

MICHAEL A. STRANG – CURRICULUM VITAE

Contact Information

Department of Physics, University at Buffalo, SUNY
Fermi National Accelerator Laboratory
Wilson Hall 1020, MS 121, P.O. Box 500
Batavia, IL 60510

E-mail: strang@fnal.gov
Office: (630) 840-2956
Fax: (630) 840-5220
Cell: (817) 266-1965

Education

PH.D., PHYSICS AUGUST 2005
University of Texas Arlington, Arlington, TX
Adviser: Andrew Brandt
Dissertation: *First observation of dijet events with an antiproton tag at $\sqrt{s} = 1.96$ TeV using the DØ Forward Proton Detector*

M.SC., PHYSICS AUGUST 2000
University of Texas at Arlington, Arlington, TX

B.SC., MATHEMATICS AUGUST 1996
University of Utah, Salt Lake City, UT

B.SC., PHYSICS DECEMBER 1994
University of Utah, Salt Lake City, UT

Honors and Awards

Scharff Award Scholarship for Research Achievement, University of Texas at Arlington, Department of Physics (2004).

Dean of Science Award for Outstanding Oral Presentation, Symposium for Graduate Research at University of Texas at Arlington (2001).

Award for Academic Excellence, University of Texas at Arlington, College of Science (1999).

Award for Outstanding Teaching Assistant in Physics, University of Utah, Department of Physics (1997).

Research and Teaching Experience

POSTDOCTORAL ASSOCIATE SEPTEMBER 2005 - PRESENT
UNIVERSITY AT BUFFALO, SUNY DØ COLLABORATION

Starting in November 2005, participated in the measurement of the $Z \rightarrow e^+e^-$ yield as an independent measurement of luminosity. This was accomplished by testing and helping to develop new code to quickly run over the entire dataset to find efficiencies and scale factors between data and Monte Carlo in an easily configurable manner. The code was designed to be used with different particle ID and selection criteria and various kinematical variables. This resulted in a generalized tool that has since been useful to other analyses.

Following this study, the results were extended into a full measurement of the $Z \rightarrow e^+e^-$ cross-section. Use was made of the previously described tool to derive the preselection efficiencies and final selection scale factors for different conditions. This analysis is currently in preparation for publication.

Using the experience gained in the previous tasks, took a lead role in the analysis that led to the

ZZ observation measurement looking specifically at the channel $ZZ \rightarrow \ell^+\ell^-\ell'^+\ell'^-$ where $\ell, \ell' = e$ or μ . This analysis was challenging because of the very small cross-section times branching ratio for this channel. This required optimizations of geometric acceptance times efficiencies and a good understanding of backgrounds to reduce their contribution to the final signal in order to optimize the significance of the measurement. The result provides observation of the last electroweak diboson process at a hadron collider, at the smallest cross section, and has been published in PRL.

Now working on using the observed events in the ZZ observation to set a limit on the anomalous trilinear gauge couplings which are expected to be zero in the standard model.

Since mid 2006, have been taking Captain shifts as part of service work to the collaboration. This involves interfacing with the Beams Division and monitoring the performance of the detector while trying to ensure the collection of data at a high efficiency. This is accomplished by monitoring individual detector shifters and bringing in expert help as needed in case of problems to minimize any down time.

For the past two years, have participated in giving tours of the DØ experiment to students attending the University at Buffalo Physics and Art Summer Institute as part of the physics department's outreach program.

Have also started participating in the Ask-A-Scientist program at Fermilab as outreach to residents living near the lab, being available to answer any question about high energy particle physics and science in general.

CMS COLLABORATION

Starting in October 2005, became involved in the construction of the Forward Pixel Detector subsystem. This consisted of testing of components using established protocols and the development of tools to access and display results of the tests stored in the database. During this time, was involved in working with high school teachers from Buffalo who were at the lab over the summer as part of the QuarkNet program also working on testing of the detector components. Starting in late 2008, became involved in taking offline data quality monitoring shifts for data collected from cosmic rays for the installed subdetector from the remote operations center at Fermilab.

Starting in early 2006, became involved in software validation. Specifically the development of global packages at the simulated, digitized and reconstructed hit level. These packages are designed to use all detector subsystems in the simulation and report values in global coordinates as opposed to the individual subsystem packages that use only local coordinates and assume the rest of the detector doesn't exist in the simulation. This provides a suite of packages to give a complete overview of the detector that is useful not only in comparing between software releases, but also in checking the effects of other changes – *e.g.*, operating systems upgrades or verifying the proper configuration of the software environment at remote sites.

