Curriculum Vitae

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1 Experience

1.1 Postdoctoral Research Associate (1999-present)

These postdoc years occurred during a "dry time" in collider physics at Fermilab. Run I had ended, all but eliminating the chances for new analyses, and Run II had not yet begun. Nonetheless, these activities cover a broad range of physics, as well as management, software service work, and hardware service work.

1.1.1 Management

- Convener of the QCD group at DØ.

  Leader of a group of 10-20 people. With co-convener Marek Zielinski, focused Run II research efforts on public results for 2002 conferences. Defined priority analyses: the inclusive jet cross section, the dijet mass distribution, photon-jet, and diffractive studies. These analyses will probably be the first results from Run II, not just from the QCD group, but from all of the DØ collaboration. Even now, far from publication, the pursuit of these analyses is commissioning the detector, the reconstruction software, and the luminosity determination.

  As convener, I direct the emphasis of analyses within QCD and influence the priorities of the Jet ID group and Jet Energy Scale groups. I allocate thesis topics for students and recruit new members for the group. My personal interests in QCD are the jet energy flow in underlying events and the measurement of the W$\rightarrow$ jet-jet cross section.

The first topic, although normally overlooked, plays an important role in nearly every analysis at DØ. The second topic promises to be one of the most difficult analyses in QCD.

- Dale Stentz's Search for Extra Dimensions in Jet Data

  Advised an undergraduate from Coe College, Dale Stentz, in his limit setting study of jet events with large total transverse energy. The so-called Large H_T result first appeared in print several years ago, setting a limit on the compositeness scale of partons. By recasting the prediction, Dale can also set a limit on the scale of extra dimensions. I am currently shepherding the result through the review and publication process.

- Young Kee Kim's Global Tracking Studies

  Successfully integrated Korea University graduate student Young Kee Kim into the global tracking group at DØ. Young Kee studied the effects of non-uniform fields on the central tracker near the edges of the surrounding solenoid. Her work helped to determine the need for a magnetic field map and the resolution required in said map.

1.1.2 Physics

- Completion of Inclusive Jet Ratio Analysis

  Published my thesis result, "The Ratio of Jet Cross Sections at $\sqrt(s) =$ 630 GeV and 1800 GeV". This analysis enjoys large cancellations in the systematic uncertainties because it is a ratio of similar distributions. Because of its unprecedented precision (errors as small as 5% in a jet distribution) the analysis received much more scrutiny than most, both within the collaboration and also in the hands of PRL.

  Just one day after the paper appeared in print, I presented the result as part of my talk at Rencontres de Moriond. The talk was very well received and provided excellent closure to a long analysis.

- Neutrino Phenomenology

  Independently pursued the goal of measuring a neutrino magnetic moment with a neutrino factory. The enormous ν flux could make formerly infintessimal signals non-negligible. Eliminated Čerenkov radiation and transition radiation as possibilities, but found that a phase rotation

scheme could yield results. Given a strong, oscillating magnetic field, a ν could be forced into a different quantum state through a magnetic moment interaction. This idea was presented in the Fermilab Neutrino Factory Study workshop, and at the NuFACT2000 conference.

This work spawned great interest in unconventional magnetic moment searches, and was mentioned as recently as Snowmass 2001, where a session featured not one but two talks on magnetic moment searches.

1.1.3 Detector Building

- Global Tracking.

  Created C++ "filters" that eliminate false tracks early in the tracking process. These filters project a helix from the starting hits in toward the interaction point and pass only the hits within that region.

  Discovered a subtlety in DØ's central tracker, where fiber tracker hits implicitly contain track angle information (because fibers slightly overlap one another). Designed and developed C++ code to incorporate this angular information in the track fitting process.

- Calorimetry

  Independently studied the linearity of of a PMT base design for the CMS forward hadronic calorimeter. Despite several attempts to fine-tune the high voltage, linear variations in light intensity did not produce a linear output signal in the prototype design; my study led to major changes in the prototypes. The new design was very linear all the way to ADC saturation. Independently studied the response of 72x64 cm scintillating tiles by scanning the surface with a radioactive source. Classified all tiles by the relative brightness of their response. Shipped PMTs, tiles, and readout box to CERN. With two colleagues, assembled a "hanging file" calorimeter from the tiles and PMTs. Test beam data collected with this test calorimeter influences the design of the forward hadronic calorimeters of the CMS experiment.

