

Calendar

Thursday, December 16

2:30 p.m. Theoretical Physics Seminar
(NOTE LOCATION) - Conjectorium (WH-3NE)

Speaker: B. Grinstein, University of California, San Diego

Title: Precise Determination of V_{ub} from Exclusive B and D Decays

3:30 p.m. DIRECTOR'S COFFEE

BREAK - 2nd Flr X-Over

THERE WILL BE NO ACCELERATOR PHYSICS AND TECHNOLOGY SEMINAR TODAY

Friday, December 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: T. Han, University of Wisconsin

Title: Smoking Gun Signatures for Little Higgs Models at Hadron Colliders

Wilson Hall Cafe

Thursday, December 16

Minnesota Wild Rice with Chicken Soup

Tuna Melt on Nine Grain \$4.75

Breaded Veal with Mushroom Cream

Sauce \$3.75

Sweet & Sour Pork over Rice \$3.75

BLT Ranch Wrap \$4.75

Cheesy Breadsticks \$2.25

Winter Mix Salad \$4.75

[Wilson Hall Cafe Menu](#)

[Chez Leon](#)

Weather

NuMI Installation Workforce Appreciation Day



Mike Andrews thanks members of the NuMI Installation workforce last Wednesday morning. (Click on image for larger version.)

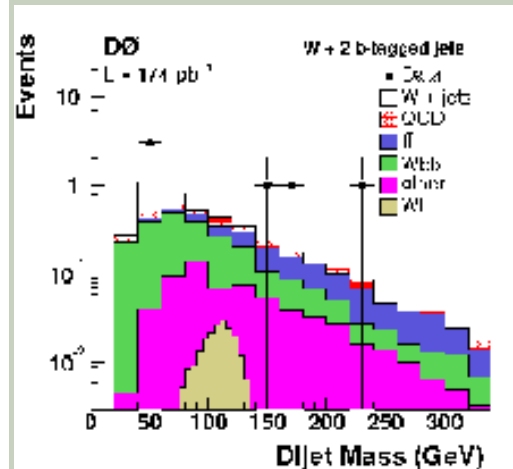
Early in the morning on December 8, more than 50 members of the NuMI Installation workforce gathered at MI-65 for a Workforce Appreciation Ceremony. Following a week of accomplishments for the NuMI collaboration, NuMI management recognized the project's time and material subcontractors: Taft, Prism, Arlington Electric, SEA Mechanical and Z&Z and project technicians. From magnets to detector planes to ventilation systems to water diversion, NuMI's time and material subcontractors and lab technicians transported and installed a large amount of equipment for the project successfully and safely.

"The project is slowly coming to an end, and we have had a successful couple of weeks, which is due in a lot of ways to you guys for your quality of work and safety performance," said Mike Andrews, NuMI Project ES&H Safety Coordinator.

NuMI Project Manager Greg Bock and Andrews served the sub-contractors breakfast and expressed their appreciation for everyone's efforts.

Fermilab Result of the Week

DZero Search for a Light Higgs Boson



Distribution of the dijet invariant mass for W + 2b-tagged events: the 6 observed events (black circles) are compared to the simulated standard model contributions (cumulative histograms). The expectation for a 115 GeV Higgs boson from WH production is also shown (brown histogram). (Click on image for larger version.)

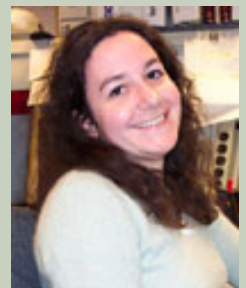
The Higgs boson is the last particle yet to be discovered in the Standard Model of particle physics, and its discovery would explain why the elementary particles have mass. The Higgs could be within reach at the Tevatron if it is not too heavy.

Examination of existing particle physics data suggests

that the Higgs has a mass less than 140 GeV/c² in which case it may be produced at the Tevatron in

association with another fundamental particle, the W boson.

DZero has just submitted for publication the results of the



Stephanie Beauceron of LPNHE, Universites Paris VI and VII, France has performed this analysis.



Chance Sprinkles/Flurries 40%/19%

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[Weather at Fermilab](#)

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[Secon Level 3](#)

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"Thank you for your continuous efforts," Bock said. "This is really turning out to be something that everyone at the lab notices."

NuMI Project Field Safety Coordinator John Cassidy also emphasized the project's safety record. Since the installation phase started in November 2003, the NuMI project has experienced only two OSHA recordable injuries neither resulting in lost time. "Our safety record is a direct result of the way you did your work," he said. "I appreciate it; the project appreciates it; and the lab appreciates it. Keep up the good work."

