

Yuri Gershtein

Curriculum Vitae

Education

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

Fellowships and Awards

- DOE Outstanding Junior Investigator, 2006
- Alikhanov's Fellowship, 1998

Positions Held

2008 – current 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 $\tau\tau$ decay modes
1994 HERA-B Collaboration. Rare τ decays
1993 GEM Collaboration. Muon system alignment.
1991 – 1999 ARGUS Experiment. Semileptonic B decays, $B^0 - \bar{B}^0$ 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

Publications

Co-author of 278 papers published in refereed journals. Total number of citations in refereed journals is 8658.

Recent DØ analyses with primary contributions from my group:

- “Search for Quirks with DØ detector” – in preparation
- “Search for Dark Photons” – arXiv:/0905.1478 [hep-ex], submitted to PRL
- “The $Z\gamma \rightarrow \nu\nu\gamma$ cross section measurement and limits on anomalous $ZZ\gamma$ and $Z\gamma\gamma$ couplings”, Phys. Rev. Lett. 102, 201802 (2009)
- “Measurement of the electron charge asymmetry in $p\bar{p} \rightarrow W+X \rightarrow e\nu+X$ events at $\sqrt{s}=1.96$ TeV”, Phys. Rev. Lett. 101, 211801 (2008)
- “First Evidence for Radiation Amplitude Zero in $W\gamma$ Production”, Phys. Rev. Lett. 100, 241805 (2008).
- “Search for Large Extra Dimensions in Mono-Photon Final State”, Phys. Rev. Lett. 101, 011601 (2008)
- “Search for Long-Lived Particles Decaying into Electron or Photon Pairs” Phys. Rev. Lett, 101, 111802 (2008)
- “Search for a Light Higgs Boson in $\gamma\gamma+X$ Final State with DØ detector”, Phys. Rev. Lett. 101, 051801 (2008)
- “Search for SUSY in Di-Photon Final States at $\sqrt{s}=1.96$ TeV”, Phys. Lett. **B659**, 856 (2008)
- “Measurement of the $p\bar{p} \rightarrow WZ+X$ Cross Section at $\sqrt{s}=1.96$ TeV and Limits on WWZ Trilinear Gauge Couplings”, Phys. Rev. D 76, 111104(R) (2007)

Recent CMS notes

- CMS AN-2009/001 – Understanding Missing Transverse Energy in Di-Photon Events and Exotic Searches
- CMS AN-2008/004 - Search for massive resonance production decaying into an electron or a photon pair
- CMS IN-2008/xxx – Electromagnetic Energy Calibration Using Drell-Yan Balancing
- CMS IN-2007/064 -- Search for massive resonance production decaying into an electron or a photon pair: HEEP (High Energy Electrons and Photons) strategy toward first CMS data
- CMS AN-2007/045 -- Search for massive resonance production decaying into an electron or a photon pair
- CMS IN-2007/028 -- HEEP (High Energy Electrons and Photons) Strategy Toward First CMS Data

Recent Phenomenological Work

- “Discovering hidden sectors with mono-photon Z -prime searches”, Phys. Rev. D78:095002, 2008

- New Physics at the LHC: A Les Houches Report. Physics at Tev Colliders 2007 -- New Physics Working Group. arXiv:0802.3715 [hep-ph]
- Detecting Unexpected: UC Davis Workshop
<http://particle.physics.ucdavis.edu/workshops/unexpected07>

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 Louis, Fall 2008

“News From the Energy Frontier”, University of Virginia, Spring 2006

Recent Seminars

Stony Brook (2009), Caltech (2008), Harvard (2007), Fermilab (2007), Rochester (2007), Illinois at Urbana-Champaign (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/>

Member of the Rutgers Physics Department Qualifying Exam and Colloquium Committees

Teaching

Physics 341 (honors) – Fall 2009

Physics 204 (non-science majors) – Spring 09

Astronomy 1020 (non-science majors) – Spring 08, Fall 07

Physics 2041/2042 (science/engineering majors) Spring 07, Fall 06, Spring 06, Fall 05