

Calendar

Thursday, January 27

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

Speaker: J. Santiago, Fermilab

Title: Gravity on Codimension 2

Braneworlds

3:30 p.m. DIRECTOR'S COFFEE

BREAK - 2nd Flr X-Over

THERE WILL BE NO ACCELERATOR PHYSICS AND TECHNOLOGY SEMINAR TODAY

Friday, January 28

3:30 p.m. DIRECTOR'S COFFEE

BREAK - 2nd Flr X-Over

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

Speaker: T. Diehl, Fermilab

Title: Recent Electroweak Physics

Results from DZero

Weather



Sunny 24°/3°

[Extended Forecast](#)

[Weather at Fermilab](#)

Current Security Status

[Secou Level 3](#)

Wilson Hall Cafe

Press Release: Fermilab Experiment Prepares to Send Its First Neutrinos to Minnesota



Completed MINOS Far Detector showing plate 485 in Soudan, MN (Click on image for larger version.)

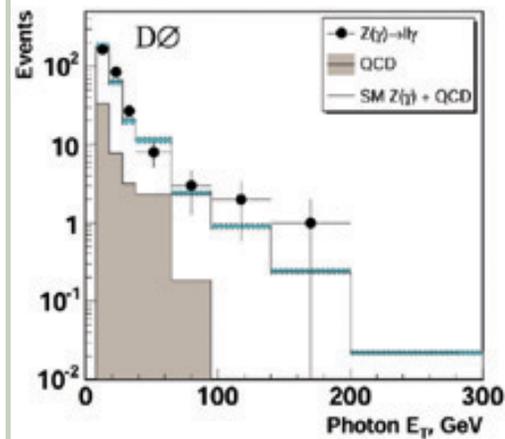
Scientists at Fermilab will begin a projected five-year experiment in early February, 2005 by sending the first batches of subatomic particles called neutrinos on a path through the earth from the laboratory, about 40 miles west of Chicago, to a detector located in the historic Soudan iron mine a half-mile underground in the northeastern corner of Minnesota, about 450 miles away.

Neutrinos are extremely abundant in nature - trillions of them are passing through us at any given moment. They interact with the atoms of ordinary matter so seldom that they can pass through air, water, rocks, or people without a trace. Neutrinos from cosmic rays go through the entire Earth, mysteriously morphing from one kind to another as they travel through space.

[read more](#)

Fermilab Result of the Week

Boson May Illuminate New Physics



Distribution of photon energy transverse to the beam direction in Z+photon events. The circles represent the data candidate events, the gray region represents the background, and the blue band represents the allowed Standard Model region. (Click on image for larger version.)

Z bosons and photons are carriers of two of the four fundamental forces of nature. Theory predicts that while the two may be produced together in a proton-antiproton collision, the Z boson and the photon do not directly interact with each other. Thus if an excess of Z+photon events is observed, it could be a sign of unexpected properties of the Z boson. Measurements of the Z+photon production cross section, and limits on the Z+photon couplings were made in Run I, by both the DZero and CDF Collaborations.

The much larger Run II data sample yields ten times as many Z+photon candidate events as found in Run I. DZero detects the Z+gamma events in final states where the Z boson decays into a pair of electrons or muons. DZero observes 290 candidate events, with a

Thursday, January 28

Southwestern Chicken Tortilla Soup

Philly Style Cheese Steak \$4.75

Baked Fish w/ Roasted Leeks and Peppers \$3.75

Tomato Basil Chicken Parmesan \$3.75

Classic Cuban Panini \$3.75

4 Cheese Pizza \$2.75

Marinated Grilled Chicken Caesar Salads \$4.75

[Wilson Hall Cafe Menu](#)

[Chez Leon](#) will be closed through January and February

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Fermilab Art Gallery Hosts Artist Reception for *Chicago Tribune* Photojournalist Pete Souza



Bison encounter snowmobiles in Yellowstone National Park. (Photo courtesy of Pete Souza) (Click on image for larger version.)

