

Curriculum Vitae

Reinhard Schwienhorst

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University education

PhD - Physics, University of Minnesota, Minneapolis, Minnesota 2000
Thesis Title: A New Upper Limit for the Tau-Neutrino Magnetic Moment
Thesis Advisor: Professor Roger Rusack

Physik Diplom - Westfälische Wilhelms Universität Münster, Germany 1995
Diplom Title: Elektron-Photon Korrelationen in der Elektronenstossionisation
Diplom Advisor: Professor Karl Blum

Positions held

- Assistant Professor, Michigan State University, since August 2006
- Visiting Lecturer, Université de la Méditerranée Marseille, France, in June 2008
- Research Associate, Michigan State University, September 2000 until August 2005
- Research Associate, University of Minnesota, May 2000 until September 2000
- Research Assistant, University of Minnesota, June 1997 until May 2000
- Teaching Assistant, University of Minnesota, September 1995 until June 1997

Awards/Fellowship

- Thomas H. Osgood Memorial Faculty Teaching Award, MSU, 2008
- Alvin Tollestrup award for a postdoctoral research project, Fermilab, 2005
- Graduate School Fellowship, University of Minnesota, 1998
- Teaching Assistant recognition award, University of Minnesota, 1996

Research experience

I am currently involved in exploring the top quark at the energy frontier with the Atlas experiment at the LHC at Cern and the DØ experiment at the Fermilab Tevatron, as well

as theoretical top quark studies.

As a graduate student I worked in the neutrino experiments MINOS and DONUT. We discovered the tau neutrino and I performed the most sensitive search to date for a tau neutrino magnetic moment.

Top quark physics

Atlas, September 2006 – present:

My primary physics focus on Atlas is the study of electroweak production of single top quarks. Right now these studies utilize simulated samples, but that will change soon. Once the LHC starts colliding beam operation at the full energy, we will search for the production of single top quarks in the early data sets, both from known and unknown production modes. We will then study details of the interaction, including angular correlations. We will furthermore compare different production modes and search for hints of new physics.

DØ, September 2000 – present:

My primary physics focus at DØ has been the search for electroweak production of single top quarks. I have been leading this particular analysis and also contributed to the general study of top quarks. I have been co-convenor of the Single Top working group within the top quark physics group in DØ since 2007. I had the same leadership role from September 2003 until July 2005. During that time we published a cross section limit in Physics Letters B that was a factor of two better than all previous limits. I received the Tollestrup award at Fermilab for this effort. Before that, I was convenor of the Top Triggers working group within the top quark physics group in DØ, from August 2002 until September 2003. I designed the top quark physics triggering strategy and guided students in the study and development of new triggers. I also worked directly on the study and design of triggers. I also was the top physics group representative to the trigger board. I was also co-convenor of the Tevatron Combination group for top quark results from 2007 to 2008.

Between September 2005 and August 2006 I was co-convenor of the DØ trigger studies group, coordinating the trigger-related analysis efforts of every DØ student. At the same time, I was also an at-large member of the trigger board.

I have served and am currently serving on various other boards and committees on DØ, including analysis review boards and the authorship committee which decides who should be an author on physics papers published by the DØ collaboration.

Phenomenological studies at Michigan State, April 2004 – present:

In the spring of 2004 I started a collaboration with Professors C.-P. Yuan and R. Brock and two students in the phenomenological analysis of single top quark production at next-to-leading order in QCD. We are investigating the impact of QCD corrections to the production of single top quarks and their decay. Besides being directly involved in the physics analysis, I also guided the students and created the analysis software framework. I have co-authored two papers as a result of this work already and we are working on more.

Neutrino physics

DONUT, at the University of Minnesota, 1997 – 2000:

My thesis research was on the DONUT experiment at Fermilab. We were the first (and so far only) experiment to observe tau neutrino interactions directly. My thesis focused on the tau neutrino magnetic moment; searching for electromagnetic interactions of tau neutrinos in the DONUT detector. Besides my own analysis work, I contributed directly to many areas of the general tau neutrino analysis, for example creating a software framework based on Root to analyze and display tau neutrino interactions in nuclear emulsion.

As a member of DONUT, I wrote a paper on the tau neutrino magnetic moment search and contributed to several other publications, including the tau neutrino discovery paper.

MINOS, at the University of Minnesota, 1996-1997:

I spent the first year as a graduate student at the University of Minnesota on the MINOS experiment. While devoting most of my time to detector development work for MINOS, I also studied neutrino oscillations and investigated possible options to measure the neutrino magnetic moment using the Fermilab Main Injector neutrino beam.

