

Calendar

Thursday, November 2

11:00 a.m. Academic Lecture Series

- 1 West

Speaker: W. Giele, Fermilab

Title: Course 2 – Modern Approach to Monte Carlo Programs: Part 2

1:00 p.m. ALCPG ILC Physics and Detector Seminar - Hornet's Nest (WH-8XO)

Speaker: A. Seryi, Stanford Linear Accelerator Center

Title: Initial Evaluation of Push-Pull Option

2:00 p.m. Theoretical Physics Seminar

(note time) - Curia II

Speaker: K. Kong, Fermilab

Title: Measuring Masses and Spins of New Particles at Colliders

3:00 p.m. Special Particle Astrophysics Seminar - WH-6NW

Speaker: P. Gorodetzky, College de France, Paris

Title: EUSO: Resurrection Then Maybe Ascension Instead of Cosmic Vision

3:30 p.m. DIRECTOR'S COFFEE

BREAK - 2nd Flr X-Over

4:00 p.m. Accelerator Physics and Technology Seminar - 1 West

Speakers: D. Harding and W. Chou, Fermilab

Title: The MI Wide Aperture Quadrupole (WQB) Project

Friday, November 3

3:30 p.m. DIRECTOR'S COFFEE

BREAK - 2nd Flr X-over

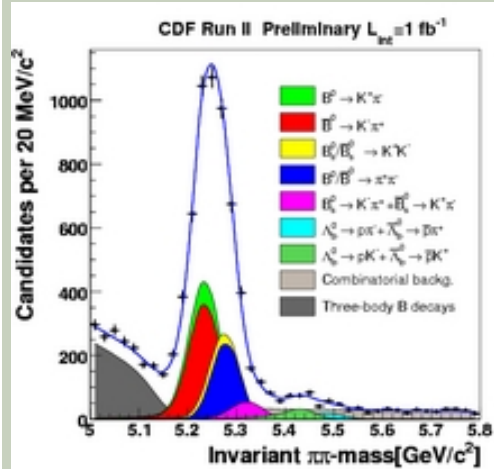
4:00 p.m. Joint Experimental Theoretical Physics Seminar - 1 West

Speaker: A. Lyon, Fermilab

Title: New Electroweak Physics Results from DZero

Fermilab Result of the Week

The leaning tower of B mesons



Mass spectrum showing peak from new b quark decays including $B_s \rightarrow K \pi$, a process that CDF scientists have observed for the first time.

Since the original discovery of the bottom quark at Fermilab in 1977, scientists have been carefully studying how the bottom quark behaves. After living for about one trillionth of a second, a bottom quark has a 98 percent chance to decay to a charm quark ($b \rightarrow c$) and a 2 percent chance to decay to the much lighter up quark ($b \rightarrow u$). The $b \rightarrow u$ decays have been under intense experimental scrutiny over the last few years. Now the CDF experiment has made significant new contributions to our understanding of these decays by observing four new decay modes. The chance for a particle containing a bottom quark to decay in one of these newly-observed ways is about 1 in 200,000, which is why seeing these decays is such a challenge.

One of the newly found decay modes is

From the Computing Division

Bring on the data!

This week's column is written by Computing Division Head Vicky White.



Last week we recorded a record 22 terabytes of data in one day. The total data in our robotic tape libraries now is 4,500 terabytes, or 4.5 petabytes. (That's 4.5 million gigabytes.) The new robot room at the Fermilab Grid Computing Center is fully operational--many thanks to FESS--and we are ready to take delivery of a second StorageTek 10,000-slot tape library, like the one in the photo.

Bring on the data! We are ready for increased Tevatron luminosity and for the data to come from the LHC.

To make sure we really are ready for the LHC and the data to be gathered by the CMS experiment, we are participating in "challenges" using mock data between Fermilab and CERN, which are distributed to "Tier-1" and "Tier-2" centers worldwide. One of several "fat" network pipes connecting Fermilab to the Starlight optical switching facility in Chicago reached a record peak transfer rate of 8 Gigabits/second last week.

8:00 p.m. Fermilab Lecture Series - Dr. Pierre Ramond, University of Florida presents: Neutrino Eyes on the Cosmos Auditorium

Tickets: Adults \$5

[Click here](#) for NALCAL, a weekly calendar with links to additional information.

Weather



Partly Cloudy 39°/20°

[Extended Forecast](#)

[Weather at Fermilab](#)

Current Security Status

[Secou Level 3](#)

Wilson Hall Cafe

Thursday, November 2

- Southwestern Chicken Tortilla
- Philly Style Cheese Steak
- Chimichangas
- Chicken Marsala
- Smoked Turkey Melt
- Assorted Slice Pizza
- South West Chicken Salad with Roasted Corn Salsa

[Wilson Hall Cafe Menu](#)

Chez Leon

Thursday, November 2

Dinner

- Steamed Mussels w/White Wine, Garlic & Thyme
- Spicy Spare Ribs
- Sautéed Greens
- Spaghetti Squash
- Lemon Napoleons

Wednesday, November 8

Lunch

the B_s meson (bottom quark bound with strange quark) decaying to a kaon (up and strange quark) and a pion (up and down quark), or in the concise language of particle physics, simply $B_s \rightarrow K \pi$.

