Fermilab Today

Monday, July 25, 2005

Calendar

Monday, July 25
3:30 p.m. Director's Coffee Break - 2nd Flr X-Over
4:00 p.m. All Experimenters' Meeting - Curia II
PARTICLE ASTROPHYSICS SEMINARS WILL RESUME IN THE FALL

Tuesday, July 26
12:00 p.m. Summer Lecture Series - 1 West
Speaker: J. Womersley, Fermilab
Title: Collider Detectors and Collider Physics
3:30 p.m. Director's Coffee Break - 2nd Flr X-Over
THERE WILL BE NO ACCELERATOR PHYSICS AND TECHNOLOGY SEMINAR TODAY

Weather

Chance Thunderstorms 92º/72º

Extended Forecast

Weather at Fermilab

Current Security Status

Secon Level 3

Wilson Hall Cafe

E-Cooling Returns Positive Results Ahead of Schedule

Electron cooling of relativistic antiprotons was recently observed for the first time at the Fermilab Recycler.

Last week, members of the Recycler Department/Ecool Group officially confirmed the first observation of electron cooling of relativistic antiprotons. The group saw the first evidence of interactions between an antiproton beam and an electron beam in the Recycler on Saturday, July 9. The scientists performed a second, and equally successful, study on the following Monday, July 11, with a smaller emittance anti-proton beam, which led to the official confirmation at the All-Experimenters Meeting a week later.

In electron cooling, beams of electrons and antiprotons circulate together at the same speed. Mixing the "hotter" antiprotons interact with the "colder" electrons cools the beam of antiprotons in the same way that hot gas is cooled when it is mixed with cold gas. The e-cooling results in a

Safety Tip of the Week

Watch Out for Wasps!

Paper wasps build their nests out of wood that has been chewed up. These nests can be found in almost any sheltered location.

Wasp season is here. Fermilab's Medical Department has seen a dozen sting cases in the past two weeks. Most victims experience a few days of pain and swelling, though allergic response or infection are possible. Though there are many types of bees and wasps at Fermilab, yellow jackets and paper wasps are the main offenders. These tend to nest in people places and become aggressive when disturbed.

As head of Fermilab's Roads & Grounds, Mike Becker deals with outdoor hazards on a daily basis. Mike advises his crews to first walk through their work area, inspecting places where wasps are likely to build their nests such as small cavities, hollow posts, overhangs, and loose stacks. If activity is observed, they determine whether a wasp encounter can be completely avoided by modifying or delaying the task. If this is not possible, the safest thing to do is kill

Monday, July 25
Wisconsin Cheese Soup
Corned Beef Reuben $4.85
Stuffed Chicken Breast $3.75
Shepherd's Pie $3.75
Turkey Craisins Wrap $4.85
Meat Lover's Pizza $3.00
Pacific Rim Rice Bowl $4.85

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

Wilson Hall Cafe Menu
Chez Leon is now open. Call x4512 to make your reservation.

Search

Search the Fermilab Today Archive

search

Info

Fermilab Today is online at:
http://www.fnal.gov/today/

Send comments and suggestions to
today@fnal.gov

Fermilab Today archive

Fermilab Today PDF Version

Fermilab Result of the Week archive

Fermilab Safety Tip of the Week archive

Linear Collider News archive

Fermilab Today classifieds

Subscribe/Unsubscribe to Fermilab Today

smaller beam that is "easier to manipulate and accelerate," said Sergei Nagaitsev, head of the Recycler Department. "But the biggest potential of e-cooling at Fermilab is to do all the final cooling in the Recycler." Currently, antiprotons are produced and cooled by another method in Fermilab's Accumulator, but as the number of stored antiprotons increases, the rate of production goes down. "Shifting the burden of cooling from the Accumulator to the Recycler leaves the Accumulator essentially empty," and it can collect antiprotons at the highest possible rate, explained Nagaitsev. Ultimately, more antiprotons will result in more collisions at the Tevatron.

E-cooling is already a proven method at lower energies, and is used at other laboratories. Fermilab is the first lab to demonstrate e-cooling at high energies, operating the electron beam at 4.3 MeV. The system has been in development for ten years, and some group members have been studying the topic even longer. For example, Nagaitsev began working on high-energy e-cooling as a graduate student, and came to Fermilab in 1995 specifically to design the Recycler's e-cooling system. Ironically, he was on vacation in Michigan when the initial demonstration occurred. "It was very tempting to turn around and go back, but the project team was fully capable of doing without me," he said.

After further improvements to the system, e-cooling will become a regular feature of the Recycler later this year. "If e-cooling works like we want it to, we could increase the peak

the insects. Where practical, the nest is often removed to reduce the likelihood of a rebuild.

If you have a wasp problem, you can contact Roads & Grounds for assistance at x3303. They can provide advice and schedule a visit from the Lab's pest control contractor that comes to Fermilab every Monday. Alternatively, you can try to deal with the wasps yourself. The Fermilab stockroom has a spray that is effective for bees and wasps (Stock #1950-101000). Note to do-it-yourselfers: Whatever you use, follow the instructions and make certain it is formulated to work on wasps. Other insecticides will only agitate the wasps.
Safety Tip of the Week Archive

Accelerator Update

July 20 - 22
During this 48 hour period, Operations established two stores that combined with an existing store provided the experiments with approximately 25 hours and 19 minutes of luminosity
- MiniBooNE has data acquisition trouble
- Feeder 47 tripped off
- TeV aborts store 4287
- TeV quench due to power supply trip

Read the Current Accelerator Update
Read the Early Bird Report
View the Tevatron Luminosity Charts

Announcements

luminosity by a factor of one-and-a-half to two," said Roger Dixon, head of the Accelerator Division.

--Elizabeth Wade

In the News

From *Wisconsin Public Radio*, July 20, 2005

New Computing System Dedicated in Milwaukee

Scientists are excited about a new computing system being dedicated in Milwaukee on Wednesday (7/20). They say the Open Science Grid will also bring good things for non-scientists. Chuck Quirmbach reports.

Listen (Running time 1:45)

Please note that you will need RealPlayer to listen to this story.

From *Black Hills Pioneer*, July 21, 2005

Awards for DUSEL Announced

The National Science Foundation has selected two sites for conceptual design studies for a Deep Underground Science and Engineering Laboratory (DUSEL). The two selected sites are the Homestake Mine in South Dakota and the Henderson Mine in Colorado. Each team will receive $500,000 to produce a conceptual design for a possible DUSEL at those locations.

Read more

Scottish Country Dancing

Scottish Country Dancing will meet Tuesday, July 26, in Ramsey Auditorium in Wilson Hall. Instruction begins at 7:30 p.m. and newcomers are always welcome. Most dances are fully taught and walked through, and you do not need to come with a partner. Dancing will continue in the Auditorium through the summer. Info at 630-840-8194 or folkdance@fnal.gov.

International Folk Dancing

International Folk Dancing will meet Thursday, July 28, in Ramsey Auditorium in Wilson Hall. Dancing begins at 7:30 p.m. with teaching earlier in the evening and request dancing later on. Newcomers are welcome and you do not need to come with a partner. Dancing will continue in the Auditorium through the summer. Info at 630-584-0825 or folkdance@fnal.gov.

Fermilab Arts Series

Join us as three outstanding World Dance groups take the stage for an evening of Irish, Indian and Ukrainian dance on Saturday, August 6, 2005 starting at 8 p.m. in Ramsey Auditorium. Tickets for the World Dance Showcase are just $18 ($9 for ages 18 and under). For further information or telephone reservations, call 630/840-ARTS (2787) or visit our webpage.

Upcoming Activities