Hardware experience

As an experimental physicist I dedicate a significant fraction of my time to designing, building, and running experiments.

Commissioning the Level 2 Trigger System at DØ, 2000 – 2003:

I have spent most of my time during the first three years as a postdoctoral researcher at Michigan State University on hardware efforts aimed at preparing the DØ experiment to take data. I was responsible for completing the installation of the Level 2 trigger system, which is built from a combination of custom hardware interfaces and commodity computer components. I was involved in all aspects of the Level 2 trigger, overseeing the overall commissioning and integration effort, but also getting involved in smaller projects when necessary to ensure successful completion of the project. Once the trigger system was fully operational I lead the Level 2 trigger operations activities and coordinated the software.

Other DØ hardware experience:

- Chair of the L2 Beta production readiness review board in spring of 2005.
- Member of the DØ trigger rate task force. I have been a member of the DØ trigger rate task force since its inception in August of 2002. This group was charged with identifying trigger rate limitations and implement methods to remove them. I developed the tools used to identify the sources of rate limitations. I also coordinated and tested improvements to address the limitations.
- Shift Captain, detector shifter, and Level 2 trigger on-call expert.

CMS, at the University of Minnesota, May 2000 to September 2000:

I worked on the initial design and modeling of a ²⁵²Californium neutron irradiation

facility for CMS. I used the MCNP particle transport Monte Carlo program to model the shielding configuration for the source itself and calculated neutron fluence at various locations inside and around the shielding setup.

MINOS, at the University of Minnesota, 1995 – 1997:

I spent the first few years of my time as a graduate student on hardware projects for the MINOS experiment. I performed the initial studies for the active detector choice for the MINOS detector. At the University of Minnesota I characterized various photodetector options considered for the MINOS readout, investigating their response individually and in combination with different wavelength-shifting fibers and scintillators. I also investigated different liquid scintillator options, including the set-up of a first working full-length module for the active detector. My contributions led to the choice of scintillators and photodetectors as the active detector for MINOS.

I also participated in a testbeam study of proportional counters for MINOS.

CMS, at CERN, 1998:

I was resident at CERN in Geneva, Switzerland from June until September 1998. During that time I participated in the test beam study of calorimeter elements. I also contributed to several irradiation studies of photodetectors to be used in the CMS calorimeter readout.

Teaching experience

2007 – present: Assistant Professor, Michigan State University

- Physics for Scientists & Engineers 2 (PHY 184), a large lecture class: Spring 2007, Spring 2008, and Fall 2008.
- Undergraduate Physics Laboratory (PHY 251), a lab course for 350 students. Fall 2007.

2000 – 2006: Research Associate, Michigan State University

- Supervision of graduate students working on single top quark physics as co-convenor of the single top quark analysis working group.
- Supervision of the trigger-related work by many students and postdocs at Fermilab as convenor of the Top Triggers working group at DØ.
- Supervision of Michigan State University graduate students.

1995 – 1997: Teaching Assistant, University of Minnesota

- Teaching assistant for a course on Methods of Experimental Physics. I guided physics majors through their weekly laboratory work and through a semester-long experimental project. I also contributed to writing up weekly problems.
- Teaching assistant for an introductory physics course for non-physics majors. I supervised recitation sessions and graded homework and exams.

Organizations

- American Physical Society (since 1996)
- American Association for the Advancement of Science (since 2005)

Languages

- Fluent in German (mother tongue)
- Fluent in English
- Basic knowledge of French

Personal

- Citizen of Germany
- Permanent Resident in the United States of America
- Born 1969

List of Publications

Publications I have contributed to directly:

General top quark physics publications:

Tevatron-for-LHC Report: Top and Electroweak Physics, C Gerber et al., *Fermilab-Conf-07-052*, arXiv:0705.3251v1 [hep-ph] (2007).

ATLAS publications:

Expected Performance of the ATLAS Experiment, Detector, Trigger and Physics, ATLAS collaboration, CERN-OPEN-2008-020, to appear (2008).

DØ Run II publications:

Evidence for production of single top quarks, DØ collaboration (V Abazov et al.), *Phys. Rev. D* 78, 012005, arXiv:0803.0739; *Fermilab-Pub-08/056-E* (2008).

Search for charged Higgs bosons decaying to top and bottom quarks in ppbar collisions, DØ collaboration (V Abazov et al.), submitted to *Phys. Rev. Lett.*, arXiv:0807.0859; *Fermilab-Pub-08/229-E* (2008).