1.1.4 Other Responsibilities and Tasks

- Organizer of Young Physicists Panel.

Assembled a group of 20 assistant professors, postdocs, and graduate students to discuss the future of high energy physics. With my two co-organizers, led discussions, arranged guest speakers, and compiled research materials. Our discussions culminated in the creation and administration of a "Survey on the Future of HEP". Our group received over 1500 responses to this survey. The results were publicly presented at Snowmass, then later at Fermilab, SLAC, Brookhaven, DESY, CERN, and Cornell.

The data and results of our survey profoundly affected the findings of the HEPAP subpanel. Never before has there been a survey that correlated geography, career stage, and opinion in HEP. Never before have the raw data from a survey been released to a public so adept at studying the data themselves. The data and writeup are both available at http://ypp.hep.net

Our group has grown from a single group with global membership to many chapters at various laboratories and universities around the world. YPP is currently preparing a grant application for NSF.

- Steering Committee of Snowmass Young Physicists Forum (YPF)

  In addition to the survey work at Snowmass, created and organized the young physicists' welcome session, the young physicists' town meeting, and forum. The steering committee consisted of 16 people, joined by another dozen at Snowmass.

  Leader of the globalization subgroup of YPF. My group consisted of 10 people, and we discussed international steering for HEP, the governance and operation of an international laboratory, and how global experiments complicate the careers of young researchers. This work at Snowmass has lead to continuing leadership of a globalization group within YPP. Although not a part of the current grant, we hope to submit a second request specific to remote control of detectors within the next month.

- Design of Backup Software

  Designed and wrote a package of shell scripts that copies the contents of disk drives to tapes in the Feynman Computing Center tape vaults. This package is now offered as a Fermilab product, and is used regularly by DØ and other collaborations.

- Voice Work for Fermilab Visual Media Services

  Narrated 50% of the introductory video tape shown to all new lab employees. Narrated 100% of the advertising tape for the Provena Medical Center's neutron therapy facility.

- Consultant to Particle Data Group.

  Converted the table of particles and masses to a Palm Pilot format. Later converted several figures. My converted data is the input to the current PDG product for Palm units.

- Served on numerous committees, including the Data Tier committee, L3 tracking committee, and Editorial Board 128 (630 GeV photon cross section). My review of the photon result became more of a supporting role as I shared my own expertise and performed some studies to advance the analysis.

- Assisted with the testing of SVX readout boards, used in the DØ detector. This task consumed approximately 20 hours and involved voltage tests and some soldering.

1.2 Research Assistant, High Energy Physics (1994-1999)

Conducted thesis research and service tasks at Fermi National Accelerator Laboratory for the DØ Experiment, under the tutelage of Professor Gregory R. Snow. Focused on the analysis of $p\bar{p}$ data collected at $\sqrt{s} = 630$ GeV, gaining expertise in *luminosity determination*, *jet energy scale calibration*, and *cross section analysis* of both jets and W bosons. Programmed in FORTRAN primarily, on VAX and SGI UNIX systems. Performed extensive work writing shell scripts and command files for data management and processing. Administered computing resources for a group of 40 and protected data for same. Transferred files across computing platforms without loss of data, including making postscript files from Microsoft product output. Have experience in public speaking to groups of ten to 40 and groups exceeding 250.

1.2.1 Physics Analyses

- Luminosity determination at $\sqrt{s} = 630$ GeV and at $\sqrt{s} = 1800$ GeV. Studies included interpolation of $p\bar{p}$ inelastic cross sections between

546 and 1800 GeV and simulation of detector response to inelastic $p\bar{p}$ processes (published as two Fermilab Technical Memoranda).

- Calculated of the DØ jet energy scale offset for $\sqrt{s} = 630$ GeV. The offset correction quantifies contributions from underlying event, pileup, additional interactions, and uranium noise (published in NIM).
- Determined the jet energy resolution of the DØ calorimeter using the asymmetry of dijet events and photon–jet events. Developed a novel parameterization of the resolution and introduced the error analysis that is now standard for the DØ QCD group.
- Modified and improved an algorithm which differentiates single interactions from multiple interactions. The algorithm uses as inputs the total energy in the calorimeter, the number of tracks in the central detector, and the hits timing in the luminosity monitors.
- Computed the inclusive jet cross section at $\sqrt{s} = 630$ GeV and the ratio of jet cross sections at $\sqrt{s} = 630$ GeV and $\sqrt{s} = 1800$ GeV (thesis, to be submitted to PRL). The 1800 GeV jet cross section was the first result to include an covariance matrix, the matrix for the ratio of cross sections is even more difficult to calculate.
- Computed the inclusive W boson cross section in the electron channel at $\sqrt{s} = 630$ GeV (to be submitted as an independent section of the W cross section PRD).

