Yuri Gershtein

Curriculum Vitae

Education

- Ph.D., Institute for Theoretical and Experimental Physics, Moscow. Thesis: "A Study of $\overline{B}^0 \to D^{*-} l^+ \nu$ and $B^0 - \overline{B}^0$ Mixing Using Partial D^{*-} reconstruction", 1996 Advisor: M. Danilov
- B.Sc., Moscow Institute for Physics and Technology, 1992

Fellowships and Awards

- NSF CAREER Award, 2010
- DOE Outstanding Junior Investigator, 2006
- Alikhanov's Fellowship, 1998

Positions Held

2010 – current Associate Professor of Physics at Rutgers University, Piscataway NJ
2008 – 2010 Assistant Professor of Physics at Rutgers University, Piscataway NJ
2004 – 2008 Assistant Professor of Physics at Florida State University, Tallahassee, FL
1999 – 2004 Research Associate at Brown University, Providence, RI
1996 - 1999 Research Scientist at Institute for Theoretical and Experimental Physics, Moscow, Russia.
1991 - 1995 Research Assistant at Institute for Theoretical and Experimental Physics, Moscow, Russia.

Experiments

2004 – present CMS Collaboration. Searches for physics beyond the Standard Model, electron and photon reconstruction and identification, test beam studies.
1997 – present DØ Experiment. Searches for physics beyond the Standard Model, photon and τ-lepton reconstruction and identification, track triggers, silicon detector assembly, muon scintillation counters design and production.
1994 – 1997 CMS Collaboration. Quartz Fiber Čerenkov calorimeter development and beam tests, case studies for Higgs discovery strategy, especially in WW and ττ decay modes
1994 HERA-B Collaboration. Rare τ decays
1993 GEM Collaboration. Muon system alignment.
1991 – 1999 ARGUS Experiment. Semileptonic B decays, $B^0 - \overline{B}^0$ mixing, D^0 decays.

Leadership positions

2009 – current US CMS Physics Coordinator (elected position)
2009 – current Coordinator of the "High pT photon" group in CMS Exotica PAG
2008 – 2009 Convener of the Photon+X Signature Group at the Fermilab's LPC
2006 – 2007 Convener of the DØ New Phenomena group

2004 – 2007	Head of the Electron-Photon Group at the LHC Physics Center at FNAL.
2003 – 2004	Convener of the DØ Common Samples Group
2000 – 2003	Convener of the DØ Tau ID group
1999 – 2000	Manager of the Silicon Barrel assembly project for the DØ Upgrade

Recent Invited Talks

"Hidden Valley Searches at DZero" – **invited talk at SLAC "Dark Forces" Workshop,** September 2009
"Searched for Hidden Valleys with Photons" **– Invited talk for SUSY09**, May 2009
"Searches for New Physics at CMS and ATLAS" – **Invited talk at the APS April Meeting**, Denver, CO, May 2009
"Tevatron Searches for Higgs Boson and Supersymmetry" – **SLAC Summer Institute,** August 2008
"Searches for Gauge-Mediated Supersymmetry" - **Invited talk at SUSY07**, June 2007
"Searches for Supersymmetry" - **Invited talk at SUSY06**, June 2006
"New Results from Tevatron" - **Invited talk at SESAPS**, November 2005

Colloquia

University of Oklahoma, Spring 2010
Rice University, Fall 2009
SUNY Buffalo, Fall 2009
"The Coming Era of Discoveries at the Large Hadron Collider" –
Washington University of St Luois, Fall 2008
"News From the Energy Frontier", University of Virginia, Spring 2006

Recent Seminars

Massachusetes Amhurst (2010), Oklahoma (2010), Stony Brook (2009), Caltech (2008), Harvard (2007), Fermilab (2007), Rochester (2007), Illinois at Urbana-Champagne (2006), Maryland (2006), ITEP, Moscow (2007)

Service

Organized the 2008 Aspen Winter Conference on High Energy Physics "Revealing the Nature of the Electroweak Symmetry Breaking"
http://conferences.fnal.gov/aspen/2008

Organized the Mini-Workshop "Exploring New Phenomena at the Tevatron"
http://home.fnal.gov/~gerstein/NPworkshop/

Teaching

Physics 418 (Nuclei and Particles) – Spring 2010

Physics 271 (intro physics, honors) – Fall 2009
Physics 204 (intro physics, non-science majors) – Spring 09
Astronomy 1020 (non-science majors) – Spring 08, Fall 07
Physics 2041/2042 (intro physics, science/engineering majors) Spring 07, Fall 06, Spring 06, Fall 05

Publications

Significant Publications:

1. **"Measurement of the Z gamma ---> nu anti-nu gamma cross section and limits on anomalous Z Z gamma and Z gamma gamma couplings in p anti-p collisions at s**(1/2) = 1.96-TeV"**, V. M. Abazov *et al.* [D0 Collaboration], Phys. Rev. Lett. **102**, 201802-1 – 201802-7 (2009).