Search for W' boson resonances decaying to a top quark and a bottom quark, DØ collaboration (V Abazov et al.), *Phys. Rev. Lett.* 100, 211803, arXiv:0803.3256; *Fermilab-Pub-08/067-E* (2008).

Search for production of single top quarks via flavor-changing neutral currents at the Tevatron, DØ collaboration (V Abazov et al.), *Phys. Rev. Lett.*, *Fermilab-Pub-07-031-E*, *hep-ex/0702005* (2007).

Evidence for production of single top quarks and first direct measurement of $|V_{tb}|$, (V Abazov et al.), *Phys. Rev. Lett.* 98, 181902, *Fermilab-Pub-06-475-E*, *hep-ex/0612052* (2007).

Search for W' boson production in the top quark decay channel, DØ collaboration (V Abazov et al.), *Phys. Lett. B* 641: 423-431 (2006), *Fermilab-Pub-06-069-E*, *hep-ex/0607102* (2006).

Search for single top quark production in ppbar collisions at $\sqrt{s}=1.96\text{TeV}$, DØ collaboration (V Abazov et al.), *Phys. Rev. D* 75, 092007, *Fermilab-Pub-06-069-E*, *hep-ex/0604020* (2006).

Search for single top quark production in ppbar collisions at $\sqrt{s}=1.96\text{TeV}$, DØ collaboration (V Abazov et al.), *Phys. Lett. B* 622, 265, *Fermilab-Pub-05-207-E*, *hep-ex/0505063* (2005).

Measurement of the $t\bar{t}b\bar{r}$ Production Cross Section in ppbar Collisions at $\sqrt{s} = 1.96\text{ TeV}$ using Kinematic Characteristics of Lepton + Jets Events, DØ collaboration (V Abazov et al.), *Phys. Lett. B* 626, 45, *Fermilab-Pub-05-079-E*, *hep-ex/0504043* (2005).

Measurement of the $t\bar{t}b\bar{r}$ Production Cross Section in ppbar Collisions at $\sqrt{s} = 1.96\text{ TeV}$ using Lepton + Jets Events with Lifetime b-tagging, DØ collaboration (V Abazov et al.), *Phys. Lett. B* 626, 35, *Fermilab-Pub-05-087-E*, *hep-ex/0504058* (2005).

Measurement of the W helicity in top quark decays, DØ collaboration (V Abazov et al.), Phys. Rev. D 72, 011104, Fermilab-Pub-05-187-E, hep-ex/0505031 (2005).

Measurement of the ttbar production cross section in ppbar collisions at sqrt(s) = 1.96 TeV in dilepton final states, DØ collaboration (V Abazov et al.), Phys. Lett. B 626, 55, Fermilab-Pub-05-217-E, hep-ex/0505082 (2005).

The Upgraded D0 Detector, DØ collaboration (V Abazov et al.), Nucl. Instrum. Meth. A 565, 463, hep-ex/0507191, Fermilab-Pub-05-341-E (2006).

Particle physics phenomenology:

Next-to-Leading Order Corrections to Single Top Quark Production and Decay at Tevatron: 1. s-channel Process, Qing-Hong Cao, Reinhard Schwienhorst, C.-P. Yuan, Phys. Rev. D74, 054023, hep-ph/0409040 (2005).

Next-to-Leading Order Corrections to Single Top Quark Production and Decay at Tevatron: 2. t-channel Process, Qing-Hong Cao, Reinhard Schwienhorst, J. Benitez, R. Brock, C.-P. Yuan, Phys. Rev. D72, 094027, hep-ph/0504230 (2005).

DØ Run II conference proceedings:

The DØ Run II Trigger System, DØ collaboration (R. Schwienhorst, for the collaboration), Int. J. Mod. Phys. A20: 3796-3798, proceedings for the Meeting of the Division of Particles and Fields of the American Physical Society, physics/0411135 (2004).

Search for Single Top Production at the Tevatron, DØ and CDF collaborations (R. Schwienhorst, for the collaborations), proceedings for the 5th Rencontres du Vietnam, DØ note 4631, FERMILAB-CONF-04-331-E, hep-ex/0411039 (2004).

Top Quark Production Cross Section at ECM=1.96TeV, DØ and CDF collaborations (R. Schwienhorst, for the collaborations), proceedings for the 5th Rencontres du Vietnam, DØ note 4632, FERMILAB-CONF-04-332-E, hep-ex/0411041 (2004).

Update of the Measurement of the t anti-t cross section at S(1/2)=1.96 TeV*, DØ collaboration (V Abazov et al.), Fermilab-Conf-03-248-E, (2003).

