

Calendar

Thursday, Feb. 26
THERE WILL BE NO
PHYSICS AND DETECTOR
SEMINAR THIS WEEK

2:30 p.m.

[Theoretical Physics Seminar](#) -

Curia II

Speaker: Johan Alwall, SLAC
National Accelerator Laboratory
Title: QCD Radiation and New
Physics Production at the LHC

3:30 p.m.

DIRECTOR'S COFFEE

BREAK - 2nd Flr X-Over

THERE WILL BE NO
ACCELERATOR PHYSICS
AND TECHNOLOGY
SEMINAR TODAY

4 p.m.

[Extreme Beam](#): Physics at the
Intensity Frontier Lecture
Series - One West

Speaker: Junji Hisano,
University of Tokyo

Title: Charged Lepton Flavor
Violation

Friday, Feb. 27

3:30 p.m.

DIRECTOR'S COFFEE

BREAK - 2nd Flr X-Over

4 p.m.

[Joint Experimental-Theoretical
Physics Seminar](#) - One West

Speaker: Mayly Sanchez,
Argonne National Laboratory

Title: Initial Study of $nm \rightarrow ne$
Transitions in MINOS

8 p.m.

[Fermilab Lecture Series](#) -

Auditorium

Tickets: \$5

Speaker: Dr. Angela Olinto,
University of Chicago

Title: Chasing Cosmic Bullets:
The Pierre Auger Observatory

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

Weather

Special Announcement

First Extreme Beam lecture today, 4 p.m. in One West



The first lecture in the Extreme Beam lecture series will take place today at Fermilab.

The first lecture of the Extreme Beam lecture series will take place at 4 p.m. today in One West. Junji Hisano, from the University of Tokyo's Institute for Cosmic Ray Research, will give a talk titled "Charged Lepton Flavor Violation."

The lecture series, which will feature talks at Fermilab throughout 2009, will give in-depth information about the science and accelerator and detector technologies that will create a world-leading physics program at the Intensity Frontier.

Visit the [Extreme Beam Web site](#) for more information.

Feature

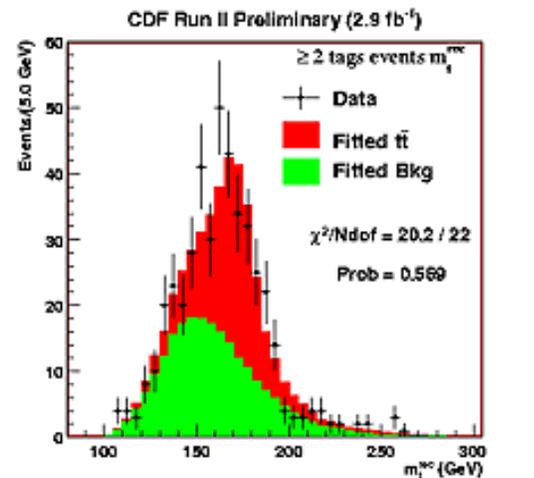
AAAS and AAPT talks now available online

This month, the American Association for the Advancement of Science hosted in Chicago one of the largest and most diverse science meetings in the United States. The conference coincided with the winter meeting of the American Association of Physics Teachers.

More than 40 scientists and teachers gave talks on particle physics, astrophysics and cosmology. A Fermilab Web site now offers pdf and PowerPoint files of most of these [presentations](#). Highlights include a session on physics at the intensity frontier, research with the Tevatron collider experiments; and particle physics experiments for high school students. Please share the site with your friends and

Fermilab Result of the Week

Seeing jets from the top



Distribution of the reconstructed top quark mass for signal events with at least two b-quark jets.

Even 14 years after its discovery, the top quark is largely terra incognita. Its heavy mass was the most surprising property at the time of its discovery, and is still a captivating topic. Nowadays, the precise knowledge of the top quark mass can be used to constrain the mass of another theorized special particle, the Higgs boson, but also it suggests a special role of the top quark in the particle family.

Most of the Tevatron collisions produce quarks or gluons, which appear in the detector as sprays of particles called jets. Top quarks on the other hand are produced only once in 10 billion collisions. They appear mostly in pairs, each decaying very quickly to a b quark and a W boson. B quarks produce long-lived particles whose decay products can be identified, allowing b jets to be "tagged." W bosons can decay into leptons, which are uncommon at a hadron collider such as the Tevatron. This helps to improve purity by removing background events that do not contain leptons.

Still, the W bosons usually decay into two quarks each; giving four jets in addition to the ones from b quarks. A CDF group used this signature, only based on jets, to isolate a sample of top quark events. After requiring b-tagged jets, they further cleaned up the event sample by exploiting the differences between the jets that originated from quarks and the jets that originated from gluons. Gluons are typically created in uninteresting collisions.

 Heavy rain
47°/25°

[Extended Forecast](#)
[Weather at Fermilab](#)

[Current Security Status](#)

[Secon Level 3](#)

[Wilson Hall Cafe](#)

Thursday, Feb. 26
- Tomato Florentine
- *Pork BBQ sandwich
- Pasta primavera
- Smart cuisine: chicken marsala
- Smoked turkey melt
- Assorted sliced pizza
- SW chicken salad w/roasted corn salsa

**Carb restricted alternative*

[Wilson Hall Cafe menu](#)

[Chez Leon](#)

Thursday, Feb. 26
Dinner
- Crab stuffed mushrooms
- Speckled trout meuniere with meuniere sauce
- Garlic cheese grits
- Corn maque choux
- Bread pudding with whiskey sauce

Wednesday, March 4
Lunch
- Italian sausage puttanesca -
Mixed green salad with tangy herb vinaigrette
- Berry filled brown sugar meringues

[Chez Leon menu](#)

Call x3524 to make your reservation.