2. **"The CMS barrel calorimeter response to particle beams from 2-GeV/c to 350-GeV/c"**, S. Abdullin *et al.* [USCMS Collaboration and ECAL/HCAL Collaboration], Eur. Phys. J. C **60**, 359-373 (2009).

3. **"Search for Large extra spatial dimensions in the dielectron and diphoton channels in p anti-p collisions at s**(1/2) = 1.96-TeV"**, V. M. Abazov *et al.* [D0 Collaboration], Phys. Rev. Lett. **102**, 051601-1 – 051601-7 (2009).

4. **"Discovering hidden sectors with mono-photon Z-primeo searches"**, Y. Gershtein, F. Petriello, S. Quackenbush and K. M. Zurek, Phys. Rev. D **78**, 095002-1 – 095002-13 (2008).

5. **"Search for scalar leptoquarks and T-odd quarks in the acoplanar jet topology using 2.5 fb**-1 of p anti-p collision data at s**(1/2) = 1.96-TeV"**, V. M. Abazov *et al.* [D0 Collaboration], Phys. Lett. B **668**, 357-363 (2008) .

6. **"Measurement of the electron charge asymmetry in p anti-p ---> W + X ---> e nu + X events at s**(1/2) = 1.96-TeV"**, V. M. Abazov *et al.* [D0 Collaboration], Phys. Rev. Lett. **101**, 211801-1 – 211801-7 (2008).

7. **"Search for long-lived particles decaying into electron or photon pairs with the D0 Detector"**, V. M. Abazov *et al.* [D0 Collaboration], Phys. Rev. Lett. **101**, 111802-1 – 111802-7 (2008).

8. **"First study of the radiation-amplitude zero in W gamma production and limits on anomalous WW gamma couplings at s**(1/2) = 1.96- TeV"**, V. M. Abazov *et al.* [D0 Collaboration], Phys. Rev. Lett. **100**, 241805-1 - 241805-7 (2008)

9. **"Search for decay of a fermiophobic Higgs boson h(f) ---> gamma gamma with the D0 detector at s**(1/2) = 1.96-TeV"**, V. M. Abazov *et al.* [D0 Collaboration],

Phys. Rev. Lett. **101**, 051801-1 – 051801-7 (2008).

10. **"Search for large extra dimensions via single photon plus missing energy final states at s**(1/2) = 1.96-TeV"**, V. M. Abazov *et al.* [D0 Collaboration], Phys. Rev. Lett. **101**, 011601-1 – 011601-7 (2008).

11. **"Search for supersymmetry in di-photon final states at s**(1/2) = 1.96-TeV"**, V. M. Abazov *et al.* [D0 Collaboration], Phys. Lett. B **659**, 856-863 (2008).

12. **"First measurement of sigma (p anti-p ---> Z) . Br (Z ---> tau tau) at s**(1/2) = 1.96-TeV"**, V. M. Abazov *et al.* [D0 Collaboration], Phys. Rev. D **71**, 072004-1 - 072004-7 (2005). ibid. D **77**, 039901 (2008).

13. **"Search for supersymmetry with gauge-mediated breaking in diphoton events at D0"**, V. M. Abazov *et al.* [D0 Collaboration], Phys. Rev. Lett. **94**, 041801-1 - 041801-7 (2005). [arXiv:hep-ex/0408146].

14. **"The Muon system of the run II D0 detector"**, V. M. Abazov *et al.*, Nucl. Instrum. Meth. A **552**, 372-398 (2005).

15. **"On the differences between high-energy proton and pion showers and their signals in a non-compensating calorimeter"**, N. Akchurin *et al.*, Nucl. Instrum. Meth. A **408**, 380-396 (1998).

16. **"Test beam results of CMS quartz fibre calorimeter prototype and simulation of response to high-energy hadron jets"**, N. Akchurin *et al.*, Nucl. Instrum. Meth. A **409**, 593-597 (1998).

17. **"Beam test results from a fine-sampling quartz fiber calorimeter for electron, photon and hadron detection"**, N. Akchurin *et al.*, Nucl. Instrum. Meth. A **399**, 202-226 (1997).

18. **"Test beam of a quartz-fibre calorimeter prototype with a passive front section"**, N. Akchurin *et al.*, Nucl. Instrum. Meth. A **400**, 267-278 (1997).

19. **"Physics with ARGUS"**, H. Albrecht *et al.* [ARGUS Collaboration], Phys. Rept. **276**, 223-405 (1996).

20. **" Measurement of the semileptonic branching fractions of the D0 meson"**, H. Albrecht *et al.* [ARGUS Collaboration], Phys. Lett. B **374**, 249-255 (1996).

21. **"Measurement of the absolute branching fractions for D0 decays into K- pi+, Ki+pi+ pi-anti-K0 pi+ pi-"**, H. Albrecht *et al.* [ARGUS Collaboration], Phys. Lett. B **340**, 125-128 (1996).

22. **"A Study of anti-B0 ---> D*+ lepton- anti-neutrino and B0 anti-B0 mixing using partial D*+ reconstruction"**, H. Albrecht *et al.* [ARGUS Collaboration], Phys.

Lett. B **324**, 249-254 (1994).