

Deborah Appel Harris

Personal Information

York University
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Education

Ph.D., June 1994, Physics, Thesis supervisor: Prof. Yau Wah, “A Search for the Decays $K_L \rightarrow \pi^0 \ell^+ \ell^-$ ” University of Chicago, Chicago, IL

M.Sc., June 1992, Physics, University of Chicago, Chicago, IL

A.B., May 1989, University of California at Berkeley Physics

Honors

Fellow of the American Physical Society, 2015

MINERvA Project Team is recipient of the Secretary of Energy’s Achievement Award for Project Management, March 2011

Fermilab Employee Performance Recognition Award for “Skillful leadership of the MINERvA project”, August 2010

Graduate Assistants in Area of National Need Fellowship, Department of Education, 1990-1992

Gregor Wenzel Prize for Undergraduate Teaching, University of Chicago, 1990

University Research Associates Scholarship, 1985-1989

Employment History

- 7/19 - present Full Professor, York and Senior Scientist, Fermilab
MINER ν A: Co-spokesperson
DUNE: Near Detector Group and Liquid Argon Near Detector Consortium
T2K: T2K-Canada Spokesperson and Neutrino Interactions and Cross Sections Groups
University of Rochester Visiting Scientist
- 11/10 - 6/19 Senior Scientist, Fermi National Accelerator Laboratory
MINER ν A: Co-spokesperson (since 2010)
Neutrino Physics Center co-Leader (2015-2017)
International Student Program Coordinator (9/2017-6/2019)
- 9/05 - 10/10 Scientist, Fermi National Accelerator Laboratory
MINER ν A: Project Manager; Chair of Executive Committee;
- 9/99 - 9/05 Associate Scientist, Fermi National Accelerator Laboratory
MINOS: Secondary and Primary Beamline Monitoring
Superbeam and Neutrino Factory Feasibility Studies
- 4/94 - 8/99 Postdoctoral Research Fellow, University of Rochester
FNAL-E815 (NuTeV): Coordination of calibration beam
FNAL-E770/744 (CCFR): Gross Llewellyn Smith Sum Rule
- 6/90 - 3/94 Graduate Research Assistant, University of Chicago
Measurement of BR($K_L \rightarrow \pi^0 \ell^+ \ell^-$)
- 9/89 - 1/91 Graduate Teaching Assistant, University of Chicago

Selected Journal Publications

1. “High-statistics measurement of neutrino quasielastic-like scattering at ≈ 6 GeV on a hydrocarbon target”, M. Carneiro *et al*, Phys. Rev. Lett. **124**, 121801 (2020)
2. “Direct Measurement of Nuclear Dependence of Charged Current Quasielastic-like Neutrino Interactions using MINERvA”, M. Betancourt *et al*, Phys. Rev. Lett. **119**, 082001 (2017)
3. “Identification of nuclear effects in neutrino-carbon interactions at low three-momentum transfer, P. Rodrigues *et al*, Phys. Rev. Lett. **116**, 071802 (2016)
4. “Measurement of Ratios of ν_μ Charged-Current Cross Sections on C, Fe, and Pb to CH at Neutrino Energies 2-20 GeV”, B. G. Tice, M. Datta, J. Mousseau *et al*, Phys. Rev. Lett. **112**, 231801 (2014).
5. “Measurement of Muon Neutrino Quasi-Elastic Scattering on a Hydrocarbon Target at E 3.5 GeV”, G. A. Fiorentini, D. W. Schmitz, P. Rodrigues *et al*, Phys. Rev. Lett. **111**, 022502 (2013)
6. “Measurement of Muon Antineutrino Quasi-Elastic Scattering on a Hydrocarbon Target at E 3.5 GeV”, L. Fields, J. Chvoka, *et al*, Phys. Rev. Lett. **111**, 022501 (2013)
7. “Accelerator-based neutrino oscillation experiments” Deborah A. Harris, published in **Neutrinos in particle physics, astrophysics and cosmology**, edited by F.J.P. Soler, C.D. Froggatt, F. Muheim, Proceedings of 61st Scottish Universities Summer School in Physics, SUSSP61, St. Andrews, UK
8. “Observation of muon neutrino disappearance with the MINOS detectors and the NuMI neutrino beam” D. G. Michael *et al*, Phys. Rev. Lett. **97** 191801 (2006)
9. “Physics Opportunities at Neutrino Factories”, J.J. Gomez-Cadenas and D. A. Harris, Ann. Rev. Nucl. Part. Sci. **52** 253 (2002)
10. “A Measurement of $\alpha_s(Q^2)$ from the Gross-Llewellyn Smith sum rule” J.H.Kim, D. A. Harris *et al*, Phys. Rev. Lett. **81** 3595-3598 (1998)