This newly found mode receives a special interest as a probe into the origin of CP violation, the asymmetry between matter and antimatter.

According to the Standard Model of particle physics, all possible CP asymmetries are determined by the value of a single parameter in the theory, and are therefore all connected. The recent finding of a large discrepancy between the CP asymmetries of neutral and charged B mesons has generated debate on whether this can be accommodated by the standard theory, perhaps instead revealing the presence of New Physics. The CP asymmetry of the $B_s \rightarrow K \pi$ mode is expected to be large and tightly related to the neutral B meson asymmetry, and its measurement is therefore a very good way to answer the question.

The jury is still out on whether the Standard Model can explain all CP violation, but the observation of these modes is an important step towards finding an answer.

[Learn More](#)



Fittingly, last week we hosted an LHCnet working group and a network research meeting, and representatives of CISCO visited. As if that was not enough, we also hosted Interlab - a meeting of about 60 people from DOE labs who got together to share information about Web tools.

In the lobby of the Feynman Computing Center, we installed an illuminated sign proclaiming FCC as the "Home of Scientific Linux." (Thanks to Fred Ullrich for the great photo used for the sign.) Scientific Linux is now used throughout high-energy physics and beyond.

If you like statistics about networks, data and computing then look at our "metrics" [page](#). Statistics of course don't really tell you about all the hard work and care that go into making things work for Fermilab's scientific program. That's something you only see when you interact with the people who do the work. All around me, every day, I see and appreciate how dedicated the people of the Computing Division are to making our systems and services work well and to supporting and contributing to the scientific program.

Accelerator Update

October 30 - November 1

- Vacuum leak in the Tevatron results in no luminosity.

[Read the Current Accelerator Update](#)

[Read the Early Bird Report](#)

[View the Tevatron Luminosity Charts](#)

Announcements

Stuffed Cabbage w/Sauerkraut
 Julienne of Peppers
 Baked Apples with Crème Chantilly

[Chez Leon Menu](#)

Call x4598 to make your reservation.

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Contributing to this analysis were, from left: Simone Donati, Diego Tonelli, Guido Volpi (student), Michael Morello (student), Giovanni Punzi. Volpi is from the University of Siena, the others are from the University of Pisa. Notice the asymmetric object lurking in the background.

[Result of the Week Archive](#)

In the News

The Daily Herald, **November 2, 2006:**

A deal bringing hope to Fermilab
Millions of dollars, millions of possibilities

Declaring it would ensure Fermilab's future as the world's leading high-energy physics laboratory, U.S. Department of Energy officials Wednesday awarded a newly formed corporation a \$1.6 billion contract to manage the Batavia lab.

The five-year contract with Fermi Research Alliance LLC gives the University of Chicago a more prominent role in directing Fermi's research and programs. The University of Chicago is a 50 percent partner in the alliance; a consortium of 90 other universities comprise the other 50 percent.

"The future of this laboratory is the future of high-energy physics for us," said Raymond Orbach, the Department of Energy's undersecretary for science.

"This contract will help us realize that future."

[Read More](#)

Give an old coat to someone who needs it

Jeannette Olah of Roads and Grounds is collecting winter coats to deliver to a local non-profit homeless shelter. She needs gently used coats for adults and children. If you have an old coat that you are willing to part with, please drop it by Jeannette Olah's office at Site 37, Roads and Grounds before November 9. You can reach her at 404-0699 if you have any questions.

Employee Art Show

There will be an employee art show from November 6 to January 3 with a reception in the Art Gallery on November 8, from 5 p.m. to 7:00 p.m. The Fermi Singers will perform during the reception and there will be a group photo at 5:00 p.m. If you plan to participate in the art show, bring ready-to-hang artwork to the gallery on November 2 between 8:30 a.m. and 1:30 p.m., or on November 3, from 8:30 a.m. to 10:00 a.m. No work will be accepted after 10:00 a.m. on November 3.

Arrowhead Golf League information

A Fermilab Golf League will soon form at the Arrowhead Golf Course. The league has contacted the course for specific information and would like get together to discuss the details. An informational meeting has been scheduled in the 1 North conference room (Wilson Hall Atrium, by the bulletin board) at 11:30 a.m. on Monday, November 13. If you are interested in playing golf at Arrowhead next summer, you are invited to attend.

[Upcoming Activities](#)