Measurement of the t anti-t cross section at square-root s=1.96 TeV, DØ collaboration (V Abazov et al.), Fermilab-Conf-03-200-E (2003).

Neutrino Physics:

Colliding Neutrino Beams, R. Schwienhorst, accepted by Mod. Phys. Lett. A (2008).

Donut:

A first measurement of the interaction cross-section of the tau neutrino, K. Kodama et al. (DONUT Collaboration), submitted to Phys. Rev. D (2008).

Identification of neutrino interactions using the DONUT spectrometer, K. Kodama et al. (DONUT Collaboration), Nucl. Instrum. Meth. A 516: 21-33 (2004).

Detection and Analysis of Tau Neutrino Interactions in Donut Emulsion Target, K. Kodama et al. (DONUT Collaboration), Nucl. Instrum. Meth. A 493: 45-66 (2002).

A New Upper Limit for the Tau-Neutrino Magnetic Moment, R. Schwienhorst *et al.* (DONUT Collaboration), Phys. Lett. B **513**: 23-29 (2001).

Observation of tau neutrino interactions, K. Kodama *et al.* (DONUT Collaboration), Phys. Lett. B **504**: 218-224 (2001).

A New Upper Limit for the Tau-Neutrino Magnetic Moment, R. Schwienhorst, Ph.D. thesis, University of Minnesota, FERMILAB-THESIS-2000-14 (2000).

MINOS:

Observation of muon neutrino disappearance with the MINOS detectors and the NuMI neutrino beam, MINOS collaboration, Phys. Rev. Lett. **97**: 191801 (2006).

First Observations of Separated Atmospheric Muon Neutrino and Muon Anti-Neutrino Events in the MINOS Detector, MINOS collaboration, Phys. Rev. D **73**: 072002 (2006).

A large liquid scintillator detector for a long baseline neutrino oscillation experiment, P. Border, P. Cushman, K. Heller, D. Maxam, J.K. Nelson, K. Ruddick, R. Rusack, R. Schwienhorst, T. Berg, T. Chase, M. Hansen, C. Bower, R. Hatcher, R. Heinz, L. Miller, S. Mufson (Minnesota U. & Indiana U.), Nucl. Instrum. Meth. A **463**: 194-204 (2001).

A comprehensive characterization of Hamamatsu 16- and 64-anode PMTs, K. Lang *et al.*, Nucl. Instrum. Meth. A **461**: 571-573 (2001).

Multipixel Photodetectors, R. Schwienhorst *et al.*, Numi-L-370 (1998).

Results from an Iron Proportional Tube Calorimeter Prototype, P. Schoessow, I. Ambats, D.S. Ayres, J.W. Dawson, W.N. Haberichter, N. Hill, R.L. Talaga, J.L. Thron (Argonne), Yu. Gornushkin, A. Sadovsky (Dubna, JINR), J.L. Miller (Indiana U.), R. Schwienhorst (Minnesota U.), H. Gallagher (Oxford U.), C. Arroyo (SLAC), W.A. Mann (Tufts U.), W.L. Barrett (Western Washington U.), Talk given at 7th International Conference on Calorimetry in High-Energy Physics (ICCHEP 97), Tucson, AZ, 9-14 Nov 1997.

In *Tucson 1997, Calorimetry in high energy physics* 319-326, SLAC-REPRINT-1997-070, ANL-HEP-CP-98-02, NUMI-L-335 (1997).

Theoretical atomic physics:

Electron-photon coincidences in electron impact ionization-excitation, R Schwienhorst *et al.*, J. Phys. B: At. Mol. Opt. Phys. **29** 2305-2314 (1996).

R-matrix calculations for double-differential cross-sections in electron-impact ionization of helium, Schwienhorst R, Raeker A, Reid RHG and Bartschat K, J. Phys. B: At. Mol. Opt. Phys. **28** 4651-4658 (1995).

Review articles:

Search for single top quark production at $D\bar{D}$, R. Schwienhorst, Mod. Phys. Lett. A **21**, pp. 1339-1353 (2006).