Selected Plenary Talks and Colloquia

- IPP Town Hall Meeting, July 2020, “T2K”
- CAP Virtual Congress 2020 Plenary talk, June 2020, “Neutrino Interferometry at DUNE”
- Next Generation Nucleon Decay and Neutrino Detectors (NNN2019), Medellin, Columbia, November 2019, “Overview of Neutrino-Nucleus Interactions”
- Flavor Physics and CP Violation (FPCP), Victoria, Canada, May 2019, “Future Neutrino Facilities”
- Winter Nuclear and Particle Physics Conference (WNPPC), Banff, Canada, February 2019 “Neutrino Interferometry at DUNE”
- Neutrino Interactions in the Few GeV Region (NuINT’17), Toronto, Canada, June 2017: “Experimental Summary of NuINT’17”
- David and Edith Harris Physics Colloquium Series at MIT, Cambridge, Massachusetts, April 2017: “Neutrinos: probing the nucleus and beyond”
- International Workshop on Frontiers in Electroweak Interactions of Leptons and Hadrons, Aligarh, India, November 2016: “Fermilab’s Current and Future Neutrino Cross-section Measurements Program”
- International Center for Theoretical Physics Colloquium, Sao Paulo, Brazil, August 2015: “The Year in Neutrinos”
- NuFact’15, Rio de Janeiro Brazil, August 2015: “Prospects for precision of neutrino cross-section measurements over the next 10 years”
- NuPhys2014: Prospects in Neutrino Physics, London, England, December 2014: “The State of the Art of Neutrino Cross Section Measurements”

Division of Particles and Fields Meeting, Santa Cruz, California, August 2013: “Neutrino Physics”

NuFact’12, JLAB/William and Mary, Virginia, July 2012: “Neutrino Beams”

Symposium In Celebration of G. Rajasekarans 75th Birthday, Institute for Mathematical Sciences Chennai India, December 2011: “2011: The Year in Neutrinos”

Neutrino 2010, Athens, Greece, June 2010, “Neutrino Interactions: Results at Neutrino 2012 and Beyond”

NuFact’10, Mumbai, India, October 2010, “Conventional Neutrino Beam Experiments: Present and Future Generations”

NuFact09, Chicago, USA, July 2009, “Long Baseline Neutrino Phenomenology”

American Physical Society Meeting, Denver, USA, May 2009, Invited Talk: “MINERvA: Getting a Closer Look at Neutrinos”

NuFact08, Valencia, Spain, July 2008, “Project X and its Connection to Neutrino Physics”

DIS08, London, England, April 2008, “Neutrino Physics”

Weak Interactions and Neutrinos 2007, Kolkata, India, January 2007, “MINOS and NOvA”

Neutrino-Nucleus Interactions in the few-GeV Region (NuINT05), Okayama, Japan, September 2005, “Systematic Errors in Long Baseline Experiments”

Weak Interactions and Neutrinos 2005, Delphi, Greece, June 2005, “MINERvA”

NuFact04, Osaka, Japan, July 2004, “Superbeam Experiments”

XXI International Symposium on Lepton and Photon Interactions at High Energies

Lepton Photon 2003, Batavia, IL, August 2003 “Future Experiments with Neutrino Superbeams, Betabeams, and Factories”