Following this, became involved in the development of an automated infrastructure to run the validation packages along with standard Monte Carlo samples with minimal individual intervention. For consistency with the rest of the software framework, this led to use of the Data Quality Monitoring (DQM) infrastructure. Achieving the goals of the task required development of new tools to translate between the DQM data format and the persistent Event Data Model. This has since become a standard part of the DQM infrastructure and is regularly used by online, offline and simulated data validation.

Currently maintaining these various packages through releases.

Updated October 26, 2008

While performing these tasks, was also responsible for mentoring a PhD candidate graduate student based at Fermilab in the use of the software infrastructure to perform analyses.

GRADUATE RESEARCH ASSISTANT
UNIVERSITY OF TEXAS ARLINGTON

APRIL 2001 - SEPTEMBER 2005
DØ COLLABORATION

Starting in April 2001, worked with the DØ Silicon group in testing during the assembly of the Silicon Vertex Detector.

Beginning in May 2001, switched over to the assembly, installation and commissioning of the Forward Proton Detector (FPD). This included establishing methods and mentoring students in the task. Represented the Forward Proton Group in the Operations meetings and to the rest of the collaboration until a postdoc was hired by the University in 2003. Until the system became integrated with the rest of the experiment, was responsible in part for assembly and operation of a standalone readout system capable of triggering on signals from the detectors. This used NIM electronics to readout the photomultiplier signals for two detectors using CAMAC ADCs. Developed initial methods of extracting signal from the data, including application of pedestal subtractions, discrimination, multiplicity cuts, hit validation and hit correlation to extract clean single hit events from spray background.

After integration of the FPD with the rest of the detector in 2003, became responsible for the establishment and maintenance of the methods to determine operations parameters and operation of the system. This included the development of an analysis framework for offline reconstruction of FPD data using a dataset merging FPD information with standard DØ data. It allowed for the use of a text based database to read in beam parameter information and provided analysis classes for all steps of FPD reconstruction to be used in analysis.

For dissertation work, performed an initial analysis of dipole spectrometer data with a dijet signature in the central calorimeter combining the FPD analysis framework with standard DØ analysis code.

During this period, was mentoring up to five masters students working with the FPD that have since moved on to graduate with PhDs.

GRADUATE RESEARCH ASSISTANT
UNIVERSITY OF TEXAS ARLINGTON

AUGUST 1998 - APRIL 2001
PHYSICS DEPARTMENT

In August 1998 - 1999, worked with the DØ k_{\perp} -algorithm group and performed preliminary work in measuring the inclusive jet cross section using the k_{\perp} -algorithm as well as handling of k_{\perp} datasets.

Worked on developing a PAW based analysis kumac for use by high school teachers participating in the QuarkNet program to perform an analysis over Monte Carlo data.

From August 2000 - April 2001, responsible for preparation of methodology, establishment of protocols and training and monitoring of students to begin construction of the scintillating fiber detectors as part of the FPD.

Also during this time was periodically responsible for leading undergraduate physics classes using a prepared curriculum.

GRADUATE TEACHING ASSISTANT
UNIVERSITY OF TEXAS ARLINGTON

AUGUST 1997 - AUGUST 1998
PHYSICS DEPARTMENT

Selected Publications in Refereed Journals

1. "Observation of ZZ production in $p\bar{p}$ collisions at $\sqrt{s} = 1.96$ TeV", V. M. Abazov *et al.*, Phys. Rev. Lett. **101**, 171803 (2008).
2. "The Upgraded DØ Detector", V. M. Abazov *et al.*, Nucl. Instr. and Methods A **565**, 463 (2006).
3. "Multiple jet production at low transverse energies in $p\bar{p}$ collisions at $\sqrt{s} = 1.8$ TeV", V. M. Abazov *et al.*, Phys. Rev. D **67**, 052001 (2003).
4. "The inclusive jet cross section in $p\bar{p}$ collisions at $\sqrt{s} = 1.8$ TeV using the k_{\perp} algorithm", V. M. Abazov *et al.*, Phys. Lett. B **525**, 211 (2002).
5. "Subjet multiplicity of gluon and quark jets reconstructed with the k_{\perp} algorithm in $p\bar{p}$ collisions", V. M. Abazov *et al.*, Phys. Rev. D **65**, 052008 (2002).