All DØ Run II publications:

1. *Search for Doubly-charged Higgs Boson Pair Production in the Decay to $\mu+\mu+\mu-\mu-$ in $p\bar{p}$ Collisions at $\sqrt{s}=1.96$ TeV*
Phys. Rev. Lett. 93, 141801 (2004). FERMILAB-Pub-04/045-E, hep-ex/0404015.
2. *Observation and Properties of the $X(3872)$ Decaying to $J/\psi \pi^+\pi^-$ in $p\bar{p}$ Collisions at $\sqrt{s}=1.96$ TeV*
Phys. Rev. Lett. 93, 162002 (2004). hep-ex/0405004, Fermilab-Pub-04/061-E.
3. *Search for Supersymmetry with Gauge-Mediated Breaking in Diphoton Events at DZero*
Phys. Rev. Lett. {94}, 041801 (2005). hep-ex/0408146; Fermilab-Pub-04/198-E.
4. *Measurement of Dijet Azimuthal Decorrelations at Central Rapidities in $p\bar{p}$ Collisions at $\sqrt{s}=1.96$ TeV*
Phys. Rev. Lett. {94}, 221801 (2005). hep-ex/0409040; Fermilab-Pub-04/217-E.
5. *Measurement of the B_s^0 Lifetime in the Exclusive Decay Channel $B_s^0 \rightarrow J/\psi \phi$*
Phys. Rev. Lett. {94}, 042001 (2005). hep-ex/0409043; Fermilab-Pub-04/225-E.
6. *A Search for the Flavor-Changing Neutral Current Decay $B_s^0 \rightarrow \mu^+ \mu^-$ in $p\bar{p}$ Collisions at $\sqrt{s}=1.96$ TeV*
Phys. Rev. Lett. {94}, 071802 (2005). hep-ex/0410039; Fermilab-Pub-04/215-E.
7. *Measurement of the Ratio of B^+ and B^0 Meson Lifetimes*
Phys. Rev. Lett. 94, 182001 (2005). hep-ex/0410052; Fermilab-Pub-04/284-E.
8. *Measurement of the Λ_b Lifetime in the Decay $\Lambda_b \rightarrow J/\psi \Lambda$ With the DØ Detector*
Phys. Rev. Lett. {94}, 102001 (2005). hep-ex/0410054; Fermilab-Pub-04/286-E.
9. *A Search for Wbb and WH Production in $p\bar{p}$ Collisions at $\sqrt{s}=1.96$ TeV*
Phys. Rev. Lett. {94}, 091802 (2005). hep-ex/0410062; Fermilab-Pub-04/288-E.
10. *Measurement of the WW Production Cross Section in $p\bar{p}$ Collisions at $\sqrt{s}=1.96$ TeV*
Phys. Rev. Lett. {94}, 151801 (2005). hep-ex/0410066; Fermilab-Pub-04/293-E.
11. *A Measurement of the Ratio of Inclusive Cross Sections $p\bar{p} \rightarrow Zb/p\bar{p} \rightarrow Zj$ at $\sqrt{s}=1.96$ TeV*
Phys. Rev. Lett. {94}, 161801 (2005). hep-ex/0410078; Fermilab-Pub-04/297-E.
12. *A search for anomalous heavy-flavor quark production in association with W bosons*
Phys. Rev. Lett. {94}, 152002 (2005). hep-ex/0411084; Fermilab-Pub-04/359-E.
13. *First measurement of $\sigma(p\bar{p} \rightarrow Z) \times \text{Br}(Z \rightarrow \tau\tau)$ at $\sqrt{s}=1.96$ TeV*
Phys. Rev. D {71}, 072004 (2005). hep-ex/0412020; Fermilab-Pub-04/381-E.
14. *Search for first-generation scalar leptoquarks in $p\bar{p}$ collisions at $\sqrt{s}=1.96$ TeV*
Phys. Rev. D Rapid Comm. {71}, 071104(R) (2005). hep-ex/0412029; Fermilab-Pub-04/389-E.
15. *Study of $Z\gamma$ events and limits on anomalous $ZZ\gamma$ and $Z\gamma\gamma$ couplings in $p\bar{p}$ collisions at $\sqrt{s}=1.96$ TeV*
Phys. Rev. Lett. {95}, 051802 (2005). hep-ex/0502036; Fermilab-Pub-05/023-E.
16. *Measurement of inclusive differential cross sections for $Upsilon(1S)$ production in $p\bar{p}$ collisions at $\sqrt{s}=1.96$ TeV*
Phys. Rev. Lett. {94}, 232001 (2005). hep-ex/0502030; Fermilab-Pub-05/020-E.
17. *Measurement of the $p\bar{p} \rightarrow W\gamma + X$ Cross section and Limits on Anomalous $WW\gamma$ Couplings at $\sqrt{s}=1.96$ TeV*
Phys. Rev. D Rapid. Comm. {71}, 091108 (2005). hep-ex/0503048; Fermilab-Pub-05/046-E.