Summer School Lectures

Neutrino Physics Colloquium during the International Neutrino Summer School, Sao Paulo, August 2015

SLAC Summer Institute 2015 “Neutrino Sources”

Invisibles Summer School, Paris France, July 2014: “Experimental Neutrino Physics”

Summer Schools for NuFact07 (Japan), Nufact’05 (Italy), Nufact’04 (Japan), Nufact’03 (USA), Nufact’02 (UK)

SUSSP61: Scottish Universities Summer School in Physics: Neutrinos, St. Andrews, Scotland, August 2006, “Accelerator Neutrino Oscillation Physics”

Selected Outreach and Education Activities

- Co-Chair of International Neutrino Summer School (INSS) Organizing committees: 2016 (Viet Nam) 2015 (Brazil), 2014 (Scotland), 2013 (China), 2012 (USA), 2011 (Switzerland), 2008 (Spain)
- Organizing Committee Member of Summer Schools: INSS 2017 (Fermilab), INSS 2009 (Fermilab), NuFact’05, NuFact’04, NuFact’03
- Speaker at many Career Fairs and Classrooms at High Schools and Middle Schools
- Public Lectures on Neutrinos:
 - Neutrino Monologues: May 2016 (GoTo Chicago computing conference) October 2015 (CityCode Chicago at Second City Theater), January 2013 (Aspen Center for Physics), Fermilab Physics Slam participant (November 2012)
 - The Fastest Trip between Fermilab and Minnesota: July 2009 (Illinois Institute of Technology, Chicago), December 2006 (Fermilab)
- Contributor to the book *Motherhood, the Elephant in the Laboratory*, edited by Emily Monosson, Cornell University Press, May 2008
- 2005: participation in Quantum Diaries Blog see <http://qd.typepad.com/10/>

External Advisory Activities

- Expert Review Committee Member for Compute Canada's Resource Allocation Competitions: Winter 2020
- Expert advisor to Hyper-Kamiokande Physics Advisory Committee, Fall-Winter 2020
- Reviewer on DOE Review of LSST-DESC: April 2017, and of LSST Facility: December 2017
- J-PARC Physics Advisory Committee: June 2016-July 2020
- NSERC Expert Review Panel for T2K Review: December 2016
- DOE Committee of Visitors: October 2016
- NSF Review of ATLAS and CMS Upgrade Projects, January 2014
- Particle Data Group Advisory Committee: 2008, 2010, 2012, 2014, chair in 2014
- Daya Bay DOE CD-4a Review Committee: December 2010
- DPF Nominating Committee: April 2010
- Reviewer on DOE/NSF Review of LHC Maintenance and Operations, Software and Computing: February 2008
- Panofsky Prize Selection Committee member, 2007, 2008
- Reviewer on DOE and NSF University Grant Proposals, CAREER Proposals, NSERC Research Grants Program (Canada), Intalenum (Spain), Agencia Nacional de Evaluacin y Prospectiva (Spain), NSERC T2K Expert Review committee (December 2016)
- Referee for Physical Review Letters, Physical Review **D**, and Nuclear Instruments and Methods

Selected Service on Fermilab Reviews and Committees

- Scientist Advisory Council, October 2016 to September 2018
- Director's Review Committee Member for MicroBooNE, COUPP, DUNE, LBNE, DECAM reviews
- Wilson Fellow Committee, October 2013 to present
- Fermilab Committee on Scientific Appointments, 2012-2014
- Long Baseline Neutrino Experiment Near Detector Review, October 2010
- Scientist Diversity Committee, 2009-2010
- Lederman Fellow Committee, 2007-2010
- Committee on Hiring and Retention of Scientific Staff, 2006
- Fermilab Steering Committee Subgroup on Neutrinos, 2007
- Fermilab Long Range Planning Subcommittee on Neutrinos, 2003