1.2.2 Service Work

- Computing Resource Manager for the QCD group at DØ for both VAX and UNIX operating systems.
  - Administered group privileges for 40 researchers (the QCD group)
  - Created an automated disk backup routine for a cluster of 35 disk drives
  - Acquired, assembled, installed, and repaired disk drives
  - Managed and allocated storage space
  - Monitored CPU usage

  - Served as liaison between the QCD group and the Fermilab Computing Division.

- Monitored the DØ data acquisition system (DAQ shifter). In addition to the detector itself, the DAQ system consists of 48 VAX workstations, 7 disk drives, 12 tape drives, trigger software, and several monitoring systems. The DAQ shifter is responsible for all aspects of data collection.

- Member of the Luminosity working group. Studied design and implementation of luminosity software and databases. Caught several long–standing coding errors. Published the results of the luminosity determination.

- Responsible for maintenance of minbias event generation software (MBR and DTUJet). Designed interfaces for each program to allow simple user setup.

- Responsible for generation and verification of QCD ntuples.

1.2.3 Other Responsibilities

- DØ representative for the Graduate Student Association (1996-97). Organized advanced physics classes, job seminars, and several social events. Managed a $30,000 grant from Fermilab for grad student computing classes. Served as the voice of students to the Fermilab Directorate and the User's Executive Committee. Organized the 1997 New Perspectives graduate student physics conference and established the GSA web page. Convened the Electroweak Session of New Perspectives 1998.

- Member of Hierarchical Storage Management (HSM) Review Committee. Made recommendations to Computing Division regarding Fermilab's Run II data storage model. Appraised the effectiveness of the current data storage system (FMSS tape robot).

1.3 Research Assistant, Solid State Physics (1993-1994)

Conducted research in Raman scattering for Professor John Hardy. Working independently, grew crystals from ionic solutions, designed and built heater plate capable of 900°C temperatures. Identified crystals by isostructure, as revealed with a Rigaku X-ray spectrometer. Studied Raman effect in crystals with He-Ne laser and SPEC-20 spectrometer at temperatures between −195 and 650°C. Performed calculations to model infrared and sub-infrared Debye losses in ionic materials (published internally, by Army Research Office).

1.4 Teaching Assistant (1988-1993)

As a graduate student, instructed physics laboratory sections from 1992-1993. As an undergraduate, assisted with instruction of physics laboratory sections 1988-1990, then served as instructor for physics laboratory sections 1990-1992.

2 Education and Honors

Ph.D. Physics	Univ. of Nebraska — Lincoln	Dec 1998
M.S. Physics (Math Minor)	Univ. of Nebraska — Lincoln	Aug 13, 1994
B.S. Physics	Univ. of South Dakota	May 9, 1992
B.S. Business Administration — Management	Univ. of South Dakota	May 11, 1991

Ph.D. thesis topic: The ratio of inclusive jet cross sections at $\sqrt{s} =$ 630 and 1800 GeV, for the DØ Collaboration at Fermi National Accelerator Laboratory (FNAL).

Parker Fellowship in Physics, August-December 1997

Member: $O\Delta E$ Economics Honorary Society, $B\Gamma\Sigma$ Management Honorary Society, $\Phi E\Sigma$ Freshman Honorary Society

3 Recent Talks

- National Underground Science Laboratory workshop (NUSL), Lead S-D, "How to Make Your Laboratory a Habitable Place," Oct. 6, 2001.

- Fermilab Joint Experimental Theoretical Physics Seminar ("the Wine & Cheese seminar"), Batavia IL, "the Young Physicsists Panel presents: Results of the 'Survey on the Future of High Energy Physics'," Aug. 15, 2001.

- Summer Study on the future of Particle Physics (Snowmass 2001), Snowmass, CO, "On the Globalization of HEP," presentation and moderator of town meeting globalization segment, Jul. 10, 2001.

- XXXVIth Rencontres de Moriond, QCD and Hadronic Interactions, Les Arc, France, "Latest Jet Results from the Tevatron or, QCD: Approaching True Precision," Mar. 20, 2001.