18. *Production of WZ Events in p-barp Collisions at sqrt(s)=1.96 TeV and Limits on Anomalous WWZ Couplings*
Phys. Rev. Lett. {95}, 141802 (2005). hep-ex/0504019; Fermilab-Pub-05/061-E.
19. *Search for neutral supersymmetric Higgs bosons in multijet events at sqrt(s)=1.96 TeV*
Phys. Rev. Lett. {95}, 151801 (2005). hep-ex/0504018; Fermilab-Pub-05/058-E.
20. *Measurement of the tbar cross section in pbarp collisions at sqrt(s)=1.96 TeV using kinematic characteristics of lepton plus jets events*
Phys. Lett. B {626}, 45 (2005). hep-ex/0504043; Fermilab-Pub-05/079-E.
21. *Measurement of the tbar cross section in pbarp collisions at sqrt(s)=1.96 TeV using lepton plus jets events with lifetime b-tagging*
Phys. Lett. B {626}, 35 (2005). hep-ex/0504058; Fermilab-Pub-05/087-E.
22. *Search for supersymmetry via associated production of charginos and neutralinos in final states with three leptons*
Phys. Rev. Lett. {95}, 151805 (2005). hep-ex/0504032; Fermilab-Pub-05/075-E.
23. *Search for Randall-Sundrum Gravitons in Dilepton and Diphoton Final States*
Phys. Rev. Lett. {95}, 091801 (2005). hep-ex/0505018; Fermilab-Pub-05/126-E.
24. *Search for right-handed W bosons in top quark decay*
Phys. Rev. D Rap. Comm. {72}, 011104(R) (2005). hep-ex/0505031; Fermilab-Pub-05/187-E.
25. *Search for single top quark production in pbarp collisions at sqrt(s)=1.96 TeV*
Phys. Lett. B {622}, 265-276 (2005). hep-ex/0505063; Fermilab-Pub-05/207-E.
26. *Measurement of the tbar production cross section in pbarp collisions at sqrt(s)=1.96 TeV in dilepton final states*
Phys. Lett. B {626}, 55 (2005). hep-ex/0505082; Fermilab-Pub-05/217-E.
27. *Search for large extra spatial dimensions in dimuon production at DZero*
Phys. Rev. Lett. {95}, 161602 (2005). hep-ex/0506063; Fermilab-Pub-05/250-E.
28. *Measurement of semileptonic branching fractions of B mesons to narrow D** states*
Phys. Rev. Lett. {95}, 171803 (2005). hep-ex/0507046; Fermilab-Pub-05/313-E.
29. *Measurement of the lifetime difference in the Bs system*
Phys. Rev. Lett. {95}, 171801 (2005). hep-ex/0507084; Fermilab-Pub-05/324-E.
30. *The Upgraded D0 Detector*
Nucl. Instr. and Methods A {565}, 463 (2006). physics/0507191; Fermilab-Pub-05/341-E.
31. *Search for the Higgs Boson in H->WW(*) Decays in pbarp Collisions at sqrt(s) = 1.96 TeV*
Phys. Rev. Lett. {96}, 011801 (2006). hep-ex/0508054; Fermilab-Pub-05/377-E.
32. *Measurements of the isolated photon cross section in pbarp Collisions at sqrt(s) = 1.96 TeV*
Phys. Lett. B {639}, 151 (2006). hep-ex/0511054; Fermilab-Pub-05/523-E.
33. *Search for Pair Production of Second Generation Scalar Leptoquarks in pbarp Collisions at sqrt(s) = 1.96 TeV*
Phys. Lett. B {636}, 183 (2006). hep-ex/0601047; Fermilab-Pub-06/017-E.
34. *Direct Limits on the Bs0 Oscillation Frequency*
Phys. Rev. Lett. {97}, 021802 (2006). hep-ex/0603029; Fermilab-Pub-06/055-E.
35. *Measurement of B(t->bW)/B(t->qW) at sqrt(s) = 1.96 TeV*
Phys. Lett. B {639}, 616 (2006). hep-ex/0603002; Fermilab-Pub-06/037-E.
36. *Search for the Rare Decay B0_s -> phi mu^+ mu- with the D0 Detector*
Phys. Rev. D RC {74}, 031107 (2006). hep-ex/0604015; Fermilab-Pub-06/073-E.
37. *Multivariate searches for single top quark production with the DZero detector*
Phys. Rev. D {75}, 092007 (2007). hep-ex/0604020; Fermilab-Pub-06/069-E.