On January 28, the Fermilab Art Gallery will host an Artist Reception for Pete Souza, a *Chicago Tribune* photojournalist, from 5:00 p.m. to 7:00 p.m. on the second floor crossover. Originally published as a 12-page, all-color section in the *Tribune* in December 2003, the exhibit, "Environmental Battlegrounds," is a collection of photographs that focuses on the Bush administration's impact on the environment. For the majority of 2003, Souza traveled everywhere from Alaska to just outside Chicago to capture the perfect images for his project. "I wanted to give readers a sense of what these places are like," Souza said. "I also tried to come up with environmental issues that would be in the news for a while."

As a photojournalist for the *Chicago Tribune's* Washington D.C. bureau, "Environmental Battlegrounds" is a departure from Souza's usual political photographs. Souza was also an Official White House Photographer for President Ronald Reagan from 1983 to 1989. When the

background expectation of 46 events, in 0.3fb^{-1} of data. The data were searched for events containing a high energy photon, which might signal new physics. Observations are in good agreement with Standard Model theory predictions (as shown in the figure). Using the spectrum of the photons, limits were set on the coupling of the photon to the Z boson.



This measurement has been primarily conducted by Andrew Askew (Rice University, and now Florida State University), Andrew Alton (University of Michigan), and Yurii Maravin (Fermilab). In back are other members of the D0 Diboson group: Greg Pawloski (Rice), Michael Cooke (Rice), Sean Mattingly (Brown), Tom Diehl (FNAL) and James Degenhardt (Univ. of Michigan) (Click on image for larger version.)

[Result of the Week Archive](#)

Accelerator Update

January 24 - January 26

- During this 48 hour period operations established one store that provided approximately 26 hours and 31 minutes of luminosity to the experiments.
- Booster experts have been working on the machine's tune
- The Antiproton Source has trouble with ARF1

[Read the Current Accelerator Update](#)

[Read the Early Bird Report](#)

[View the Tevatron Luminosity Charts](#)

Announcements

former president passed away in 2004, Nancy Reagan personally asked Souza to photograph the funeral. "It was a very historic week," he said. "For me it was the final chapter for coverage of Reagan."

"Environmental Battlegrounds" will be on display in Fermilab's Art Gallery until April 1, 2005. Souza will also give a lecture about his exhibit immediately following the Artist Reception at 7:00 p.m. in One West. "I like doing projects like 'Environmental Battlegrounds' because it gets me out of the political scene for a little while," Souza said. "I'm very excited about this exhibit because not everyone saw it in the Tribune, and this is another chance for people to see the images."

[Fermilab Art Gallery](#)

In the News

From the *Stanford Report*, January 26, 2005

SLAC's SPEAR3 accelerator restarts after safety probes

By Neil Calder

The Stanford Synchrotron Radiation Laboratory's SPEAR3 facility completed its restart validation process last week, and Stanford Linear Accelerator Center (SLAC) Director Jonathan Dorfan, after consultation with the Department of Energy (DOE), gave the green light to restart operations. Dorfan had ordered the immediate suspension of operations of SPEAR3 and SLAC's principal high energy physics facility, the B Factory, after a serious electrical accident on Oct. 11, 2004.

[read more](#)

Winter & Spring Muscle Toning Class Schedule

Gain strength, lean body mass and increased muscle definition. The class schedule is February 15 - March 10, 4 week Class for \$32.00, March 22 - April 21, 5 week class for \$40.00 and April 26 - June 2, 6 week class for \$48.00 Classes are held on Tuesday and Thursday from 5:30 - 6:30 in the Recreation Facility Exercise Room. A Recreation Facility Membership is required. Deadline to register is the Friday prior to the start of the session.

Rhythm & Blues Musical with Fermilab Connections

A new rhythm & blues musical with music by Jamie Ellis of Geneva and book and lyrics by former Fermilab physicist Steve Delchamps is going to be presented at Steel Beam Theatre in St. Charles during February. The engagement is limited to two weekends: 2/11-2/13 and 2/18-2/19/ For reservations, call the Steel Beam Theatre at 630-587-8521.

[Upcoming Activities](#)