Published Conference Talks

1. "Electroweak Measurements from DØ", M. Strang (for the DØ Collaboration), Proceedings of the Lake Louise Winter Institute 2008; Lake Louise, Alberta, February 2008; to be published by World Scientific.
2. "CMS Software Validation Suite", M. Strang (for the CMS Collaboration), Proceedings of the 10th Topical Seminar on Innovative Particle and Radiation Detectors; Sienna, Italy, October 2006; Nucl. Phys. Proc. Suppl. **172**, 138 (2007)
3. "Status of Diffractive Physics at DØRun II", M. Strang (for the DØ Collaboration), Proceedings of the Annual Meeting of the Division of Particles and Fields for the American Physical Society; Riverside CA, August 2004; Int. J. Mod. Phys. A **20**, 3762 (2005).

Other Conference Talks and Presentations

1. "Observation of ZZ Production at DØ", Northwestern High Energy Physics Seminar; Evanston, IL; September 2008.
2. "Observation of ZZ Production at DØ", Fermilab Joint Experimental- Theoretical Seminar; Batavia, IL; September 2008.
3. "Status of $ZZ \rightarrow 4\ell$ Analysis", DØ Collaboration Meeting; Batavia, IL; May 2008.
4. "Core Components for Offline DQM", CMS Week; Geneva, Switzerland; February 2008.
5. "FPD Operations"; DØ Collaboration Meeting; Batavia, IL; March 2005.
6. "Data Samples Update", DØ Collaboration Meeting; Batavia, IL; December 2004.
7. "Forward Proton Detector Status", DØ Collaboration Meeting; Batavia, IL; February 2004.
8. "The Forward Proton Detector at DØ", poster session of Lepton Photon Conference 2003; Batavia, IL; August 2003.
9. "Diffraction at Tevatron Run II at DØ", Annual Meeting of the Division of Particles and Fields for the American Physical Society; Philadelphia, PA; April 2003.
10. "Hard Diffraction at DØ During Run I", LISHEP02; Rio de Janeiro, Brazil; February 2002.
11. "Forward Proton Detector Commissioning Status", DØ Collaboration Meeting; Batavia, IL; July 2001.
12. "Construction of the Forward Proton Detector at DØ", poster session of Annual Users Meeting at Fermi National Accelerator Laboratory; Batavia IL; June 2001.
13. "Construction of the Forward Proton Detector at DØ", April Meeting of the American Physical Society; Washington D.C.; April 2001.
14. "Construction of the Forward Proton Detector at DØ", Symposium for Graduate Research at the University of Texas Arlington; Arlington, TX; April 2001.

15. “Detector Construction Status”, DØ Collaboration Meeting; Batavia, IL; March 2001.
16. “Study of Fractal Measures of Multiple Jet Events Produced in Simulated $p\bar{p}$ and pp Collisions”, Symposium for Graduate Research at the University of Texas Arlington; Arlington, TX; April 1998.

Other Publications

1. “First observation of ZZ production in $p\bar{p}$ collisions at $\sqrt{s} = 1.96$ TeV, E. Barberis *et al.*, DØNote CONF-5760 (2008).
2. “Measurement of $p\bar{p} \rightarrow ZZ \rightarrow \ell^+\ell^-\ell'^+\ell'^-$ production cross section using RunIIb Data”, I. Iashvili, I. Razumov and M. Strang, DØNote CONF-5753 (2008).
3. “Measurement of $p\bar{p} \rightarrow ZZ \rightarrow \ell^+\ell^-\ell'^+\ell'^-$ production cross section using RunIIb Data”, I. Iashvili, I. Razumov and M. Strang, DØNote 5752 (2008).
4. “Measurement of the cross section for $Z\gamma^* \rightarrow e^+e^-$ production at DZero”, H. Fox *et al.*, DØNote 5627 (2008).
5. “Measurement of $Z \rightarrow e^+e^-$ Event Yields in Run IIa at D-Zero”, H. Fox *et al.*, DØNote 5270 (2006).
6. “The CMS Simulation Validation Suite”, S. Abdullin *et al.*, CMS IN-2006/041 (2006).
7. “Study of fractal measures of multiple jet events produced in simulated $p\bar{p}$ and pp collisions”, R. W. Stephens, M. A. Strang, A. McDowell, S. Shin, and M. J. Vinson, submitted to Phys. Rev. D (1998); http://d0server1.fnal.gov/users/strang/web/fractal/documents/fractal_prd.ps.