Student Supervision

- Supervisor of Ms. Maria Mehmood, NSERC Undergraduate Research Internship, York University
- Supervisor of Mr. Rowan Zaki, PhD student, York University
- Co-supervisor (with Prof. Sajjad Athar, primary supervisor) of Mr. Zubair Ahmad Dar, PhD Student at Aligarh Muslim University, Degree expected January 2021
- Co-supervisor (with Prof. Sajjad Athar, primary supervisor) of Ms. Faiza Akbar, PhD Student at Aligarh Muslim University, Degree expected January 2021 (delayed due to COVID)
- Co-supervisor (with Prof. Sampa Bhadra, primary supervisor) of Mr. Mitchell Yu, PhD Student at York University, Degree expected December 2020
- Supervisory Committee Member for Dr. Anne Norrick, while she was a PhD student at the College of William and Mary, May 2018

Postdoctoral Supervision

- Dr. Fady Shaker, York University, Starting September 2020
- Co-supervisor (with Prof. Sampa Bhadra, primary supervisor) of Gabriel Santucci, York University
- Co-supervisor (with Prof. Ron Ransome, primary supervisor) of Dr. Nuruzzuman, while Postdoc at Rutgers University, now Data Scientist at Ford Motor Company
- Dr. Manungu Kiveni, while Postdoc at Fermilab, now Data Scientist at Reprosourc
- Dr. Minerba Betancourt, while Postdoc at Fermilab, now Wilson Fellow at Fermilab
- Dr. Jyotsna Osta, while Postdoc at Fermilab, now in private sector

Complete Bibliography

Journal Publications

Review Articles

1. “Physics Opportunities at Neutrino Factories”, J.J. Gomez-Cadenas and D. A. Harris, *Ann. Rev. Nucl. Part. Sci.* **52** 253 (2002)

MINERvA

2. “Double-Differential Inclusive Charged-Current ν_μ Cross Sections on Hydrocarbon in MINERvA at $E_\nu \approx 3.5$ GeV”, A. Filkins *et al*, *Phys.Rev.* **D 101**, 11 (2020)
3. “Probing Nuclear Effects with Neutrino-induced Charged-Current Neutral Pion Production”, D. Coplowe *et al*, arXiv:2002.05812, submitted for publication
4. “High-statistics measurement of neutrino quasielastic-like scattering at ≈ 6 GeV on a hydrocarbon target”, M. Carneiro *et al*, *Phys. Rev. Lett.* **124**, 121801 (2020)
5. “Nucleon binding energy and transverse momentum imbalance in neutrino-nucleus reaction”, T. Cai *et al*, *Phys.Rev.* **D 101**, 9 (2020)
6. “Constraint of the MINERvA Medium Energy Neutrino Flux using Neutrino-Electron Elastic Scattering”, E. Valencia *et al*, *Phys.Rev.* **D 100**, 9 (2019)