38. *Search for Squarks and Gluinos in Events with Jets and Missing Transverse Energy in $p\bar{p}$ Collisions at $\sqrt{s}=1.96$ TeV*
Phys. Lett. B {638}, 119 (2006). hep-ex/0604029; Fermilab-Pub-06/077-E.
39. *Search for Excited Muons in $p\bar{p}$ Collisions at $\sqrt{s}=1.96$ TeV*
Phys. Rev. D Rap. Comm. 73, 111102 (2006). hep-ex/0604040; Fermilab-Pub-06/081-E.
40. *Search for Particles Decaying to a Z Boson and a Photon in $p\bar{p}$ Collisions at $\sqrt{s}=1.96$ TeV*
Phys. Lett. B {641}, 415 (2006). hep-ex/0605064; Fermilab-Pub-06/109-E.
41. *Search for R-parity Violating Supersymmetry via the LLE Couplings Λ_{121} , Λ_{122} , or Λ_{133} in $p\bar{p}$ Collisions at $\sqrt{s}=1.96$ TeV*
Phys. Lett. B {638}, 441 (2006). hep-ex/0605005; Fermilab-Pub-06/089-E.
42. *Search for Neutral Higgs Bosons Decaying to Tau Pairs in $p\bar{p}$ Collisions at $\sqrt{s}=1.96$ TeV*
Phys. Rev. Lett. {97}, 121802 (2006). hep-ex/0605009; Fermilab-Pub-06/092-E.
43. *Measurement of the B_s0 Lifetime Using SemiLeptonic Decays*
Phys. Rev. Lett. {97}, 241801 (2006). hep-ex/0604046; Fermilab-Pub-06/085-E.
44. *Search for Resonant 2nd Generation Slepton Production at the Tevatron*
Phys. Rev. Lett. {97}, 111801 (2006). hep-ex/0605010; Fermilab-Pub-06/094-E.
45. *Search for Heavy Resonance Decaying into a Z+jet Final State in $p\bar{p}$ Collisions at $\sqrt{s} = 1.96$ TeV using the D0 Detector*
Phys. Rev. D RC {74}, 100104 (2006). hep-ex/0606018; Fermilab-Pub-06/167-E.
46. *Search for Neutral Long Lived Particles Decaying to Two Muons in $p\bar{p}$ Collisions at $\sqrt{s} = 1.96$ TeV*
Phys. Rev. Lett. {97}, 161802 (2006). hep-ex/0607028; Fermilab-Pub-06/245-E.
47. *Search for associated Higgs boson production $WH \rightarrow WWW^* \rightarrow l^+\nu m l^-\nu m + X$ in $p\bar{p}$ collisions at $\sqrt{s} = 1.96$ TeV*
Phys. Rev. Lett. {97}, 151804 (2006). hep-ex/0607032; Fermilab-Pub-06/246-E.
48. *Search for the W' Decay in the top quark channel*
Phys. Lett. B {641}, 423 (2006). hep-ex/0607102; Fermilab-Pub-06/257-E.
49. *Search for Pair Production of Scalar Bottom Quarks in $p\bar{p}$ Collisions at $\sqrt{s} = 1.96$ TeV*
Phys. Rev. Lett. {97}, 171806 (2006). hep-ex/0608013; Fermilab-Pub-06/269-E.
50. *Limits on anomalous trilinear gauge couplings from $WW \rightarrow ee$, $WW \rightarrow e\mu$, and $WW \rightarrow \mu\mu$ events from $p\bar{p}$ collisions at $\sqrt{s}=1.96$ TeV*
Phys. Rev. D Brief Rep. {74}, 057101 (2006). hep-ex/0608011; Fermilab-Pub-06/268-E.
51. *Experimental discrimination between charge $2e/3$ top quark and charge $4e/3$ exotic quark production scenarios*
Phys. Rev. Lett. {98}, 041801 (2007). hep-ex/0608044; Fermilab-Pub-06/278-E.
52. *Measurement of the ratios of the $Z/\gamma^* + GE n$ jet production cross sections to the total inclusive Z/γ^* cross section in $p\bar{p}$ collisions at $\sqrt{s}=1.96$ TeV*
Phys. Lett. B {658}, 112 (2008). hep-ex/0608052; Fermilab-Pub-06/283-E.
53. *Search for the standard model higgs boson in the $p\bar{p} \rightarrow ZH \rightarrow \nu n \bar{\nu} b \bar{b}$ channel*
Phys. Rev. Lett. {97}, 161803 (2006). hep-ex/0607022; Fermilab-Pub-06/238-E.
54. *Search for scalar leptoquarks in the acoplaner jet topology*
Phys. Lett. B {640}, 230 (2006). hep-ex/0607009; Fermilab-Pub-06/233-E.
55. *Measurement of the CP-violating parameter of B^0 mixing and decay in the $p\bar{p} \rightarrow \mu \mu X$ data*
Phys. Rev. D {74}, 092001 (2006). hep-ex/0609014; Fermilab-Pub-06/327-E.

