

Calendar

Thursday, June 16

Computer Security Training - 1 West

9 a.m. Basic Computer Security

10 a.m. Security Essentials for Desktop System Administrators

11 a.m. Dangers of Spyware and Phishing

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

Speaker: U. Baur, State University of New York, Buffalo

Title: Probing Electroweak Top Quark

Couplings at Hadron and Lepton Colliders

3:30 p.m. DIRECTOR'S COFFEE

BREAK - 2nd Flr X-Over

THERE WILL BE NO ACCELERATOR

PHYSICS AND TECHNOLOGY

SEMINAR TODAY

Friday, June 17

3:30 p.m. DIRECTOR'S COFFEE

BREAK - 2nd Flr X-Over

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

Speaker: C.-J. Lin, Fermilab

Title: Search for $B_s \rightarrow \mu^+ \mu^-$ and $B_d \rightarrow \mu^+ \mu^-$ Decays at CDF

Weather



Mostly Sunny 76°/51°

[Extended Forecast](#)

[Weather at Fermilab](#)

Current Security Status

[Secou Level 3](#)

Wilson Hall Cafe

Top Promotions for Six Scientists

On June 14, Fermilab Director Mike Witherell announced the promotion of six Fermilab scientists to the highest job category attainable by scientific personnel at the lab: Arlene Lennox was promoted to Applied Scientist III, and Roger Dixon, Joe Lykken, Paul Mantsch, Jim Strait as well as John Womersley were promoted to Scientist III. Their job promotion citations highlight the "substantial and sustained scientific contributions" these scientists have made to Fermilab, and how they have demonstrated "considerable and unusual leadership ability pertaining to the scientific or technical achievements of the laboratory," two of the criteria used in promotions to level III. *Fermilab Today* congratulates.

[Read more](#)

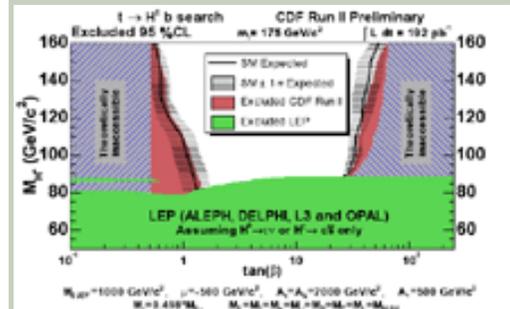
In Concert: Cascada de Flores



Cascada de Flores

Fermilab Result of the Week

Top Quarks are a Higgs' Best Friend



The CDF data exclude the values of $\tan \beta$ and charged Higgs mass shown in red. The white regions show values still to be searched. (Click on image for larger version.)

One of the most sought-after particles in high energy physics, the Higgs boson, has a key characteristic: it likes to be produced by (or decay into) particles with large mass. This is good news for physicists using the Tevatron for experiments, because they have access to the most massive particle known to exist--the top quark!

CDF scientists have recently combed over their sample of top quarks and carefully studied the "final state" particles observed in their detector when the tops decayed. The Standard Model (SM) makes precise predictions about the relative amounts of different particles one expects to observe in a sample of tops. The mix of these particles can be quite different from the SM, if top quarks sometimes decay into charged Higgs bosons (whose existence is predicted by supersymmetric, or SUSY, extensions of the SM).

The [CDF study](#) shows that so far the top quark books are balanced; the different

Thursday, June 16

Southwestern Chicken Tortilla Soup

Philly Style Cheese Steak \$4.85

Baked Fish w/ Roasted Leeks and Peppers \$4.00

Tomato Basil Chicken Parmesan \$3.75

Classic Cuban Panini \$4.85

4 Cheese Pizza \$3.00

Marinated Grilled Chicken Caesar Salads \$4.85

The Wilson Hall Cafe now accepts Visa, Master Card, Discover and American Express at Cash Register #1.

[Wilson Hall Cafe Menu](#)

[Chez Leon](#) is now open. Call x4512 to make your reservation.

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Info

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today@fnal.gov

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The Fermilab Arts Series presents Cascada de Flores on June 25, at 8 p.m. The four musicians of Cascada de Flores ("waterfall of flowers") present Mexican and Cuban music and dance, combining the sounds and styles of older popular and traditional music with a plethora of instruments: guitars, tres cubano, "guitarjón" (a baritone guitar made out of a cajón by Jorge Mijangos), flute, marimbol (a bass lamellaphone related to the African thumb piano), requinto and jaranas of Veracruz, donkey's jaw bone, feet, and cajón.

