

Calendar

Thursday, January 20

2:30 p.m. Theoretical Physics Seminar - Curia II

Speaker: A. Pierce, Stanford Linear Accelerator Center

Title: The Cosmology of Split Supersymmetry

3:30 p.m. DIRECTOR'S COFFEE BREAK - 2nd Flr X-Over

THERE WILL BE NO ACCELERATOR PHYSICS AND TECHNOLOGY SEMINAR TODAY

Friday, January 21

3:30 p.m. DIRECTOR'S COFFEE BREAK - 2nd Flr X-Over

4:00 p.m. Joint Experimental Theoretical Physics Seminar - 1 West

Speaker: H. Park, University of Michigan
Title: The Decay $\sigma^+ \rightarrow p \mu^+ \mu^-$ and Possible New Physics from HyperCP

8:00 p.m. Fermilab Public Lecture Series - Auditorium

Detecting Nature's Mysterious Particles: How Particle Physics Detectors Work and What They Really See

Speaker: Herman White

Tickets: \$5

Sunday, January 23

2:30 p.m. Gallery Chamber Series - 2nd Floor Art Gallery

Metropolis Quartet

Tickets: \$15

Wilson Hall Cafe

Site Security Change



Questions and Answers

Q: If I forget my Fermilab ID badge, will the security officer let me in?

A: Yes, the security officer will check another photo ID (driver's license for example) and let you in.

Q: If I arrive in a limo after "public" hours, can the limo driver enter by the east gate?

A: Yes, the driver will be on a business-related activity and will be admitted at the east gate. Limo drivers can now enter at either gate to pick up employees also. Security should be notified of after-hours pick-ups.

Q: If visitors plan to visit non-public areas of Wilson Hall, do they need visitors' passes?

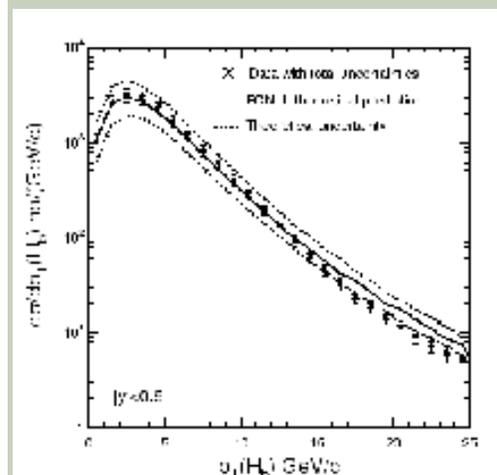
A: Members of the general public will not be allowed in other areas of Wilson Hall. If a visitor has a business purpose (a meeting with an employee, for example) he or she will be able to access the non-public areas without a visitor's pass.

[read more](#)

[Changes in Fermilab Security](#)

Fermilab Result of the Week

How Many Beauty Quarks Does the Tevatron Make?



The beauty (bottom) hadron production spectrum as a function of beauty hadron transverse momenta. The crosses with error bars are the data with experimental uncertainties. The solid line is the central theoretical values and the dashed line is the theoretical uncertainty. (Click on image for larger version.)

Although the beauty (or bottom) quark was discovered in 1977 at Fermilab, until last year the production of beauty particles in the proton-antiproton collisions at the Tevatron was not well understood. The Run I measurements made by the CDF and DZero collaborations using limited region of the production spectrum were higher than the theoretical expectations by more than a factor of two.

For this measurement, particles (hadrons) containing a beauty quark were detected through a decay channel that includes a J/ψ particle, a bound state of charm and anti-charm quarks. A team of researchers from CDF has analysed a data sample selected from over a million reconstructed J/ψ particles which decayed to two muons. CDF's precision silicon vertex

Thursday, January 20

Tomato Florentine

Grilled Chicken Cordon Bleu Sandwich

\$4.75

Chimichangas \$3.75

Chicken Marsala \$3.75

Maryland Crab Salad \$4.75

Italian Sausage Calzones \$3.25

SW Chicken Salad with Roasted Corn

Salsa \$4.75

[Wilson Hall Cafe Menu](#)

[Chez Leon](#) will be closed through January and February

Weather



Snow 30°/20°

[Extended Forecast](#)

[Weather at Fermilab](#)

Current Security Status

[Secou Level 3](#)

Search

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Info

Fermilab Today is online at:

<http://www.fnal.gov/today/>

Send comments and suggestions to

today@fnal.gov

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[Fermilab Result of the Week archive](#)

[Fermilab Safety Tip of the Week archive](#)

[Linear Collider News archive](#)

Dane Skow Transfers to PPDG

In the "world of tomorrow," computers everywhere will interact with each other over an electronic grid without human supervision or intervention. This scenario is what Dane Skow of the Particle Physics Data Grid is hoping for, anyhow.

On December 1, Skow transferred from the Computer Security Team, where he had worked for three years, to the PPDG, where as the Technical Coordinator he plans to work with Ruth Pordes, of the Computing Division,

and other collaborators to build on the success of the early computer grids.

