

## Calendar

### Thursday, December 8

**9:30 a.m.** [Presentations to the Physics Advisory Committee](#) - Curia II

**11:00 a.m.** Academic Lecture Series - 1 West

Speaker: P. Langacker, Fermilab/  
University of Pennsylvania

Title: Tests of the Electroweak Theory –  
Lecture 4

**2:30 p.m.** Theoretical Physics Seminar - 1 West

Speaker: Z. Chacko, University of Arizona  
Title: Twin Higgs Theories

**3:30 p.m.** Director's Coffee Break - 2nd Flr X-Over

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

Speaker: R. Zwaska, University of Texas  
Title: Booster Cogging

### Friday, December 9

**3:30 p.m.** Director's Coffee Break - 2nd  
Flr X-Over

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

Speaker: S. Stone, Syracuse University  
Title: Leptonic and Semileptonic D-  
Decays at CLEO-C

### Saturday, December 10

**8:00 p.m.** ['Tis Christmas Now](#) – 16th &  
17th Century Holiday Music - Ramsey  
Auditorium

## Weather

## MINOS Reaches Milestone of 1E20 Protons on Target

*On Tuesday, December 6, 2005, the MINOS experiment reached a milestone of 1E20 protons delivered on target. Stan Wojcicki, the MINOS co-spokesperson, wrote the following letter to thank all for their hard work.*

### December 6, 2005:

The MINOS experiment has reached an important milestone of 1E20 protons on target, a new record in long baseline accelerator experiments. The number of events should be large enough to do world class analysis of oscillation parameters. The MINOS Collaboration realizes that this important goal could not have been reached without dedicated and beyond-call-of-duty work of many Fermilab employees. We would especially like to thank the many members of the Accelerator Division, who have made major efforts to achieve this accomplishment, as well as all of the other divisions who have provided strong and consistent support. We greatly appreciate our colleagues at Fermilab who worked hard for many hours to get us back on the air when different misfortunes struck our experiment. We feel very lucky to know that we can always count on them for maximum effort when the circumstances call for it.

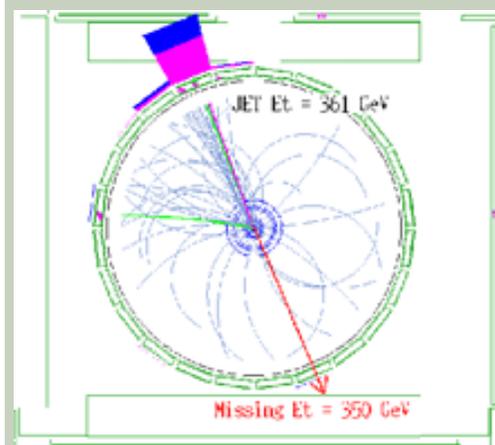
— Stan Wojcicki

MINOS Co-Spokesperson

## Science Grid This Week

## Fermilab Result of the Week

### CDF Gets the LED Out



An event display of one of the highest ET single jet events recorded by CDF in Run II. (Click on image for larger version.)

Exciting new theories have proposed that there are extra dimensions of space, beyond the normal three of everyday experience. These models of "Large Extra Dimensions" (LED) seek to explain the relative weakness of gravity, compared to the other known forces. While the extra dimensions of space cannot be too large, or otherwise they would have already been observed, their effects could be detected at high energy colliders like Fermilab's Tevatron.

CDF physicists have been searching for hints of these extra dimensions by studying events where the remains of a single quark or gluon seem to recoil against nothing. If the models are correct, the quark or gluon could be recoiling against one of the carriers of gravity that escapes undetected into the extra dimensions. CDF has recently released [a new result](#) using 368 pb<sup>-1</sup> of data that places limits on the possible size of the extra spatial dimensions.



Snow 20°/7°

[Extended Forecast](#)[Weather at Fermilab](#)**Current Security Status**[Secou Level 3](#)**Wilson Hall Cafe****Thursday, December 8**

- Santa Fe Black Bean
- Sloppy Joe
- Stuffed Peppers
- Sauteed Liver and Onions
- Baked Ham and Swiss on a Ciabatta Roll
- California Pizza
- Crispy Fried Chicken Ranch Salad