[Archives](#)

people who are interested in particle physics.

[Photo of the Day](#)

Delegation from Hungary visits Fermilab



On Feb. 12 a Hungarian delegation toured Fermilab with Fermilab Deputy Director Young-Kee Kim and Assistant Laboratory Director Jeff Appel. Front row from left: Dr. Istvan Mezei, Dr. Jozsef Palinkas, Young-Kee Kim and Istvan Szemenyei. Back row: Sandor Feher, Jeff Appel, Elemer Nagy and Miklos Martin-Kovacs.

[Special Announcement](#)

Neutrino Summer School registration now open

The 2009 International Neutrino Summer School will take place at Fermilab July 6-17, 2009. The school is for advanced graduate students and recent post-docs. The registration deadline is April 30, but early application is advised as a limited number of places are available. More information and the online registration form are available from the school [Web page](#).

The summer school aims to cover the full breadth of neutrino physics topics, including both experimental and theoretical aspects. It will present an opportunity for participants to concentrate on the many aspects of the field that our community will address over the next few decades. We encourage young researchers, either currently engaged in neutrino physics or considering it, to attend the school. The school will present a series of formal lectures as well as more informal discussion and tutorial sessions. Participants will be housed at the nearby Pheasant Run resort. Funds may be available to partially support some participants.

Using this novel approach, CDF scientists achieved the highest purity ever obtained in this sample, and they were able to measure the top mass with the unprecedented precision for this [channel of 1.5 percent](#).

This measurement will help increase the overall precision on the knowledge of the top quark mass. Also, with a sample much cleaner than in the past, many additional studies using top quarks are now possible, and scientists hope to be surprised by the outcomes.

-- edited by Craig Group



From left: Luca Briigliadori, Bologna University; Andrea Castro, Bologna University; and Fabrizio Margaroli, Purdue University.

[Accelerator Update](#)

Feb. 23-25
- Three stores provided ~26.5 hours of luminosity
- MI damper problem found and fixed
- H- source brought online
- TeV quench - store 6829 lost

[Read the Current Accelerator Update](#)

[Read the Early Bird Report](#)

[View the Tevatron Luminosity Charts](#)

[Announcements](#)

Latest Announcements

[Sounding of outdoor sirens, March 2](#)

[SciTech Summer Camps](#)

[Outlook 2007 New Features class offered April 8](#)

[New electronic org chart](#)

[Summer student Program - Feb. 27](#)

[Deadline for The University of Chicago Tuition Remission Program - March 12](#)

[Have a safe day!](#)

[Fermilab Today](#)[Result of the Week](#)[Safety Tip of the Week](#)[ILC NewsLine](#)[Info](#)[Fermilab Today](#)

is online at:

www.fnal.gov/today/

Send comments and suggestions to:
today@fnal.gov

[In the News](#)**XFEL construction news**From the *European XFEL*, Feb. 25, 2009

Six weeks after the official start of construction, the schedule for the civil engineering work on the three construction sites near the German laboratory DESY has been sketched out.

At the DESY-Bahrenfeld site, around one third of 120 000 cubic metres of soil have already been removed. The tunnel boring machine will arrive here in July 2011. The modulator hall and the access halls above ground will be erected between June 2011 and October 2012. The large underground building for the injector complex will be realized by December 2012.

[Read more](#)[In the News](#)**2009 Energy and water appropriations**

From the U.S. House of Representatives, Feb. 25, 2009

Summary of the consolidated appropriations bill

KEY INVESTMENTS

DEPARTMENT OF ENERGY: \$27 billion, \$2.5 billion above 2008 to build on efforts in the American Recovery and Reinvestment Package to conserve and produce clean, efficient, American energy, and to improve nuclear security.

[Read more](#)

More details:

High Energy Physics. The bill provides \$795,726,000 for this program. Within this amount, \$27,766,000 is provided for the NuMI Off-Axis Neutrino Appearance Detector, a reduction of \$9,234,000 from the request in recognition of funding provided in Public Law 110-252, and \$3,200,000 is provided for EXO 200 neutrinoless double beta decay experiments to complete construction in 2009. The control level is at the High Energy Physics level.

[Read more](#)[Muscle Toning classes](#)[Kyuki Do classes - March 30](#)[Daycamp information and registration - deadline - Feb. 26](#)[The Pierre Auger Experiment - Lecture by Dr. Angela Olinto - Feb. 27](#)[English Country Dancing, March 1](#)[Sounding of outdoor sirens, March 2](#)[Introduction to LabVIEW class offered March 5](#)[Arianna String Quartet performs in Gallery Chamber Series -March 8](#)[On-Site Housing - Summer 2009 - deadline - March 9](#)[Fermilab Arts Series presents Solas - March 14](#)[Altium Designer Lunch and Learn seminar - March 17](#)[Excel 2007 Pivot Tables class offered March 18](#)[Access 2007: New Features class offered March 18](#)[PowerPoint 2007: Intro class offered March 19](#)[Bulgarian Dance Workshop, March 19](#)[URA visiting Scholars applications due March 20](#)[NALWO Adler Planetarium Trip March 21](#)[Child Care program offered - March 24](#)[Publisher 2007: Intro class April 1](#)[Conflict Management & Negotiation Skills class offered April 1](#)[Additional Activities](#)[Submit an announcement](#)