- Meeting of the Division of Particles and Fields of the American Physical Society (DPF2000), Columbus OH, "Forward Jets, 630/1800 Inclusive Jets, and 3 Jets / 2 Jets," Aug. 11, 2000.

- Meeting of the Division of Particles and Fields of the American Physical Society (DPF2000), Columbus OH, "The Young Physicists Panel," a town meeting presentation, Aug. 9, 2000.

- Muon Storage Ring for a Neutrino Factory (NuFACT00), Monterey CA, "Searching for the Neutrino Magnetic Moment," May 24, 2000.

- Fermilab Neutrino Factory Physics Study Group Workshop, Batavia IL, "Neutrino magnetic moments at a nu factory," Feb. 17, 2000.

- Meeting of the Division of Particles and Fields of the American Physical Society (DPF 99), "Inclusive Jet Production at Center-of-Mass Energies of 630 GeV and 1800 GeV at the Tevatron," Jan. 7, 1999.

- Fermilab Joint Experimental Theoretical Physics Seminar ("the Wine & Cheese seminar"), Batavia IL, Sep. 11, 1998.

- Invited Colloquium at Columbia University, Oct. 13, 1998.

- Invited Colloquium at Massachusetts Institute of Technology, Oct. 26, 1998.

4 Publications

4.1 Primary

1. "Young Physicists' Forum," T. Adams *et al.*, Proceedings of Snowmass 2001, hep-ex/0110027, Oct 2001.

2. "Results of the Survey on the Future of HEP," B. Fleming *et al.*, The Young Physicists Panel, hep-ex/0108040, Aug. 2001.

3. Letter of Interest, "Neutrino Osciallation Experiments Beyond MINOS and MiniBooNE," D. Ayres *et al.*, Jun. 8, 2001.

4. "Latest Jet Results from the Tevatron or, QCD: Approaching True Precision," John Krane for the DØand CDF collaborations, May 2001, hep-ex/0105069, to appear in the proceedings of Moriond 2001.

5. "High p_T Jets in $p\bar{p}$ Collisions at $\sqrt{s} = 630$ Gev and 1800 Gev," the D0 Collaboration (B. Abbott et al.), Phys. Rev. D64:032003,2001.

6. "The Ratio of Jet Cross Sections at $\sqrt{s} = 630$ and 1800 GeV," B.Abbott *et al.*, Phys. Rev. Lett.86:2523-2528, 2001.

7. "Physics at a Neutrino Factory," C. Albright *et al.*, Fermilab Preprint Fermilab-FN-692, Aug. 10, 2000.

8. "Extraction of the width of the W boson from measurements of $\sigma(p\bar{p} \to W + X) \times \mathrm{Br}(W \to e\nu)$ and $\sigma(p\bar{p} \to Z + X) \times \mathrm{Br}(Z \to ee)$ and their ratio", the DØCollaboration, B. Abbott *et al.*, Phys. Rev. D **61**, 072001 (2000).

9. "The Ratio of Dimensionless Jet Cross Sections at the Tevatron," J. Krane, Proceedings of DPF 99, Jun 4, 1999.

10. "Determination of the Absolute Jet Energy Scale in the DØ Calorimeters," B.Abbott *et al.*, Nucl. Instrum. Meth. A424:352-394, 1999.

11. "An Investigation of Uncertainties in the QCD NLO Predictions of the Inclusive Jet Cross Section in anti-p p Collisions at $\sqrt{s} = 1.8$ TeV and 630 GeV," B. Abbott et al., Eur. Phys. J. C5:687-692, 1998.

12. Fermilab Technical Memorandum #1995, "DØ Luminosity Monitor Constant for the 1994-1996 Tevatron Run," J.Bantly, J.Krane, D.Owen, R.Partridge, L.Paterno, February 1, 1997.

13. Fermilab Technical Memorandum #2000, "The DØ Luminosity Monitor Constant for $\sqrt{s} = 630$ GeV," J.Krane, J.Bantly, D.Owen, April 5, 1997.

4.2 Secondary

1. "The Azimuthal Decorrelation of Jets Widely Separated in Rapidity", s. Abachi *et al.*, Phys. Rev. Letters **77**, 595 (1996).

2. "Limits on Anomalous $WW\gamma$ Couplings from $\overline{p} \to W\gamma + X$ Events at $\sqrt{s} = 1.8$ TeV", s. Abachi *et al.*, Phys. Rev. Letters **78**, 3634 (1997), Fermilab-Pub-96/434-E .