Tickets for Cascada de Flores are \$18 (\$9 for ages 18 and under). For further information or phone reservations, call 630-840-2787 weekdays between 9 a.m. and 4 p.m.

Computer Security Vulnerability in MSSQL

A common software package installed with many popular Microsoft Windows based products is the database program MSSQL/MSDE (Microsoft SQL Server or Microsoft SQL Server Desktop Edition). It is often installed as part of another software package without the user's knowledge. Examples of software which may install MSSQL are Visio, FoxPro, Visual Studio, OfficeXP, Backup Exec, Compac's Insight Manager, and McAfee products, among many others. Many computer security incidents at the lab have been associated with exploits of this package.

Two steps are being taken to reduce the lab's vulnerability. First, beginning on June 30, 2005, MSSQL services cannot be offered offsite unless the system administrator has implemented host restrictions to only allow access by

final states are present in the amounts predicted by the Standard Model. This yields information about the properties of a charged Higgs boson: either its mass is too heavy for a top quark to decay into it with any appreciable rate, or another quantity (such as the parameter "tan beta" in popular SUSY models) is conspiring to suppress its production.

The above figure shows values of tan beta and Higgs mass that can be ruled out from the CDF data. But note the white region that is still "up for grabs:" this is where the charged Higgs may be lurking, awaiting discovery.



The CDF analysis team for top decays into charged Higgs bosons (from left to right): Paul Tipton (Rochester), Ricardo Eusebi (Rochester) and Andy Hocker (FNAL). (Click on image for larger version.)

[Result of the Week Archive](#)

Accelerator Update

June 13-June 15

- During this 48 hour period Operations established no stores
- No NuMI magnet ground fault
- Pbar stack lost
- Feeder 38 and 47 reenergized
- Pbar Debuncher Cryo system ready

[Read the Current Accelerator Update](#)

[Read the Early Bird Report](#)

[View the Tevatron Luminosity Charts](#)

specific Internet hosts. Note that onsite access is not affected by this change and continues to be permitted. Second, scanning has started for blank and weak passwords on MSSQL accounts. In one recent computer security incident, a machine was compromised because a user had chosen the password "sa" for the sa account. Please choose strong passwords for all accounts. Systems which are detected by the scanner as failing to meet either of these new requirements will be blocked from the network until the configuration has been corrected.

PC managers and General Computer Security Coordinators have discussed these topics in several forums, and they will be able to help you if you have further questions. Additional technical details on this topic are [available online](#).

In the News

From *PhysOrg.com*, June 15, 2005

Ripples In Cosmic Neutrino Background Measured For The First Time

Astrophysicists from the Universities of Oxford and Rome have for the first time found evidence of ripples in the Universe's primordial sea of neutrinos, confirming the predictions of both Big Bang theory and the Standard Model of particle physics.

The discovery, made by combining data produced by the NASA WMAP (Wilkinson Microwave Anisotropy Probe) satellite and the Sloan Digital Sky Survey, confirms the predictions of both the Big Bang theory and the Standard Model of particle physics. The research has

Announcements

Third Thursday Lunchtime Cleanup

Volunteers for the Third Thursday Lunchtime Cleanup meet today at 11:45 a.m. at the Wilson Hall ground floor east-side entrance. The group will work along Kirk Road, from Pine Street south to Giese Road, followed by a picnic lunch.

Computer security training

The Fermilab Computer Security Team today offers three training sessions (see calendar). Especially summer students should attend.

Summer picnic and Cougar game

This Friday, June 17, is the registration deadline to order tickets for the Fermi picnic at the Kane County Cougar Stadium on July 30 for the Cougars vs Quad City Twins baseball game. The event is open to Fermilab employees, visiting researchers, retirees, on-site contractors and their immediate families and friends. The picnic will begin at 4:00 PM under the Fermilab tent. The game with reserved seating begins at 6:00 PM. The cost for the whole event is only \$12 per person, which includes game ticket and all-you-can-eat buffet. Registration forms can be found on the [Recreation Webpage](#). For information call x2548 or x5427.

Fermi Days at Great America

July 9, 10, 23 and 24 are Fermi Days at Great America. Purchase tickets in the Recreation Office for only \$25. General admission for adults is \$44.99. For information call the Recreation Office at x2548 or x5427. Tickets are not for resale.

[Upcoming Activities](#)

important implications for the study of neutrinos, showing that theories of the infinitely large (cosmology) and the infinitely small (particle physics) are in agreement.

[Read more](#)