

Calendar

Thursday, August 19

THERE WILL BE NO THEORETICAL PHYSICS SEMINAR THIS WEEK

11:45 a.m. [Third Thursday Lunchtime](#)

[Cleanup](#) - Ground Floor Wilson Hall

3:30 p.m. DIRECTOR'S COFFEE

BREAK - 2nd Flr X-Over

THERE WILL BE NO ACCELERATOR PHYSICS AND TECHNOLOGY

SEMINAR TODAY

Friday, August 20

3:30 p.m. DIRECTOR'S COFFEE

BREAK - 2nd Flr X-Over

4:00 p.m. Joint Experimental

Theoretical Physics Seminar - 1 West

Speaker: N. Bell, Fermilab

Title: Cosmic Neutrinos – From the Highest Energies to the Lowest

Wilson Hall Cafe

Thursday, August 19

Santa Fe Black Bean Soup

Marinara Meatball Sub \$4.75

Butter Crumb Baked Fish \$4.75

Sauteed Liver & Onions \$3.75

Baked Ham & Swiss on a Ciabatta Roll \$4.75

Sausage & Sweet Onion Strombolis \$2.75

Crispy Fried Chicken Ranch Salad \$4.75

[Wilson Hall Cafe Menu](#)

[Chez Leon](#)

Weather

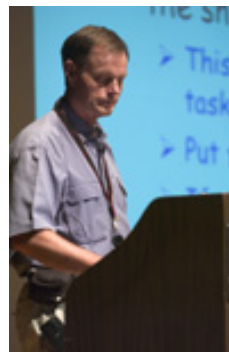
ITRP Announcement Tonight at Midnight

The International Technical Recommendation Panel is expected to issue its finding on the preferred technology for the proposed International Linear Collider tonight at midnight Central Time. A press release will be sent out on the [Interactions.org news wire](#) tonight at midnight. A link to the press release will also be available on the [Interactions.org Web site](#) and the [International Linear Collider Web site](#).

Accelerator Division Addresses Safety and Goals for the Upcoming Shutdown

Earlier this week on Monday, August 16, Accelerator Division Head Roger Dixon addressed more than 150 technicians, supervisors and tradesmen in Ramsey Auditorium about the upcoming shutdown. Starting August 23, technicians and tradesmen from sections and divisions across the lab will start working on various shutdown projects, which will last at least 13 weeks. "The most important thing is to

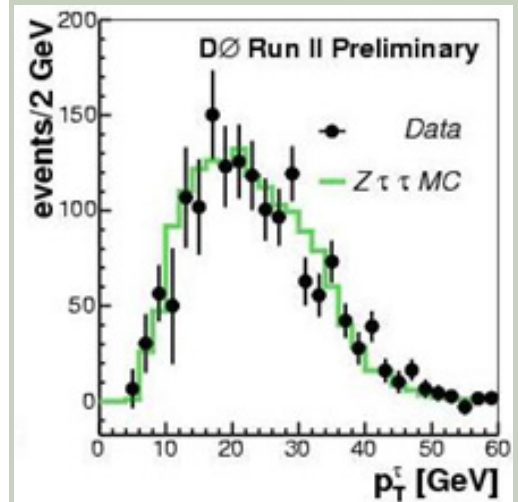
have a very safe and effective shutdown," Dixon said. "We don't want any of you getting hurt."



The magic word of the meeting was definitely safety, but Dixon also used [Roger Dixon at the allhands meeting on Monday](#).

Fermilab Result of the Week

DZero on the Trail of the Tau



The distribution of momentum of tau jets from Z decay in data (dots) is in agreement with the expectation from the Standard Model (histogram).

Tau leptons are elusive particles: they decay so rapidly that the DZero apparatus can only infer their presence from their decay products. This task is only made harder by the large fraction of the tau's momentum that is carried off by one or more undetectable neutrinos. Taus are incredibly hard to distinguish from other objects produced in the experiment - so why would one even try to detect them?

One reason is that the tau lepton is a heavy lepton, a member of the same family of fundamental particles as the electron and muon. The standard model thus says that the tau lepton should behave very similarly to its electron and muon

cousins, and testing this is an important test of the model. Another reason is that the much sought after



Partly Cloudy 72°/56°

[Extended Forecast](#)

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the opportunity to congratulate everyone on the success of the Tevatron over the past year. "We were able to achieve something much greater than I could have ever predicted," he said. "None of this could have been accomplished without the effort all of you made during last year's monumental shutdown. All of you made this possible, and I hope that you have another trick up your sleeve to do it again."