3. "Search for a Fourth Generation -1/3 Quark via Flavor Changing Neutral Current Decay", s. Abachi *et al.*, Phys. Rev. Letters **78**, 3818 (1997), Fermilab-Pub-96/430-E

4. "Search for Diphoton Events with Large Missing Transverse Energy in $\overline{p}$-p Collisions at $\sqrt{s} = 1.8$ TeV", s. Abachi *et al.*, Phys. Rev. Letters **78**, 2070 (1997), Fermilab-Pub-96/446-E.

5. "Search for Top Squark Pair Production in the Dielectron Channel", s. Abachi *et al.*, Phys. Rev. D **57**, 589 (1998) , Fermilab-Pub-96/449-E.

6. "Study of the $ZZ\gamma$ and $Z\gamma\gamma$ Couplings in $Z(\to \nu\nu)\gamma$ Production", s. Abachi *et al.*, Phys. Rev. Letters **78**, 3640 (1997), Fermilab-Pub-97/047-E, hep-ex/9702011.

7. "Direct Measurement of the Top Quark Mass", s. Abachi *et al.*, Phys. Rev. Letters **79**, 1197 (1997), Fermilab-Pub-97/059-E, hep-ex/9703008.

8. "Studies of Gauge Boson Pair Production and Trilinear Couplings", s. Abachi *et al.*, Phys. Rev. D **56**, 6742 (1997), Fermilab-Pub-97/088-E, hep-ex/9704004.

9. "Measurement of the Top Quark Pair Production Cross Section in $p\overline{p}$ Collisions", s. Abachi *et al.*, Phys. Rev. Letters **79**, 1203 (1997), Fermilab-Pub-97/109-E, hep-ex/9704015.

10. "Limits on WWZ and $WW\gamma$ couplings from $\overline{p}$-$p \rightarrow e\nu jjX$ events at $\sqrt{s} = 1.8$ TeV", B.Abbott *et al.*,Phys. Rev. Letters **79**, 1441 (1997), Fermilab-Pub-97/136-E, hep-ex/9705010.

11. "Search for the Trilepton Signature from Associated Gaugino Pair Production," B.Abbott *et al.*, Phys. Rev. Letters **80**, 1591 (1998), Fermilab-Pub-97/153-E, hep-ex/9705015.

12. "Color Coherent Radiation in Multijet Events from $\overline{p}$-p Collisions at $\sqrt{s}$= 1.8 TeV," B.Abbott *et al.*, Phys. Lett. B **414**, 419 (1997), Fermilab-Pub-97/201-E, hep-ex/9706012.

13. "Measurement of the Top Quark Mass Using Dilepton Events," B.Abbott *et al.*,Phys. Rev. Letters **80**, 2063 (1998), Fermilab-Pub-97/172-E, hep-ex/9706014.

14. "Measurement of Dijet Angular Distributions and Search for Quark Compositeness," B.Abbott *et al.*,Phys. Rev. Letters **80**, 666 (1998), Fermilab-Pub-97/237-E, hep-ex/9707016.

15. "Search for Scalar Leptoquark Pairs Decaying to Electrons and Jets in $\overline{p}$-p Collisions," B.Abbott *et al.*, Phys. Rev. Letters **79**, 4321 (1997) , Fermilab-Pub-97/252-E, hep-ex/9707033.

16. "Experimental Search for Chargino and Neutralino Production in Supersymmetry Models with a Light Gravitino," B.Abbott *et al.*, Phys. Rev. Letters **80**, 442 (1998) , Fermilab-Pub-97/273-E, hep-ex/9708005.

17. "Determination of the Mass of the W boson Using the DØ detector at the Tevatron", B.Abbott *et al.*, submitted to Phys. Rev. D, Fermilab-Pub-97/328-E, hep-ex/9710007.

18. "$Z\gamma$ Production in $\overline{p}$-p Collisions at $\sqrt{s}$=1.8TeV and Limits on Anomalous $ZZ\gamma$ and $Z\gamma\gamma$ Couplings," B.Abbott *et al.*, Accepted Phys. Rev. D, Fermilab-Pub-97/363-E, hep-ex/9710031.

