

Calendar

Thursday, January 26

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

Speaker: E. Lunghi, Fermilab

Title: Analysis of Large Tan beta Effects in the MSSM from the GUT Scale

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

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

Speaker: L. Prost, Fermilab

Title: Progress of Electron Cooling at the Recycler

Friday, January 27

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

4:00 p.m. Joint Experimental Theoretical Physics Seminar - 1 West Speaker: R. Rossin, University of Florida

Title: Resonance Search from CDF

Weather



Sunny 40°/31°

[Extended Forecast](#)

[Weather at Fermilab](#)

Current Security Status

[Secou Level 3](#)

Wilson Hall Cafe

All Hands Meeting Friday 1:30 p.m. Ramsey Auditorium

Pier Oddone will announce an important new appointment at the laboratory at an All Hands meeting on Friday, January 27 at 1:30 p.m. in Ramsey Auditorium. He will also discuss the state of the laboratory and the on-going analysis of the laboratory organization, with plenty of time for questions and answers. Overflow seating will be available in One West, with audio and video provided. Streaming video is available [here](#).

Education Office Offers Family Open House, Feb. 19

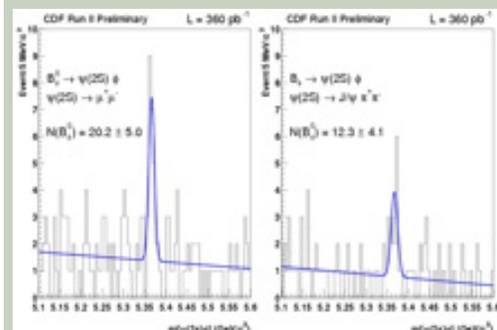


Visitors investigated physics concepts at last year's open house. (Click on image for larger version.)

This year's Education Office Family Open House will take place on Sunday, Feb. 19. The event offers free family-style hands-on activities and exhibits, make-and-take projects, science shows and tours. New this year will be a reprisal of Leon Lederman's "Late Show with Leon," which first appeared as a Web cast in the fall. Lederman will interview three young Fermilab physicists during a live show in Ramsey Auditorium. Also new this year will be a number of science shows adapted from the World Year of Physics

Fermilab Result of the Week

Strange Beautiful Meson Has a New Charming Mode



Mass distributions of Psi(2S) phi observed by CDF, where the Psi(2S) decays into two muons (left) and Psi(2S) decays into J/psi pi + pi- (right). The signal peak contains 20.2 +5.0 (left) and 12.3+-4.1 (right) events for the two decay channels, respectively. (Click on images for larger version.)

The $B_s/B_d/B_u$ mesons consist of a bottom quark and a strange/down/up anti-quark. They can decay to final states involving charmonium, a charm quark and anti-quark bound together by the strong force, in a bound state similar to the hydrogen atom. Just like the hydrogen atom, charmonium has a ground state and several excited states, such as Psi(2S) and J/Psi (or Psi(1S)), the latter being the first (or lowest energy) excited state of the charm anti-charm bound state. In the past, measurements have shown that the ratio of the branching fractions of B_d and B_u decay to the 2S final states over 1S final states are approximately the same, about 60 percent. This indicates that the ratio doesn't really depend on whether the B meson contains a down quark or an up quark. Does this "60 percent rule" apply to B_s meson containing a strange quark as well?

B_s to J/Psi Phi decay has been observed

Thursday, January 26

- Southwestern Chicken Tortilla
- Philly Style Cheese Steak
- Chicken Pot Pie
- Tomato Basil Chicken Parmesan
- Southwestern Turkey Wrap
- 4 Cheese Pizza
- Marinated Grilled Chicken Caesar
- Salads

[Wilson Hall Cafe Menu](#)

Chez Leon**Thursday, January 26****Dinner**

- French Onion Soup
- Grilled Swordfish with Tomato White Butter Sauce
- Broccoli with Lemon Zest
- Saffron Rice
- Marzipan with Chocolate Sauce

Wednesday, February 1**Lunch**

- Pork Tenderloin with Apple Salsa
- Chipotle Sweet Potatoes
- Almond Cake with Citrus Syrup

[Chez Leon Menu](#)

Call x4512 to make your reservation.