Referees

IA IASHVILI

Postdoctoral Advisor
Assistant Professor, University at Buffalo, SUNY
239 Fronczak Hall, Physics
Buffalo, NY 14260
E-mail: iashvili@buffalo.edu
Phone: (716) 645-2017 ext. 194

DMITIRI DENISOV

DØ Spokesman; Staff Scientist, Particle Physics Division
Fermi National Accelerator Laboratory
Fermilab MS 357, PO Box 500
Batavia, IL 60510
E-mail: denisovd@fnal.gov
Phone: (630) 840-3851

HEIDI SCHELLMAN

Professor, Northwestern University
Tech F219, Physics
Evanston, IL 60208
E-mail: h-schellman@northwestern.edu
Phone: (847) 491-8608

DARIEN WOOD

DØ Spokesman; Associate Professor, Northeastern University
111 Dana Research Center
Boston, MA 02115
E-mail: darien@neu.edu
Phone: (617) 373-2958 ext. 194

TIM BOLTON

Professor, Kansas State University
116 Cardwell Hall
Manhattan, KS 66506
E-mail: bolton@phys.ksu.edu
Phone: (785) 532-1664

AURELIO JUSTE

Staff Scientist, Particle Physics Division
Fermi National Accelerator Laboratory
Fermilab MS 357, PO Box 500
Batavia, IL 60510
E-mail: juste@fnal.gov
Phone: (630) 840-6565

DØ Publications in Refereed Journals

1. “Measurement of the differential Z/γ^* +jet+X cross sections in $p\bar{p}$ collisions at $\sqrt{s} = 1.96$ TeV”, V. M. Abazov *et al.*, accepted by Phys. Lett. B (2008); arXiv:0808.1296; Fermilab-Pub-08/293-E.
2. “ $ZZ \rightarrow l^+l^-\nu\bar{\nu}$ in $p\bar{p}$ collisions at $\sqrt{s} = 1.96$ TeV”, V. M. Abazov *et al.*, Phys. Rev. D **78**, 072002 (2008).
3. “Search for scalar leptoquarks and T-odd quarks in the acoplanar jet topology using 2.5 fb^{-1} of $p\bar{p}$ collision data at $\sqrt{s} = 1.96$ TeV”, V. M. Abazov *et al.*, Phys. Lett. B **668**, 387 (2008).
4. “Measurement of the electron charge asymmetry in $p\bar{p} \rightarrow W+X \rightarrow e\nu+X$ events at $\sqrt{s} = 1.96$ TeV”, V. M. Abazov *et al.* accepted by Phys. Rev. Lett. (2008); arXiv:0807.3367; Fermilab-Pub-08/249-E.
5. “Precise measurement of the top quark mass from lepton+jets events at D0”, V. M. Abazov *et al.*, accepted by Phys. Rev. Lett. (2008); arXiv:0807.2141; Fermilab-Pub-08/242-E.
6. “Search for long-lived particles decaying into electron or photon pairs with the D0 detector”, V. M. Abazov *et al.*, Phys. Rev. Lett. **101**, 111802 (2008).
7. “Search for Higgs bosons decaying to tau pairs in $p\bar{p}$ collisions with the D0 detector”, V. M. Abazov *et al.*, Phys. Rev. Lett. **101**, 071804 (2008).