19. "Search for First Generation Scalar Leptoquark Pairs in $\overline{p}$-p Collisions at $\sqrt{s} = 1.8$ TeV," B.Abbott *et al.*, Phys. Rev. Letters **80**, 2053 (1998), Fermilab-Pub-97/344-E, hep-ex/9710032.

20. "A Measurement of the W Boson Mass," B.Abbott *et al.*, Phys. Rev. Letters **80** 3000 (1998), FERMILAB PUB-97/423-E, hep-ex/9712028.

21. "A Measurement of the W Boson Mass," B.Abbott *et al.*, submitted to Phys. Rev. D, Fermilab-Pub-97/422-E, hep-ex/9712029.

22. "Direct Measurement of the Top Quark Mass," B.Abbott *et al.*, submitted to Phys. Rev. D, Fermilab-Pub-98/031-E, hep-ex/9801025.

23. "Search for the Decay $b \to X_s \mu^+ \mu^-$," B.Abbott *et al.*, Accepted by Phys. Lett. B, Fermilab-Pub-98/033-E, hep-ex/9801027.

24. "Measurement of the Shape of the Transverse Momentum Distribution of W Bosons Produced in $\overline{p}$-p Collisions at $\sqrt{s}$= 1.8 TeV," B.Abbott *et al.*, submitted to Phys. Rev. Letters, Fermilab-Pub-98/075-E, hep-ex/9803003.

25. "Limits on $WW\gamma$ and WWZ Couplings from W Boson Pair Production," B.Abbott *et al.*, submitted to Phys. Rev. D, Rapid Communications, Fermilab-Pub-98/076-E, hep-ex/9803004.

26. "Search for Charge 1/3 Third Generation Leptoquarks in pbarp Collisions at $\sqrt{s}$= 1.8 TeV," B.Abbott *et al.*, submitted to Phys. Rev. Letters, Fermilab-Pub-98/081-E, hep-ex/9803009.

27. "Limits on Anomalous $WW\gamma$ and WWZ Couplings," B.Abbott *et al.*, Accepted by Phys. Rev. D, Rapid Communications, Fermilab-Pub-98/094-E, hep-ex/9803017.

28. "Search for Heavy Pointlike Dirac Monopoles," B.Abbott *et al.*, submitted to Phys. Rev. Letters, Fermilab-Pub-98/095-E, hep-ex/9803023.

29. "Determination of the Absolute Jet Energy Scale in the DØCalorimeters", B. Abbott *et al.*, Nucl. Instrum. Methods Phys. Res. A**424**, 352 (1999); Fermilab-Pub-97/330-E; hep-ex/9805009.

30. "The Dijet Mass Spectrum and a Search for Quark Compositeness in $\bar{p}p$ Collisions at $\sqrt{s} = 1.8$ TeV", B. Abbott *et al.*, Phys. Rev. Lett. **82**, 2457 1999; Fermilab-Pub-98/220-E; hep-ex/9807014.

31. "The Inclusive Jet Cross Section in $\bar{p}p$ Collisions at $\sqrt{s} = 1.8$ TeV", B. Abbott *et al.*, Phys. Rev. Lett. **82**, 2451 (1999); Fermilab-Pub-98/207-E; hep-ex/9807018.

32. "Small Angle J/Psi Production in $\bar{p}p$ Collisions at $\sqrt{s}$=1.8 TeV", B. Abbott *et al.*, Phys. Rev. Lett. **82**, 35 (1999); Fermilab-Pub-98/237-E; hep-ex/9807029.

33. "Measurement of the Top Quark Mass in the Dilepton Channel", B. Abbott *et al.*, Phys. Rev. D **60**, 052001 (1999); Fermilab-Pub-98/261-E; hep-ex/9808029.

34. "Search for Squarks and Gluinos in Single-Photon Events with Jets and Large Missing Transverse Energy in $\bar{p}p$ Collision at $\sqrt{s}$=1.8 TeV", B. Abbott *et al.*, Phys. Rev. Lett. **82**, 29 (1999); Fermilab-Pub-98/243-E; hep-ex/9808010.

35. "Measurement of the Top Quark Pair Production Cross Section in $\bar{p}p$ Collisions using Multijet Final States", B. Abbott *et al.*, Phys. Rev. D **60**, 012001 (1999); Fermilab-Pub-98/130-E; hep-ex/9808034.

36. "Probing hard color-singlet exchange in $\bar{p}p$ collisions at $\sqrt{s}$=630 GeV and 1800 GeV.", B. Abbott *et al.*, Phys. Lett. B **440**, 189 (1998); Fermilab-Pub-98/285-E; hep-ex/9809016.