7. “Tuning the GENIE Pion Production Model with MINERvA Data”, P. Stowell *et al*, *Phys.Rev.* **D 100**, 7 (2019)
8. “Neutron measurements from anti-neutrino hydrocarbon reactions”, M. Elkins *et al*, *Phys. Rev.* **D 100** 052002 (2019)
9. “Measurement of $\bar{\nu}_\mu$ charged-current single π^- production on hydrocarbon in the few-GeV region using MINERvA”, *Phys. Rev.* **D 100** 052008, (2019)
10. “Measurement of Quasielastic-Like Neutrino Scattering at $E_\nu \approx 3.5$ GeV on a Hydrocarbon Target”, D. Ruterbories *et al*, *Phys. Rev.* **D 99**, 012004 (2019)
11. “Reducing model bias in a deep learning classifier using domain adversarial neural networks in the MINERvA experiment”, G. N. Perdue *et al*, *Journal of Instrumentation*, Vol. 13 (2018)
12. “Measurement of final-state correlations in neutrino muon-proton mesonless production on hydrocarbon at $E_\nu = 3\text{GeV}$ ”, X. Lu *et al*, *Phys. Rev. Lett.* **121**, 022504 (2018)
13. “Antineutrino charged Current charged-current reactions on scintillator with low momentum transfer”, R. Gran *et al*, *Phys. Rev. Lett.* **120**, 221805 (2018)
14. “Measurement of the muon anti-neutrino double-differential cross section for quasi-elastic scattering on hydrocarbon at $E_\nu \approx 3.5\text{ GeV}$ ”, C. Patrick *et al*, *Phys. Rev.* **D 97**, 052002 (2018)
15. “Measurement of Total and Differential Cross Sections of Neutrino and Antineutrino Coherent Production on Carbon”, A. Mislivec *et al*, *Phys. Rev.* **D 97**, 032014, (2018)
16. “Measurement of ν_μ charged-current single π^0 production on hydrocarbon in the few-GeV region using MINERvA”, O. Altinok *et al*, *Phys. Rev.* **D 96**, 072003 (2017)
17. “Direct Measurement of Nuclear Dependence of Charged Current Quasielastic-like Neutrino Interactions using MINERvA”, M. Betancourt *et al*, *Phys. Rev. Lett.* **119**, 082001 (2017)
18. “Measurement of the antineutrino to neutrino charged-current interaction cross section ratio on carbon”, L. Ren *et al*, *Phys. Rev.* **D 95**, 072009 (2017)
19. “Measurement of neutral-current K^+ production by neutrinos using MINERvA”, C. M. Marshall *et al*, *Phys. Rev. Lett.* **199**, 011802 (2017)
20. “Measurements of the Inclusive Neutrino and Antineutrino Charged Current Cross Sections in MINERvA Using the Low- Flux Method”, J. Devan *et al*, *Phys. Rev.* **D 94**, 112007 (2016)