Dixon outlined the major projects for the Accelerator Complex over the next three months, which include the installation of electron cooling in the recycler, installation of a new horn for MiniBooNE, and the completion of the NUMI Beam line installation. Future shutdowns will address antiproton cooling upgrades in the accumulator and beam-beam interactions in the Tevatron. "We want to start the accelerator complex back up as rapidly and smoothly as possible, but I cannot emphasize safety enough," Dixon said. "I want you to get things done, but I don't want you to rush. The most important ingredient to our success is your work. Go out there and have a safe shutdown."

Downtime Scheduled for IMAPServer1



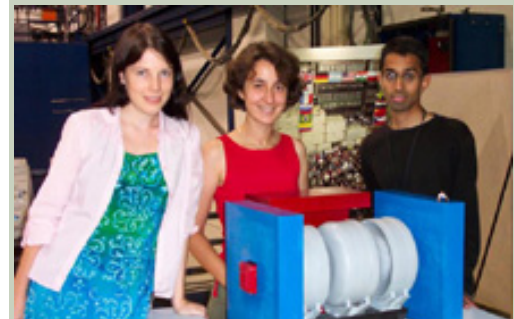
Feynman Computing Center

Higgs boson can decay into a pair of taus. Furthermore, the tau lepton is a potential goldmine for many scenarios of physics beyond the Standard Model.



Serban Protopopescu

A DZero team from Brookhaven National Laboratory, Florida State University and Nijmegen University has measured the cross section for producing tau pairs in Z boson decays. Not only is this measurement an important test of the ability of the DZero detector to identify tau leptons, but it also allows one to search for other sources of taus that have been predicted by new theoretical models. The measured cross section is in agreement with the Standard Model expectation. However there are many other decay modes involving taus that will be searched for hints of new physics.



Serban Protopopescu (above) and Abid Patwa (right) of BNL have performed Z->tau tau analysis in collaboration with Cristina Galea (middle) of Nijmegen University and Silke Nelson (left) of Florida State University. (Click on image for larger version.)

[Result of the Week Archive](#)

Accelerator Update

On August 28 and 29, IMAPServer1 will be upgraded. This will consist of system changes as well as an upgrade to the IMAP software. The upgrade will take several hours. The current estimate is 12-14 hours. The work will start at 10:00 p.m. on August 28, and it should be completed by noon on August 29. Users of IMAPServer2 and IMAPServer3 should be aware that these servers will undergo the same upgrade process in early September.

The upgrades will provide a number of benefits, including improved IMAPServer performance, improved Webmail with an address book, and Server side filters, which will allow the server to folder your mail rather than the client. All users will also get a new folder called "Tagged Spam" which will by default have all mail tagged by the spam filters moved to it.

Documentation will be [available online](#) shortly for the new features. If you have any questions or concerns please open up a ticket with the Computing Division Helpdesk.

In the News

From *Nature*, August 19, 2004

CERN: The show goes on

CERN, the centre for particle physics in Europe, has been smashing its way through the subatomic world for the past 50 years. Alison Abbott finds out what's in store for the future.

During CERN's routine maintenance shut-down in 1999, acrobats and mime artists turned one of the vast halls within the laboratory's 27-kilometre

August 16 - August 18

- During this 48 hour period Operations established two stores that contributed approx. 27 hours and 22 minutes of luminosity to the experiments.

- Booster had many GMPS problems
- The first attempt to establish a store on Monday after TeV turn on was aborted due to emittance and coalescing problems.
- Slipstacking is now the normal mode of operations for Main Injector and Pbar.
- The TeV quenched during the next shot setup

[View the current accelerator update](#)
[View the Tevatron Luminosity Charts](#)

Announcements

Monthly Leave Sheets Reminder

Monthly Time Leave Sheets are due in Payroll by 10:00 a.m. on Friday August 20, 2004.

New Book Purchase Suggestion Lists

New Book purchase suggestion lists for the week of August 17 are now [available online](#). These include Majors book lists in four subject areas. There is also an Amazon suggestion list in the form of a shopping cart, viewable by entering the password "library." Please email your book purchase recommendations from the Majors or Amazon lists, or from other sources to [Sandra Lee](#).

tunnel into a stage. Light and shadows played around the nine-storey cavern, illuminating a poetic ballet of aerial gymnastics. On ropes, trapezes and ledges, the performers enacted Paul Dirac's creative struggle with his 1920s theory of antimatter and his pessimistic belief that such theories could never be confirmed experimentally. In the show's final scene, the huge backdrop parted to reveal the DELPHI experiment, where for the past decade CERN physicists have been observing collisions between electrons and positrons, their antimatter counterparts.

[read more](#)