Search

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Info

classroom presentations.

The Ask-a-Scientist group will return to the 15th floor, back by popular demand.

"I remember being impressed last year when I walked onto the 15th floor and saw how engaged everyone was," said Spencer Pasero, an education specialist at Fermilab. "There were good, lively discussions going on and the scientists were really getting into it." Other returning popular events from last year's Family Open House include Mr. Freeze's cryogenics show, the Gravity Accelerator exhibit, and tours of the Linear Accelerator gallery and Main Control Room gallery. Plans for tours to additional sites are now being finalized.

The Family Open House will take place on Sunday, Feb. 19, from 12:00 to 5:00 p. m. The event is free but registration is required. All ages are welcome, but the open house is most appropriate for children in grade 3 and up. Tours are restricted to ages 10 and up. Participants can register [online](#). Contact Nancy Lanning at edreg@fnal.gov or 630-840-5588 for more information.

—Dawn Stanton

Science Grid This Week**OSG Ramps Up and Reaches Out**

Open Science Grid Consortium Meeting attendees.

so far, however, B_s to $\Psi(2S)$ ϕ decay has not been observed. If this 60 percent rule also applies to the B_s meson, then CDF should be able to observe the B_s to $\Psi(2S)$ ϕ decay. Indeed, CDF has now announced the first observation of this decay using only 360 pb^{-1} data, in both $\Psi(2S)$ decay into two muons and $\Psi(2S)$ decays into J/Ψ $\pi^+\pi^-$ channels. The analysis team also measured the ratio of the branching fractions between $B_s \rightarrow \Psi(2S)$ ϕ and $B_s \rightarrow J/\Psi$ ϕ , and finds that the "60 percent rule" indeed also applies to the B meson containing a strange quark.

Just like the B_s to J/Ψ ϕ decay, the B_s to $\Psi(2S)$ ϕ is also very interesting since it can be used to determine the lifetime difference of the long-lived (Heavy) and short lived (Light) B_s meson state. Observing the B_s to $\Psi(2S)$ ϕ decay will allow CDF to make an independent measurement of the lifetime difference in the future.



Above: Daejung Kong (middle), a graduate student from Kyungpook National University (Korea), observed the B_s to $\Psi(2S)$ decay for his Ph.D thesis. Dr. Kihyeon Cho (left) and Ted Liu (right), of Fermilab, are his "local" advisors.
Below: Prof. DongHee Kim is Kong's thesis advisor.

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More than 120 grid computing researchers and scientists traveled to the University of Florida this week for the third Open Science Grid Consortium meeting. This meeting, the first since the Open Science Grid's official launch in July, focused on establishing new partnerships with other grids and institutions, connecting the needs of grid applications with the realities of the grid facility, and transitioning to a new management structure.

[Read More](#)

In the News

DOE Press Release, January 25, 2006:

Department of Energy Supercomputers to Analyze Hurricane Coastal Surges, Help Plan Rebuilding in Louisiana, Gulf Coast

WASHINGTON, D.C. -- The U.S. Department of Energy's Office of Science has allocated 400,000 processor hours of supercomputing time at its National Energy Research Scientific Computing (NERSC) Center to the U.S. Army Corps of Engineers New Orleans District to run a series of simulations of hurricane protection projects within coastal Louisiana.

[Read More](#)



[Result of the Week Archive](#)

Accelerator Update

January 23 - 25

- Tevatron startup in progress.

[Read the Current Accelerator Update](#)

[Read the Early Bird Report](#)

[View the Tevatron Luminosity Charts](#)

Announcements

Service Award Luncheon Time Change

The 20 Year Service Award Luncheon for employees who completed 20 years of service in 2005 has been rescheduled for 11:30 a.m. on Friday, January 26. All 20 year celebrants are asked to gather in the Wilson Hall Atrium at 11:00 a.m. for a group photo before lunch. If you have questions, please call Jeannelle Smith on x4367.

[Upcoming Activities](#)

