Fermilab Today

Thursday, March 23, 2006

Calendar

Thursday, March 23

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

Speaker: E. Simmons, Michigan State University

Title: The Meaning of Higgs

3:30 p.m. DIRECTOR'S COFFEE BREAK - 2nd Flr X-Over

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

Speaker: T. Grumstrup, Pennsylvania State University

Title: Entry of Solids into Liquids

Friday, March 24

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. Burdin, Fermilab

Title: First Direct Two-Sided Bound on the Bso Oscillation Frequency

Weather

Scattered Flurries **40º/29º**

Extended Forecast

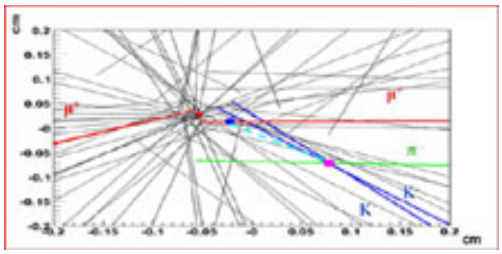
Weather at Fermilab

Current Security Status

Secon Level 3

Wilson Hall Cafe

Press Release: DZero Finds Clues to Antimatter Mystery in Quick-Change Meson



B_s mesons and their antiparticles are produced in pairs in high-energy proton-antiproton collisions. This computer representation shows the decay products of the short-lived candidate particle produced in a collision. The decay products are used to identify the B_s mesons produced in the collision. *(Image courtesy of DZero collaboration.)*

BATAVIA, Illinois-Scientists of the DZero collider detector collaboration at the Department of Energy's Fermi National Accelerator Laboratory have announced that their data on the properties of a subatomic particle, the B_s meson ("B sub s"), suggest that the particle oscillates between matter and antimatter in one of nature's fastest rapid-fire processes-more than 17 trillion times per second. Their findings may affect the current view of matter-antimatter asymmetry, and might also offer a first glimpse of the contributions of new physics, such as supersymmetry, to particle physics.

The DZero result, suggesting a preferred oscillation frequency between 17 and 21 times per picosecond (trillionth of a second), is described in a paper submitted to the journal, Physical Review Letters. The result, a measure of the

Director's Corner

Tritium Update

Pier Oddone

On March 20, Fermilab received a Violation Notice (VN) from the Illinois Environmental Protection Agency (IEPA) with respect to detection of tritium in Indian Creek in late 2005. This was the first time we had detected tritium in the creek in 30 years of environmental monitoring. Although the levels of tritium detected were extremely low and do not pose a threat to health or the environment, our existing National Pollutant Discharge Elimination System (NPDES) permit does not list tritium as a contaminant that may be present in our process waste stream. For this reason any release of tritium may be interpreted as a violation of our permit. One of the requirements of the VN is to submit within 30 days an amended application for a permit that lists any additional contaminants including tritium that may be present in our waste stream. Preparation of the application has begun.

We want to assure our employees and neighbors that nothing new regarding tritium has led to the issuance of the VN. We continue to report on the Fermilab web site the monitoring data for tritium in water leaving the site through Indian Creek. Fermilab is cooperating fully with the IEPA and shares the same goal as the IEPA: to ensure the ongoing protection of the waters of the State of

Thursday, March 23
-Southwestern Chicken Tortilla
-Philly Style Cheese Steak
-Chicken Pot Pie
-Tomato Basil Chicken Parmesan
-Southwestern Turkey Wrap
-4 Cheese Pizza
-Assorted Pizza
-Marinated Grilled Chicken Caesar Salads

Wilson Hall Cafe Menu

Chez Leon

Thursday, March 23
Dinner
-Bouillabaisse
-Watercress & Radicchio Salad
-Gran Manier Souffle

Wednesday, March 29
Lunch
-Northern Italian Lasagna
-Mixed Greens w/Tomatoes
-Olive Oil Almond Orange Cake

Chez Leon Menu
Call x4512 to make your reservation.