21. “First evidence of coherent K^+ meson production in neutrino-nucleus scattering”, C. M. Marshall *et al*, Phys. Rev. Lett. **117**, 061802 (2016)
22. “Measurement of K^+ production in charged-current ν_μ interactions”, C. M. Marshall *et al*, Phys. Rev. D **94**, 012002 (2016)
23. “Cross sections for neutrino and antineutrino induced pion production on hydrocarbon in the few-GeV region using MINERvA”, Phys. Rev. D **94**, 052005 (2016)
24. “Evidence for neutral-current diffractive neutral pion production from hydrogen in neutrino interactions on hydrocarbon”, J. Wolcott *et al* Phys. Rev. Lett. **117**, 111801 (2016)
25. “Measurement of the NuMI Neutrino Flux using Neutrino-Electron Elastic Scattering”, J. Park *et al*, Phys. Rev. D **93**, 112007 (2016)
26. “Measurement of Partonic Nuclear Effects in Deep-Inelastic Neutrino Scattering using MINERvA, J. Mousseau *et al*, Phys. Rev. D **93**, 071101 (2016)
27. “Identification of nuclear effects in neutrino-carbon interactions at low three-momentum transfer, P. Rodrigues *et al*, Phys. Rev. Lett. **116**, 071802 (2016)
28. “Measurement of electron neutrino CCQE-like cross-section in MINERvA ”, J. Wolcott *et al*, Phys. Rev. Lett **116**, 081802 (2016)
29. “Charged Pion Production in Interactions on Hydrocarbon at average E of 4.0 GeV”, B. Eberly *et al*, Phys.Rev. **D92**, 092008 (2015)
30. “Single neutral pion production by charged-current $\bar{\nu}_\mu$ interactions on hydrocarbon at $< E_\nu > = 3.6 GeV$ ”, T. Le *et al*, Phys.Lett. **B749** (2015)
31. “Measurement of Coherent Production of π^\pm in Neutrino and Anti-Neutrino Beams on Carbon from E_ν of 1.5 to 20 GeV ”, A. Higuera *et al*, Phys. Rev. Lett. **113**, (2014)
32. “Measurement of Charged Current Proton Production ν_μ Scattering on Hydrocarbon at $E_\nu \sim 4.0 GeV$ ” T. Walton, *et al*, Phys Rev **D91** (2015)
33. “MINERvA searches for wisdom among neutrinos” Emily Maher, Deborah Harris, Kevin McFarland, 2014. Published in *CERN Courier* **54** (2014)
34. “MINERvA testbeam results”, L. Aliaga *et al*, Nucl.Instrum.Meth. **A789** (2015).
35. “Measurement of Ratios of Muon Neutrino Charged-Current Cross Sections on C, Fe, and Pb to CH at Neutrino Energies 2-20 GeV”, B. G. Tice *et al* , Phys. Rev. Lett. **112**, (2014)
36. “Measurements of $d\sigma/dQ^2$ and Final State Nucleons in Muon Neutrino Quasi-Elastic Scattering on a Hydrocarbon Target”, G. A. Fiorentini, *et al*, Phys. Rev. Lett. **111** (2013)
37. “Measurement of $d\sigma/dQ^2$ in Muon Anti-Neutrino Quasi-Elastic Scattering on a Hydrocarbon Target”, L. Fields *et al*, Phys. Rev. Lett. **111** (2013)
38. “Design, Calibration and Performance of the MINERvA Detector”, L. Aliaga *et al*, Nucl. Inst. and Meth. **A743** (2014)
39. “Demonstration of Communication using Neutrinos”, D. D. Stancil *et al.* , Mod.Phys.Lett. **A27** (2012).
40. “The MINERvA Data Acquisition System and Infrastructure ”, G. N. Perdue *et al.* Nucl.Instrum.Meth. **A694** (2012)
41. “Arachne - A web-based event viewer for MINERvA”, N. Tagg *et al.* , Nucl.Instrum.Meth. **676** (2012)

