energies*",
D. Adamova, ... **W. Xie**, et al.* , Nuclear Physics, A714, 124(2003)
18. "*New Results from CERES*",
D. Adamova, ... **W. Xie**, et al.* , Nuclear Physics A 698 (2002) 253c-260c
19. "*Measurement of the λ and $\bar{\lambda}$ particles in Au+Au Collisions at $\sqrt{s_{NN}}=130$ GeV*",
K. Adcox, ... **W. Xie**, et al.* , Physical Review Letters 89, 092302 (2002).
20. "*Flow Measurements via Two-particle Azimuthal Correlations in Au + Au Collisions at $\sqrt{s_{NN}} = 130$ GeV*"
K. Adcox, ... **W. Xie**, et al.* , Physical Review Letters 89, 212301 (2002).
21. "*Event-by event fluctuations in Mean p_T and mean e_T in $\sqrt{s_{NN}} = 130$ GeV Au+Au Collisions*"
K. Adcox , ... **W. Xie**, et al.* , Physical Review C66, 024901 (2002).

22. "*Net Charge Fluctuations in Au+Au Interactions at $\sqrt{s_{NN}} = 130 \text{ GeV}$.*"
K. Adcox, ... **W. Xie**, et al.* , Physical Review Letters 89, 082301 (2002).
23. "*Measurement of Single Electrons and Implications for Charm Production in Au+Au Collisions at $\sqrt{s}=130 \text{ GeV}$* ",
K. Adcox , ... **W. Xie**, et al.* , Physical Review Letters 88, 192303 (2002).
24. "*Transverse-Mass dependence of Two-Pion Correlations for Au+Au collisions at $\sqrt{s_{NN}}=130 \text{ GeV}$* ",
K. Adcox , ... **W. Xie**, et al.* , Physical Review Letters 88, 192302 (2002).
25. "*Centrality dependence of π^+ , K^+ , p and \bar{p} production from $\sqrt{s}=130 \text{ GeV}$ Au + Au Collisions at RHIC*", K. Adcox, ... **W. Xie**, et al.* , Physical Review Letters 88, 242301 (2002).
26. "*Suppression of Hadrons with Large Transverse Momentum in Central Au+Au Collisions at $\sqrt{s} = 130 \text{ GeV}$* ",
K. Adcox, ... **W. Xie**, et al.* , Physical Review Letters 88, 022301 (2002).
27. "*Front-End Electronics for PHENIX Time Expansion Chamber*",
K. Barish, ... **W. Xie**, et al.* , IEEE Transactions on Nuclear Science, vol.49, No.3, June 2002.
28. "*Measurement of the Midrapidity Transverse Energy Distribution from $\sqrt{s} = 130 \text{ GeV}$ Au-Au Collisions at RHIC*",
K. Adcox, ... **W. Xie**, et al.* , Physical Review Letters 87 (2001) 052301.
29. "*Centrality Dependence of Charged Particle Multiplicity in Au-Au Collisions at $\sqrt{s} = 130 \text{ GeV}$* ".
K. Adcox, ... **W. Xie**, et al.* , Physical Review Letters 86 (2001) 3500.
30. "*First results from the CERES radial TPC*",
G. Agakichiev, ... **W. Xie**, et al.* , Nuclear Physics A661(1999)673c-676c
31. "*The pixel readout system for the PHENIX pad chambers*",
J. Barrette, ... **W. Xie**, et al.* , Nuclear Physics A661(1999) 665c-668c.
32. "*On the Large Zenith Angle Muon Events Observed in Emulsion Chamber at Mt. Kanbala*",
J.T. Ren, **Wei Xie**, et al., Science In China(Chinese version), Vol.40, No.9, Jul. 1997.
33. "*The Multi-core events with Large Zenith Angle Observed in Emulsion Chamber at Mt. Kanbala*",
J.T. Ren, **Wei Xie**, et al., Nuclear and High Energy Physics(Chinese), Vol.21, No.2, Feb. 1997.
34. "*Using Artificial Neural Network to Identify Primary Cosmic-ray component*",
Hualou Lian, **Wei Xie**, et al., Nuclear and High Energy Physics(Chinese), Vol.21, No.2, Feb. 1997.

35. "*Simulation of Cosmic-ray Propagation in the Air*",
Wei Xie, et al., *Journal of Shandong University* (Natural Science edition, Chinese),
Vol.29, No.4, 1994.
36. "*Study of Nuclei and Hadrons in Cosmic-rays Using Large Scale Iron Emulsion Chamber at Mt.Kanbala*"
W. Xie Ph.D Dissertation, Institute of High Energy Physics, Beijing, P.R. China.