About a year ago, the four-year-old PPDG, along with the GriPhyN and iVDGL projects, formed the Grid 3 project, to see if the idea of a federating grids would work.

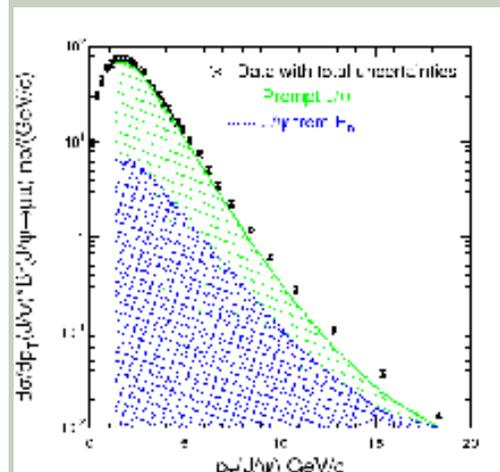
"That initial success of Grid 3 encouraged the idea of an Open Science Grid, which is an open consortium for anyone to get involved," Skow said. "It's similar to the EGE activity in Europe, and we hope to deploy an infrastructure so that places funded by the DOE, NSF, NIH, DOD, NASA, etc. can all share resources and have access to each other's data and tools. We're pushing the Web to the next level, where instead of people communicating, computers are interacting with each other independently."

Skow said he hopes that the Open Science Grid will be going live on March 1. Meanwhile, Mark Leininger has taken over as leader of the Fermilab computer security team, Skow still serves as the



Dane Skow

detector was used to separate J/psi mesons produced directly in the proton-antiproton collisions from those produced from the decays of long-lived beauty hadrons.



The inclusive J/psi production spectrum as a function of J/psi momentum transverse to the beam direction integrated over the rapidity range $|y| < 0.6$ is plotted as points with error bars indicating experimental uncertainties. The hatched histogram indicates the contribution to the J/psi production spectrum from prompt (direct) production. The cross-hatched histogram is the contribution from decays of beauty hadrons. (Click on image for larger version.)

The team has measured the inclusive J/psi production spectrum in the central region of the CDF detector over the whole transverse momentum range. From the spectrum of displaced J/psi mesons they then measured the total production spectrum of beauty hadrons. This is the first measurement of this spectrum for all momenta.

The number of beauty hadrons produced in the central region of the CDF detector is in good agreement with the recently revised theoretical calculations. These results were accepted this week to Physical Review D for publication.

deputy to Vicky White of Fermilab's Computing Division as Computer Security Executive, and he hopes to work on the CMS experiment as a scientific collaborator. "We're at the beginning of something here that could have an effect on our society like the Web did, something that could impact businesses and the rest of people's lives," he said.

Accelerator Update

January 18-January 19

- During this 48 hour period, Operations established two stores that provided approximately 40 hours and 40 minutes of luminosity to the experiments.
- On Monday, the TeV set a New Luminosity Record of 104.96E30.
- On Monday, the Antiproton Source set a New Stacking Record with a rate of 14.94 mA per hour.
- NTF has a problem with the power supply and magnet cabling for its 32-degree bend magnet.

[Read the Current Accelerator Update](#)

[Read the Early Bird Report](#)

[View the Tevatron Luminosity Charts](#)

In the News

From *The Guardian Unlimited*, January 20, 2005
String fellows

100 years after Einstein changed physics for ever, Alok Jha visits a leafy corner of Princeton to meet his intellectual heirs - still hunting for a theory of everything

Edward Witten is so softly spoken that his voice sometimes threatens to drift away completely. His desk is a jumble of papers and his blackboard a mess of equations. But his hushed words come straight to the point and are infused with



The authors of this PRD publication made significant contributions to the CDF Silicon Vertex Detector, Central Tracker, Muon Chambers and the Trigger system. From left: Greg Field (Yale) Ting Miao (Fermilab) Tom LeCompte (Argonne) Mary Bishai (Fermilab) Slawek Tkaczyk (Fermilab) Jim Kraus (UIUC) Lee Pondrom (U. Wisconsin, Madison) Yuri Gotra (U. Pitt.) Not shown: Jonathan Lewis and Dmitri Litvintsev (Fermilab), Sham Sumorok (MIT). (Click on image for larger version.)

[Result of the Week Archive](#)

Announcements

Herman White Presents Fermilab Public Lecture Tomorrow

The Fermilab Public Lecture Series presents Herman White this Friday at 8:00 p.m. in Ramsey Auditorium. White will give the talk, "How Particle Physics Detectors Work and What They Really See." Tickets are \$5.00.

[more information](#)

Rhythm & Blues Musical with Fermilab Connections

A new rhythm & blues musical with music by Jamie Ellis of Geneva and book and lyrics by former Fermilab physicist Steve Delchamps is going to be presented at Steel Beam Theatre in St. Charles during February. The engagement is limited to two weekends: Friday, Saturday, and Sunday the 11-13th and Friday and Saturday the 18th and 19th. For reservations, people should call Steel

understanding and passion.

[read more](#)

Beam Theatre at 630-587-8521.

[Upcoming Activities](#)