MINOS

42. “The NuMI Neutrino Beam”, P. Adamson *et al*, Nucl. Instrum. Meth. **A806** 279 (2016)
43. “Active to sterile neutrino mixing limits from neutral-current interactions in MINOS”, MINOS Collaboration (P. Adamson *et al.*), Phys. Rev. Lett., **107** (2011)
44. “First direct observation of muon antineutrino disappearance”, MINOS Collaboration (P. Adamson *et al*), Phys. Rev. Lett., **107** (2011)

45. "Measurement of the neutrino mass splitting and flavor mixing by MINOS" , MINOS Collaboration (P. Adamson *et al.*), Phys. Rev. Lett., **106** (2011)
46. "Measurement of the underground atmospheric muon charge ratio using the MINOS Near Detector" MINOS Collaboration (P. Adamson *et al.*) Phys. Rev. **D83** (2011)
47. "Observation in the MINOS far detector of the shadowing of cosmic rays by the sun and moon" MINOS Collaboration (P. Adamson *et al.*), Astropart.Phys. **34** (2011)
48. "A Search for Lorentz Invariance and CPT Violation with the MINOS Far Detector", MINOS Collaboration (P. Adamson *et al.*) Phys. Rev. Lett, **105** 151601 (2010)
49. "New constraints on muon-neutrino to electron-neutrino transitions in MINOS" MINOS Collaboration (P. Adamson *et al.* Phys. Rev. **D82** 051102 (2010)
50. "Search for sterile neutrino mixing in the MINOS long baseline experiment" MINOS Collaboration (P. Adamson *et al.*) Phys. Rev. **D81** 52004 (2010)
51. "Neutrino and Antineutrino Inclusive Charged-current Cross Section Measurements with the MINOS Near Detector". MINOS Collaboration (P. Adamson *et al.*) Phys. Rev. **D81** 72002 (2010)
52. "Search for muon-neutrino to electron-neutrino transitions in MINOS" MINOS Collaboration (P. Adamson *et al.*) Phys. Rev. Lett. **103** 261802 (2009)
53. "First Measurement of $\nu(\mu)$ and $\nu(e)$ Events in an Off-Axis Horn-Focused Neutrino Beam". By MiniBooNE and Minos Collaboration (P. Adamson *et al.*). Phys. Rev. Lett. **102** 211801 (2009)
54. "Testing Lorentz Invariance and CPT Conservation with NuMI Neutrinos in the MINOS Near Detector" MINOS Collaboration (P. Adamson *et al.*). Phys. Rev. Lett. **101** 151601 (2008)
55. "Search for active neutrino disappearance using neutral-current interactions in the MINOS long-baseline experiment". MINOS Collaboration (P. Adamson *et al.*). Phys. Rev. Lett. **101** 221804 (2008)
56. "Measurement of Neutrino Oscillations with the MINOS Detectors in the NuMI Beam" MINOS Collaboration (P. Adamson *et al.*) Phys. Rev. Lett. **101** 131802 (2008)
57. "Measurement of neutrino velocity with the MINOS detectors and NuMI neutrino beam" By MINOS Collaboration (P. Adamson *et al.*). Phys. Rev. **D76** 072005 (2007)
58. "Measurement of the atmospheric muon charge ratio at TeV energies with MINOS" By MINOS Collaboration (P. Adamson *et al.*). Phys. Rev. **D76** 052003 (2007)
59. "Charge-separated atmospheric neutrino-induced muons in the MINOS far detector" By MINOS Collaboration (P. Adamson *et al.*). Phys. Rev. **D75** 092003 (2007).
60. "Beam-Based Alignment of the NuMI Target Station Components at FNAL" R. Zwaska et al. Nucl. Instrum. Meth. **A568** 548-560 (2006)
61. "Secondary beam monitors for the NuMI facility at FNAL" S. Kopp et al., Nucl. Instrum. Meth. **A568** 503-519 (2006)
62. "Observation of muon neutrino disappearance with the MINOS detectors and the NuMI neutrino beam" D. G. Michael *et al.* , Phys. Rev. Lett. **97** 191801 (2006)
63. "Study of neutron-induced ionization in helium and argon chamber gases" D. Indurthy (Texas U.) , A.R. Erwin (Wisconsin U., Madison) , Deborah A. Harris (Fermilab) , S.E. Kopp, M. Proga, R.M. Zwaska (Texas U.) . Nucl. Instrum. Meth. **A528** 731-740 (2004)
64. "First observations of separated atmospheric $\nu(\mu)$ and anti- $\nu(\mu)$ events in the MINOS detector" By MINOS Collaboration (P. Adamson et al.). FERMILAB-PUB-05-525, Dec 2005. Phys. Rev. **D73** 072002 (2006).
65. "Beam Tests of Ionization Chambers for the Numi Neutrino Beam" R.M.Zwaska *et al.*, hep-ex/0212011, IEEE Trans. Nucl. Sci. **50** 1129-1135 (2003)
66. "The Minos Scintillator Calorimeter System", P.Adamson *et al.*, IEEE Trans.Nucl.Sci. **49** 861 (2002)