All workers enjoyed a breakfast buffet and were also presented with either a "Safety Champion" baseball cap or lunch cooler in appreciation for all of their hard work during the NuMI Installation phase of the Project.

NALWO Hosts Annual Holiday Tea



NALWO members enjoy holiday food at the annual tea on Monday. (Click on image for larger version.)

first Run II search for such a light Higgs. In this search DZero looks for events where the W boson decays to leptons and the Higgs boson decays to a b-quark,



Gregorio Bernardi of LPNHE, Universites Paris VI and VII, France has performed this analysis.

anti b-quark pair. The reconstructed mass of a hypothesized 115 GeV/c**2 Higgs is shown in the figure, but the real data unfortunately shows no evidence that this is happening.

This non-observation does allow DZero to set new limits on the W-Higgs production rate which is of intense scientific interest as it can set limits on theoretical ideas outside the standard model. Moreover, the sensitivity obtained with this search shows that if the machine performs well, and if nature is kind to us, we might indeed be able to see evidence or even discover the Higgs boson at the Tevatron.



Members of the international DZero muon group which designed, assembled, and operates the muon triggering and tracking system (covering an area equal to a football field) are pictured near a muon test stand. Group members include: (first row) Valeri Evdokimov (IHEP, Protvino, Russia), Petr Neustroev (PNPI, Russia), Bob Abrams (Indiana University), Al Ito (Fermilab); (second row) Markus Wobisch (Fermilab), Andrey Shchukin (IHEP, Protvino), Victor Abazov (JINR, Dubna), Gaston Gutierrez (Fermilab), Alejo Salles (Universidad de Buenos Aires). (Click on image for larger version.)

Gathered around a table spread out with Swedish saffran next to chocolate donuts and Russian confections next to chocolate chip cookies, about 40 women and children of the Fermilab community shared holiday foods from their families' traditions. The NALWO annual holiday tea, hosted on December 13 at the home of Beth Witherell, wife of Fermilab Director Mike Witherell, offered a way to bring together people who originally come from many different countries, to share a sense of belonging in the lab's physics community.

"This is a chance for women associated with the lab to get to know each other," said event organizer Susan Kayser. "Their kids can play with each other, as well. It's one of the few labs that does something like this, where people are invited to the Director's home."

NALWO has been putting on a holiday tea ever since Jane Wilson, wife of Fermilab Founding Director Robert Wilson, lived in the Director's home. "This event has been going on for longer than I can remember," said Selitha Raja, spouse of Fermilab physicist Rajendran Raja. "And I've been here since 1975."

Many of the women understand how important it is to create a welcome community among Fermilab families because many of them have traveled around the world to temporarily live in different areas. "When you come here, you don't know anybody," said Annamaria Feher, spouse of Sandor Feher of the Fermilab Technical Division. "When I came here, I didn't speak a word of English. It was really a nice way to ease into a different culture, and it's a

[Result of the Week Archive](#)

Accelerator Update

December 13-15

- During this 48 hour period, Operations established two stores. They provided approximately 21 hours and 54 minutes of luminosity for the experiments.
- The TeV suffered a quench due to a separator spark.
- TeV experts put the separators through a long conditioning mode.
- The Recycler stashed antiprotons.

[Read the Current Accelerator Update](#)

[Read the Early Bird Report](#)

[View the Tevatron Luminosity Charts](#)

Announcements

Lederman Science Center Holiday Schedule

The Lederman Science Center will be open December 20, 21 and 22 from 8:30 - 3:30 pm. and closed December 23 and 24. The following week the Center will be open December 27, 28 and 29 from 8:30 - 4:00 pm. and closed December 30 and 31.

Cashier's Office Holiday Schedule

The Cashier's Office will be closed December 23, 2004 thru January 03, 2005. Please submit all time sensitive payment requests no later than 10:00 a.m. on December 20, 2004.

Payroll Department Holiday Schedule

The Payroll Department will be closed December 23, 2004 thru January 2, 2005.

[Upcoming Activities](#)

wonderful platform to be introduced and ask questions. I have so many good friends now."

In the News

From the *Chicago Tribune*, December 15, 2004

State signs big hitters to boost accelerator bid

By Jon Van

Illinois Gov. Rod Blagojevich recruited two clout-heavy lobbyists Monday in an all-out drive to win a new \$1 billion research facility for Argonne National Laboratory.

Former Gov. James R. Thompson and William M. Daley, former secretary of commerce, will jointly lead a drive intended to win the rare isotope accelerator for Illinois.

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