37. "Search for nonstandard Higgs bosons using high mass photon pairs in $\bar{p}p \rightarrow \gamma\gamma + 2$ jets at $\sqrt{s} = 1.8$ TeV", B. Abbott *et al.*, Phys. Rev. Lett. **82**, 2244 (1999); Fermilab-Pub-98/362-E; hep-ex/9811029.

38. "Measurement of high-mass Drell-Yan cross section and limits on quark-electron compositeness scales", B. Abbott *et al.*, Phys. Rev. Lett. **82**, 4769 (1999); Fermilab-Pub-98/391-E; hep-ex/9812010.

39. "Measurement of W and Z boson production cross sections (Run 1a), B. Abbott *et al.*, Phys. Rev. D **60**, 052003 (1999); Fermilab-Pub-99/015-E; hep-ex/9901040.

40. "Search for charged Higgs bosons in decays of top quark pairs", B. Abbott *et al.*, Phys. Rev. Lett. **82**, 4975 (1999); Fermilab-Pub-99/029-E; hep-ex/9902028.

41. "Search for bottom squarks in $\bar{\text{p}}$p collisions at $\sqrt{s} = 1.8$ TeV", B. Abbott *et al.*, Phys. Rev. D **60** Rapid Communications, 031101 (1999); Fermilab-Pub-99/046-E; hep-ex/99030041.

42. "Measurement of the top quark pair production cross section in the all-jets decay channel", B. Abbott *et al.*, Phys. Rev. Lett. **83**, 1908 (1999); Fermilab-Pub-99/008-E; hep-ex/9901023.

43. "Search for squarks and gluinos in events containing jets and a large imbalance in transverse momentum", B. Abbott *et al.*, Phys. Rev. Lett. **83**,4937 (1999); Fermilab-Pub-98/402-E; hep-ex/9902013.

44. "Studies of WW and WZ production and limits on anomalous $WW\gamma$ and WWZ couplings", B. Abbott *et al.*, Phys. Rev. D **60**, 072002 (1999); Fermilab-Pub-99/139-E; hep-ex/9905005.

45. "Evidence of color coherence effects in W+jets events from $\bar{\text{p}}$p collisions at $\sqrt{s} = 1.8$ TeV", B. Abbott *et al.*, Phys. Lett. B **464**, 145 (1999); Fermilab-Pub-99/224-E; hep-ex/9908017.

46. "Search for second generation leptoquark pairs decaying into $\mu\nu$+ jets in $\bar{\text{p}}$p collisions at $\sqrt{s} = 1.8$ TeV", B. Abbott *et al.*, Phys. Rev. Lett.**83**, 2896 (1999); Fermilab-Pub-99/123-E; hep-ex/9904023.

47. "Search for R-parity violation supersymmetry in the dielectron channel", B. Abbott *et al.*, Phys. Rev. Lett. **83**, 4476 (1999); Fermilab-Pub-99/200-E; hep-ex/9907019.

48. "The $b\bar{b}$ production cross section and angular correlations in $\bar{\text{p}}$p collisons at $\sqrt{s} = 1.8$ TeV", B. Abbott *et al.*, Phys. Lett. B **487**, 264 (2000); Fermilab-Pub-99/144-E; hep-ex/9905024.

49. "Measurement of the inclusive differential cross section for Z bosons as a function of transverse momentum produced in $\bar{\text{p}}$p collisions at $\sqrt{s} = 1.8$ TeV", B. Abbott *et al.*, Phys. Rev. D **61**, 032004 (2000); Fermilab-Pub-99/197-E; hep-ex/9907009.

50. "Small angle muon and bottom quark production in $\bar{p}p$ collisions at $\sqrt{s} = 1.8$ TeV", B. Abbott *et al.*, Phys. Rev. Lett. 84, 5478 (2000); Fermilab-Pub-99/202-E; hep-ex/9907029.

51. "A measurement of the W boson mass using large rapidity electrons", B. Abbott *et al.*, Phys. Rev. D **62** 092006, (2000); Fermilab-Pub-99/237-E; hep-ex/9908057.

52. "Differential production cross section of Z bosons as a function of transverse momentum at $\sqrt{s} = 1.8$ TeV", B. Abbott *et al.*, Phys. Rev. Lett. **84**, 2792 (2000); hep-ex/9909020.

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