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Fermilab Result of the Week archive

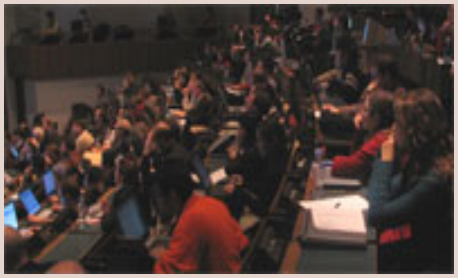
oscillation or "mixing" frequency of the particle, has a confidence level of 90 percent, and so does not qualify as a discovery. Physicists have agreed that claims of a discovery must have a confidence level of 99.99995 percent, indicating a 99.99995 percent chance that the result can be reproduced. The data for the DZero result were culled from one inverse femtobarn of total collision data, or more than one billion events from Fermilab's Tevatron particle accelerator -- a milestone capitalizing on the significant luminosity improvements in the Tevatron. The DZero result also sets the stage for future results. Within the next month or so, the CDF collider detector collaboration at Fermilab expects to have a result with greater precision than the DZero result.

Read Full Release

— Mike Perricone

Science Grid This Week

From Archaeology to Alzheimer's Disease on EGEE



User Forum participants attend a plenary session. Photo Credit Catalin Cirstoiu, CERN

Illinois. We are committed to addressing all issues raised by the IEPA in the VN.

Of course, we were not waiting for a VN to understand and manage the presence of tritium on our site. From the day we detected tritium in Indian Creek, we have been working aggressively to address tritium at the laboratory. Already, we have reduced the amount of tritium going into our cooling system by about half, and we are making changes to reduce it still further. Currently tritium monitoring data is below the detection limit in Indian Creek, and there is no detectable tritium in either Kress or Ferry Creeks. Long-term, however, we expect that managing low levels of tritium in our surface waters will be an ongoing reality.

Fermilab is committed to continuing our operations at well below regulatory limits for tritium. We will keep tritium levels in surface waters on the Fermilab site and discharges from the lab as low as reasonably achievable. As always, we will keep our employees and our neighbors fully informed and up to date on our progress. The latest monitoring data, the latest public fact sheet, and a copy of the VN can be found on the Fermilab web site.

Announcements

Fermilab Summer Day Camp
Registration for the Fermilab Summer Day Camp for children, ages 7 through 12 years, began March 1. Deadline to register is March 30. Entrance into the camp is made by lottery drawing on March 31. Camp sessions are as follows: Session I: June 12 - June 30, Session II: July 3 - July 21, Session III: July 24 – August 11. The fee for each three-week session is $265.00. A $100.00 per child/

Fermilab Safety Tip of the Week archive

Linear Collider News archive

Fermilab Today classifieds

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When the organizers of the EGEE User Forum started planning for the first event aimed at bringing the growing EGEE user community together, they expected at most 140 people to register. Imagine their surprise when more than 240 people registered to attend, and they receive more than 90 abstracts from a range of new and established applications.

"We got an amazing variety of abstracts submitted," said CERN's Massimo Lamanna. "Just glancing through the titles is really interesting, you see applications you'd expect-biology, high-energy physics-and others like online gaming and archaeology."

Read More

In the News

PhysOrg.com,
March 21, 2006:

First Results from DESY's New Free-Electron Laser

The first measuring period for external users at the new X-ray radiation source VUV-FEL at DESY in Hamburg (Germany) has been successfully concluded. Since its official startup in August 2005, a total of 14 research teams from ten countries have carried out first experiments using the facility's intense laser beam.

Read More

per session deposit is required at the time of registration. More information regarding the camp and registration forms can be found in the Recreation Office, Housing Office, Users Office and on the recreation web page or call the Recreation Office at x5427 or x2548.

English Country Dancing

English country dancing will continue at Fermilab's Barn, meeting the last Sunday afternoon of the month for March and April. The next session will be at 2 p.m., Sunday, March 26. All dances are taught and walked through, and you do not need to come with a partner. Info at 630-584-0825 or 630-840-8194 or folkdance@fnal.gov.

Upcoming Activities