8. “Search for $t\bar{t}$ resonances in the lepton plus jets final state in $p\bar{p}$ collisions at $\sqrt{s} = 1.96$ TeV”, V. M. Abazov *et al.*, Phys. Lett. B **668**, 98 (2008).
9. “Measurement of the forward-backward charge asymmetry and extraction of $\sin^2 \theta_W^{eff}$ in $p\bar{p} \rightarrow Z\gamma^* \rightarrow e^+e^- + X$ events produced at $\sqrt{s} = 1.96$ TeV”, V. M. Abazov *et al.*, accepted by Phys. Rev. Lett. (2008); arXiv:0804.3220; Fermilab-Pub-08/090-E.
10. “Measurement of $t\bar{t}$ production cross section in $p\bar{p}$ collisions at $\sqrt{s} = 1.96$ TeV”, V. M. Abazov *et al.*, Phys. Rev. Lett. **100**, 192004 (2008).
11. “Measurement of the polarization of the Upsilon(1S) and Upsilon(2S) states in $p\bar{p}$ collisions at $\sqrt{s} = 1.96$ TeV”, V. M. Abazov *et al.*, accepted by Phys. Rev. Lett. (2008); arXiv:0804.2799; Fermilab-Pub-08/089-E.
12. “Measurement of the differential cross section for the production of an isolated photon with associated jet in $p\bar{p}$ collisions at $\sqrt{s} = 1.96$ TeV”, V. M. Abazov *et al.*, Phys. Lett. B **666**, 435 (2008).
13. “Search for W' boson resonances decaying to a top quark and a bottom quark”, V. M. Abazov *et al.*, Phys. Rev. Lett. **100**, 211803 (2008).
14. “Measurement of $t\bar{t}$ production cross section in $p\bar{p}$ collisions at $\sqrt{s} = 1.96$ TeV”, V. M. Abazov *et al.*, accepted by Phys. Rev. Lett. (2008); arXiv:0803.2779; Fermilab-Pub-08/064-E.
15. “Search for Large Extra Dimensions in the Mono-photon Final State at $\sqrt{s} = 1.96$ TeV”, V. M. Abazov *et al.*, Phys. Rev. Lett. **101**, 011601 (2008).
16. “Measurement of the ratio of the $p\bar{p} \rightarrow W^+c^-$ jet cross section to the inclusive $p\bar{p} \rightarrow W^+$ jets cross section”, V. M. Abazov *et al.*, Phys. Lett. B **666**, 23 (2008).
17. “Search for Scalar Top Quarks in the Acoplanar Charm Jets and Missing Transverse Energy Final State in $p\bar{p}$ Collisions at $\sqrt{s} = 1.96$ TeV”, V. M. Abazov *et al.*, Phys. Lett. B **665**, 1 (2008).
18. “Search for h_f to $\gamma\gamma$ with the D0 detector at $\sqrt{s} = 1.96$ TeV”, V. M. Abazov *et al.*, Phys. Rev. Lett. **101**, 051801 (2008).
19. “Search for doubly-charged Higgs boson in the $H^{++}H^{--}$ to $\mu^+\mu^+\mu^-\mu^-$ final state at D0”, V. M. Abazov *et al.*, Phys. Rev. Lett. **101**, 071803 (2008).
20. “Evidence for production of single top quarks”, V. M. Abazov *et al.*, Phys. Rev. D **78**, 012005 (2008);