67. "Measurement of the Nucleon Strange-Antistrange Asymmetry at Next-to-Leading Order in QCD from NuTeV Dimuon Data" D. Mason *et al.* FERMILAB-PUB-07-734, Nov 2007. Phys. Rev. Lett.**99** 192001 (2007)
68. "Precise measurement of neutrino and anti-neutrino differential cross sections" By NuTeV Collaboration (M. Tzanov *et al.*). Phys. Rev. **D74** 012008 (2006).
69. "Reply to the Comment On 'A Precise Determination Of Electroweak Parameters In Neutrino Nucleon Scattering' ", G.P. Zeller *et al*, submitted to Phys. Rev. Lett. hep-ex/0207052
70. "Search for Light-To-Heavy Quark Flavor Changing Neutral Currents In $\nu_\mu N$ and $\bar{\nu}_\mu N$ Scattering", A. Alton *et al*, Int.J.Mod.Phys.**A16S1B** 489 (2001)
71. "On the Effect of Asymmetric Strange Seas and Isospin Violating Parton Distribution Functions on $\sin^2\theta_W$ Measured in the NuTeV Experiment", G.P.Zeller *et al*, Phys. Rev. bf D65 111103 (2002)
72. "A Precise Determination Of Electroweak Parameters In Neutrino Nucleon Scattering " G.P.Zeller *et al*, Phys. Rev. Lett.**88** 091802 (2002)
73. "Extraction Of $R = \sigma(L)/\sigma(T)$ from CCFR Fe- ν_μ and Fe- $\bar{\nu}_\mu$ Differential Cross-Sections", U.K.Yang *et al*, Phys. Rev. Lett.**87** 251802 (2001)
74. "Observation of an Anomalous Number of Dimuon Events in a High-Energy Neutrino Beam", T. Adams *et al*, Phys. Rev. Lett. **87** 041801 (2001)
75. "Search for the Lepton Number Violating Process $\bar{\nu}_\mu e^- \rightarrow \mu^- \bar{\nu}_e$ ", J.A.Formaggio *et al*, Phys. Rev. Lett. **87** 071803 (2001)
76. "Precise Measurement of Dimuon Production Cross-Sections in ν_μ Fe and $\bar{\nu}_\mu$ Fe Deep Inelastic Scattering at the Tevatron" M.Goncharov *et al*, Phys. Rev. **D64** 112006 (2001)
77. "A First Measurement of Low x Low Q^2 Structure Functions in Neutrino Scattering" B.T. Fleming *et al*, Phys. Rev. Lett. **86** 5430 (2001)
78. "Measurements of F_2 and $xF_3^\nu - xF_3^{\bar{\nu}}$ from CCFR ν_μ Fe and $\bar{\nu}_\mu$ Fe Data in a Physics Model Independent Way" U.K. Yang *et al*, Phys. Rev. Lett. **86** 2742 (2001)
79. "Observation of Neutral Current Charm Production in ν_μ Fe Scattering at the Tevatron" A. Alton *et al*, Phys. Rev. **D64** 012001 (2001)
80. "Search for a $33.9MeV/c^2$ Neutral Particle in Pion Decay", J.A.Formaggio *et al.*, Phys. Rev. Lett. **84** 4043 (2000).
81. "Low Q^2 Low x Structure Function Analysis of CCFR Data for F_2 ", B. Tamminga *et al.*, Nucl. Phys. **A663** 344 (2000).
82. "Precision Calibration of the NuTeV Calorimeter", D. A. Harris, J.Yu *et al.*, Nucl. Instrum. Meth. **A447** 377 (2000).
83. "Evidence for Diffractive Charm Production in ν_μ Fe and $\bar{\nu}_\mu$ Fe Scattering at the Tevatron", Phys. Rev. **D61** 092001 (2000).
84. "Investigating Nucleon Structure at the Tevatron", D. A. Harris, Nucl. Phys. **A666** 149 (2000).
85. "Search for Neutral Heavy Leptons in a High Energy Neutrino Beam", A. Vaitaitis *et al.*, Phys. Rove. Lett. **83** 4943 (1999).
86. "Performance of the NuteV Fe-Scintillator Sampling Calorimeter and Implications for Thin Calorimeters" S. Avvakumov *et al.*, Nucl.Phys.Proc.Suppl.**78** 232 (1999).
87. "A Measurement of $\alpha_s(Q^2)$ from the Gross-Llewellyn Smith Sum Rule" J.H.Kim, D. A. Harris *et al.*, Phys. Rev. Lett. **81** 3595 (1998).
88. "A High Statistics Search for $\nu_e \bar{\nu}_e \rightarrow \nu_\tau \bar{\nu}_\tau$ Oscillations", submitted to JINR Rapid Communications hep-ex/9809023 (1998).
89. "Measurements of R_{Long} and $|V_{cs}|$ from the CCFR Experiment", C. McNulty *et al.*, to be submitted to Phys. Rev. Lett.
90. "Improved Determination of α_S from Neutrino-Nucleon Scattering", W.G. Seligman *et al.*, Phys. Rev. Lett. **79**, 1213 (1997).

91. "A Precision Measurement of Electroweak Parameters in Neutrino - Nucleon Scattering" By K.S.McFarland *et al.*, Eur.Phys.J.C1:509-513,1998
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