56. *Measurement of B_d Mixing Using Opposite-side Flavor Tagging*
Phys. Rev. D {74}, 112002 (2006). hep-ex/0609034; Fermilab-Pub-06/341-E.
57. *Measurement of the W Boson Helicity in Top Quark decay at $D0$*
Phys. Rev. D Rapid. Comm. {75}, 031102(R) (2007). hep-ex/0609045; Fermilab-Pub-06/345-E.
58. *Measurement of the top quark mass in the lepton+jets final state with the matrix element method*
Phys. Rev. D {74}, 092005 (2006). hep-ex/0609053; Fermilab-Pub-06/353-E.
59. *Measurement of the top quark mass in the dilepton channel*
Phys. Lett. B {655}, 7 (2007). hep-ex/0609056; Fermilab-Pub-06/354-E.
60. *Search for the Pair Production of Scalar Top Quarks in the Acoplaner Charm Jet Final State in $p\bar{p}$ Collisions at $\sqrt{s}=1.96$ TeV*
Phys. Lett. B {645}, 119 (2007). hep-ex/0611003; Fermilab-Pub-06/396-E.
61. *Measurement of the $t\bar{t}$ Cross Section in $p\bar{p}$ Collisions at $\sqrt{s}=1.96$ TeV using Secondary Vertex b -tagging*
Phys. Rev. D {74}, 112004 (2006). hep-ex/0611002; Fermilab-Pub-06/386-E.
62. *Search for single production of scalar leptoquarks decaying into muons and quarks*
Phys. Lett. B {647}, 74 (2007). hep-ex/0612012; Fermilab-Pub-06/455-E.
63. *Measurement of the $p\bar{p}\rightarrow t\bar{t}$ production cross section at $\sqrt{s}=1.96$ TeV in the fully hadronic decay channel*
Phys. Rev. D {76}, 072007 (2007). hep-ex/0612040; Fermilab-Pub-06/426-E.
64. *Search for Techniparticles Decaying into e +jets at $DZero$*
Phys. Rev. Lett. {98}, 221801 (2007). hep-ex/0612013; Fermilab-Pub-06/450-E.
65. *Evidence for production of single top quarks and first direct measurement of $|V_{tb}|$* , Phys. Rev. Lett. {98}, 181902 (2007). hep-ex/0612052; Fermilab-Pub-06/475-E.
66. *Measurement of the charge asymmetry in semileptonic B_s decays*
Phys. Rev. Lett. {98}, 151801 (2007). hep-ex/0701007; Fermilab-Pub-07/005-E.
67. *Lifetime difference and CP-violating phase in the B_s system*
Phys. Rev. Lett. {98}, 121801 (2007). hep-ex/0701012; Fermilab-Pub-07/007-E.
68. *Search for production of single top quarks via tgc and tug flavor-changing neutral currents at the Tevatron*
Phys. Rev. Lett. {99}, 191802 (2007). hep-ex/0702005; Fermilab-Pub-07/031-E.
69. *Measurement of the top quark mass in the lepton+jets channel using the Ideogram Method*
Phys. Rev. D {75}, 092001 (2007). hep-ex/0702018; Fermilab-Pub-07/039-E.
70. *Measurement of the shape of the boson rapidity distribution for $p\bar{p}\rightarrow Z/\gamma^*\rightarrow eeX$*
Phys. Rev. D {76}, 012003 (2007). hep-ex/0702025; Fermilab-Pub-07/040-E.
71. *Combined $D0$ Measurements Constraining CP-violating Phase and Width Difference in the B^0_s System*
Phys. Rev. D {76}, 057101 (2007). hep-ex/0702030; Fermilab-Pub-07/044-E.
72. *Study of the decay $B_s \rightarrow D_s(*) D_s(*)$*
Phys. Rev. Lett. {99}, 241801 (2007). hep-ex/0702049; Fermilab-Pub-07/047-E.
73. *Search for a Higgs boson produced in association with a Z boson*
Phys. Lett. B {655}, 209 (2007). arXiv:0704.2000; Fermilab-Pub-07/076-E.