21. “First study of the radiation-amplitude zero in $W\gamma$ production and limits on anomalous $WW\gamma$ couplings at $\sqrt{s} = 1.96$ TeV”, V. M. Abazov *et al.*, Phys. Rev. Lett. **100**, 241805 (2008).
22. “Measurement of the B_c meson mass in the exclusive decay $B_c \rightarrow J/\psi\pi$ ”, V. M. Abazov *et al.*, Phys. Rev. Lett. **101**, 012001 (2008).
23. “Study of direct CP violation in B^+ to $J/\psi K^{+-}(\pi^{+-})$ decays”, V. M. Abazov *et al.*, Phys. Rev. Lett. **100**, 211802 (2008).
24. “Measurement of the inclusive jet cross section in $p\bar{p}$ scattering at $\sqrt{s} = 1.96$ TeV”, V. M. Abazov *et al.*, Phys. Rev. Lett. **101**, 062001 (2008).
25. “Measurement of the B_s mixing parameters from the flavor-tagged decay $B_s \rightarrow J/\psi\phi$ ”, V. M. Abazov *et al.*, submitted to Phys. Rev. Lett. (2008); arXiv:0802.2255; Fermilab-Pub-08/033-E.
26. “Search for sneutrino particles in $e+\mu$ final states in $p\bar{p}$ collisions at $\sqrt{s} = 1.96$ TeV”, V. M. Abazov *et al.*, Phys. Rev. Lett. **100**, 241803 (2008).
27. “Search for Excited Electrons in pbarp collisions at $\sqrt{s} = 1.96$ TeV”, V. M. Abazov *et al.*, Phys. Rev. D Rapid Comm. **77**, 091102 (2008).
28. “Simultaneous Measurement of the Ratio $B(t \rightarrow Wb)/B(t \rightarrow Wq)$ and the Top Quark Pair Production Cross Section with the DØDetector at $\sqrt{s} = 1.96$ TeV”, V. M. Abazov *et al.*, Phys. Rev. Lett. **100**, 192003 (2008).
29. “Search for Squarks and Gluinos in Events with Jets and Missing Transverse Energy using 2.1 fb^{-1} of $p\bar{p}$ Collision Data at $\sqrt{s} = 1.96$ TeV”, V. M. Abazov *et al.*, Phys. Lett. B **660**, 449 (2008).
30. “Measurement of the B_s^0 Semileptonic Branching Ratio to an Orbitally Excited D_s^{**} State, $\text{Br}(B_s^0 \rightarrow D_s^1(2536)\mu + \nu X)$ ”, V. M. Abazov *et al.*, submitted to Phys. Rev. Lett. (2008); arXiv:0712.3789; Fermilab-Pub-07/659-E.
31. “First measurement of the forward-backward charge asymmetry in top quark pair production”, V. M. Abazov *et al.*, Phys. Rev. Lett., **100** 142002 (2008).
32. “A combined search for the standard model Higgs boson at $\sqrt{s} = 1.96$ TeV”, V. M. Abazov *et al.*, accepted by Phys. Lett. B, **663**, 26 (2008).
33. “Measurement of the shape of the boson transverse momentum distribution in $p\bar{p} \rightarrow Z/\gamma^* \rightarrow e^+e^-+X$ events produced at $\sqrt{s} = 1.96$ TeV”, V. M. Abazov *et al.*, Phys. Rev. Lett. **100**, 102002 (2008).
34. “Search for ZZ and $Z\gamma^*$ production in $p\bar{p}$ collisions at $\sqrt{s} = 1.96$ TeV and limits on anomalous ZZZ and $ZZ\gamma^*$ couplings”, V. M. Abazov *et al.*, Phys. Rev. Lett. **100**, 121801 (2008).
35. “Search for flavor-changing-neutral-current D meson decays”, V. M. Abazov *et al.*, Phys. Rev. Lett. **100**, 101801 (2008).
36. “Observation and Properties of the Orbitally Excited B_s^{2*} Meson”, V. M. Abazov *et al.*, Phys. Rev. Lett. **100**, 082002 (2008).
37. “Model-independent measurement of the W boson helicity in top quark decays at D0”, V. M. Abazov *et al.*, Phys. Rev. Lett. **100**, 062004 (2008).
38. “Search for Supersymmetry in Di-photon Final States at $\sqrt{s} = 1.96$ TeV”, V. M. Abazov *et al.*, Phys. Lett. B **659**, 856 (2008).
39. “Search for W' bosons decaying to an electron and a neutrino with the DØ detector”, V. M. Abazov *et al.*, Phys. Rev Lett. **100**, 031804 (2008).
40. “Search for Randall-Sundrum Gravitons with 1 fb^{-1} of Data from $p\bar{p}$ Collisions at $\sqrt{s} = 1.96$ TeV”, V. M. Abazov *et al.*, Phys. Rev Lett. **100**, 091802 (2008).
41. “Measurement of the muon charge asymmetry from W boson decays”, V. M. Abazov *et al.*, Phys. Rev. D **77**, 011106R (2008).