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

[Wilson Hall Cafe Menu](#)**Chez Leon****Thursday, December 8****Dinner**

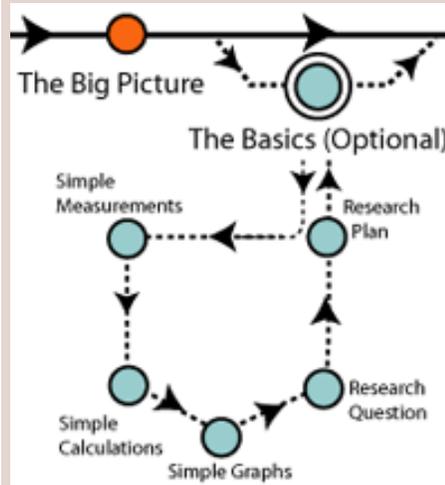
- Shrimp Bisque
- Quail in Pear
- Wild Rice w/Pecans & Currants
- Multicolor Julienne of Peppers
- Cranberry Cake

**Wednesday, December 14****Christmas Lunch**

- Spinach & Salmon Wellington w/White Wine Sauce
- Asparagus w/Lemon Zest
- Chocolate Raspberry Napoleon

[Chez Leon Menu](#)

Call x4512 to make your reservation.

**Grids in Class and at the Museum**

Part of the e-Lab study guide, a workflow for student learning. Image Courtesy of Liz Quigg.

Do people learn more about science when they experiment with real data? The leaders of the Interactions in Understanding the Universe initiative think so, and they are using the grid to get data from current experiments into classrooms and museums. "The idea behind I2U2 is to have a framework available so that when an experiment joins the grid, a toolkit and consultants will be ready to help them build a formal and informal educational program," said Marjorie Bardeen from Fermilab, one of the I2U2 principal investigators.

The I2U2 goal is to support and strengthen the education and outreach activities of grid-based scientific experiments. The project, recently funded by the National Science Foundation, will provide two options to scientists building an educational program: e-Labs, for use by students in a formal educational setting; and i-Labs for informal education, such as museum exhibits. The I2U2 team of teachers, scientists and grid developers is creating an e-Lab toolkit for use by scientific

The size of the extra dimensions depends on how many there are. The new limits on the largest possible size of the dimensions range from 0.36 mm if there are two, down to  $3.4 \times 10^{-11}$  mm if there are six, which is the most stringent limit from any experiment in the world.

While no definitive evidence for new dimensions of space has been observed yet, CDF will continue to look. As we accumulate more data in RunII, our sensitivity continues to improve, allowing us to probe ever smaller distances.



Pierre Savard and Pierre-Hughes Beauchemin of the University of Toronto. (Click image for larger version.)



Eric James and Kevin Burkett of Fermilab. (Click image for larger version.)

[Result of the Week Archive](#)[Accelerator Update](#)

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collaborations, and is piloting the i-Labs with the Chicago's Adler Planetarium.

[Read More](#)

**In the News**

### From *HindustanTimes.com*, December 6, 2005:

#### Recreating Big Bang to learn more about universe

A multi-nation effort at Geneva-based CERN laboratory to recreate conditions existing just after the Big Bang could give vital clues to the creation of the universe and help overcome prejudices against this widely held scientific theory, an eminent science writer said in Kolkata on Tuesday.

Through its Large Hadron Collider (LHC), which is expected to collide basic constituents of matter and recreate hot and dense conditions of Big Bang scenario, the European laboratory might also end up discovering new applications of the technique in particle physics, Simon Singh, BBC broadcaster and science writer, told newsperson on the sidelines of 'Big Bang The History Of The Universe' lecture.

[Read More](#)

**December 5 - 7**

- NuMI hits integrated total of 1E20 protons on target.
- CUB LCW leak.
- TeV sector A4 cryo system helium leak repaired.
- TeV sector B1 cryo system cold.

[Read the Current Accelerator Update](#)

[Read the Early Bird Report](#)

[View the Tevatron Luminosity Charts](#)

**Announcements****CDSsystem Status Page Moving**

The CDSsystem status page is moving on Thursday, December 8, 2005. [Click here](#) for the new link. NOTE: Both the old and new sites have been kept updated with system status information so you can change your links now if you choose to do so.

**Missing Box**

Dan Snee of Accelerator Division is looking for a box from Medco, p.o. #566077, that has been delivered to the wrong area. If you see this box, please contact Dan at x2988.

**Lederman Science Center Sale Today**

The Lederman Science Center will sell Fermilab logo items today from 11:00 a.m. to 1:30 p.m. just outside of 1-West in Wilson Hall. They will be selling fleece stadium blankets, award-winning science kits, fun science toys, mugs and knit caps. You may purchase the items with cash, check, Visa or Mastercard.

[Upcoming Activities](#)