42. “Search for $B_s^0 \rightarrow \mu^+\mu^-$ at $D\bar{O}$ ”, V. M. Abazov *et al.*, Phys. Rev. D **76**, 092001 (2007).
43. “Measurement of the $p\bar{p} \rightarrow WZ + X$ Cross Section at $\sqrt{s} = 1.96$ TeV and Limits on WWZ Trilinear Gauge Couplings”, V. M. Abazov *et al.*, Phys. Rev. D **76**, 111104R (2007).
44. “Search for the lightest scalar top quark in events with two leptons in $p\bar{p}$ Collisions at $\sqrt{s} = 1.96$ TeV”, V. M. Abazov *et al.*, Phys. Lett. B **659**, 500 (2008).
45. “Measurement of the Λ_b Lifetime in Semileptonic Decays”, V. M. Abazov *et al.*, Phys. Rev. Lett. **99**, 182001 (2007).
46. “Direct observation of the strange b baryon Ξ_b^- ”, V. M. Abazov *et al.*, Phys. Rev. Lett. **99**, 052001 (2007).
47. “Measurement of the $t\bar{t}$ production cross section in $p\bar{p}$ collisions using dilepton events”, V. M. Abazov *et al.*, Phys. Rev. D **76**, 052006 (2007).
48. “Observation and properties of L=1 B_1 and B_2^* Mesons”, V. M. Abazov *et al.*, Phys. Rev. Lett. **99**, 172001 (2007).
49. “Measurement of the $t\bar{t}$ production cross section in $p\bar{p}$ collisions at $\sqrt{s} = 1.96$ TeV using kinematic characteristics of lepton + jets events”, V. M. Abazov *et al.*, Phys. Rev. D **76**, 092007 (2007).
50. “ $Z\gamma$ production and limits on anomalous $ZZ\gamma$ and $Z\gamma\gamma$ couplings in $p\bar{p}$ collisions at $\sqrt{s} = 1.96$ TeV”, V. M. Abazov *et al.*, Phys. Lett. B **653**, 378 (2007).
51. “Search for third generation leptoquarks in $p\bar{p}$ collisions at $\sqrt{s} = 1.96$ TeV”, V. M. Abazov *et al.*, Phys. Rev. Lett. **99**, 061801 (2007).
52. “Search for stopped gluinos from $p\bar{p}$ collisions at $\sqrt{s} = 1.96$ TeV”, V. M. Abazov *et al.*, Phys. Rev. Lett. **99**, 131801 (2007).
53. “Measurement of the Λ_b lifetime in the exclusive decay $\Lambda_b \rightarrow J/\psi\Lambda$ ”, V. M. Abazov *et al.*, Phys. Rev. Lett. **99**, 142001 (2007).
54. “Search for a Higgs boson produced in association with a Z boson”, V. M. Abazov *et al.*, Phys. Lett. B **655**, 209 (2007).
55. “Measurement of the branching fraction $\text{Br}(B_s \rightarrow D_s^{(*)}D_s^{(*)})$ ”, V. M. Abazov *et al.*, Phys. Rev. Lett. **99**, 241801 (2007).
56. “Combined D_0 Measurements Constraining CP-violating Phase and Width Difference in the B_s^0 System”, V. M. Abazov *et al.*, Phys. Rev. D **76**, 057101 (2007).
57. “Measurement of the shape of the boson rapidity distribution for $p\bar{p} \rightarrow Z/\gamma^* \rightarrow eeX$ ”, V. M. Abazov *et al.*, Phys. Rev. D **76**, 012003 (2007).
58. “Measurement of the top quark mass in the lepton + jets channel using the Ideogram Method”, V. M. Abazov *et al.*, Phys. Rev. D **75**, 092001 (2007).
59. “Search for production of single top quarks via flavor-changing neutral currents at the Tevatron”, V. M. Abazov *et al.*, Phys. Rev. Lett. **99**, 191802 (2007).
60. “Lifetime difference and CP-violating phase in the B_s^0 system”, V. M. Abazov *et al.*, Phys. Rev. Lett. **98**, 121801 (2007);
61. “Measurement of the charge asymmetry in semileptonic B_s decays”, V. M. Abazov *et al.*, Phys. Rev. Lett. **98**, 151801 (2007).
62. “Evidence for production of single top quarks and first direct measurement of $|V_{tb}|$ ”, V. M. Abazov *et al.*, Phys. Rev. Lett. **98**, 181802 (2007).
63. “Search for Techniparticles Decaying into e +jets at $D\bar{O}$ ”, V. M. Abazov *et al.*, V. M. Abazov *et al.*, Phys. Rev. Lett. **98**, 221801 (2007).
64. “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”, V. M. Abazov *et al.*, Phys. Rev. D **76**, 072007 (2007).

65. “Search for single production of scalar leptoquarks decaying into muons and quarks”, V. M. Abazov *et al.*, Phys. Lett. B **647**, 74 (2007).
66. “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).
67. “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”, V. M. Abazov *et al.*, Phys. Lett. B **645**, 119 (2007).
68. “Measurement of the top quark mass in the dilepton channel”, V. M. Abazov *et al.*, Phys. Lett. B **655**, 7 (2007).
69. “Measurement of the top quark mass in the lepton+jets final state with the matrix element method”, V. M. Abazov *et al.*, Phys. Rev. D **74**, 092005 (2006).
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