Fermilab Today

Friday, Nov. 14, 2008

Calendar

Friday, Nov. 14
3:30 p.m.
DIRECTOR'S COFFEE BREAK - 2nd Flr X-Over
4 p.m.
Joint Experimental-Theoretical Physics Seminar - One West
Speaker: Wade Fisher, Fermilab
Title: On the Road to the Higgs: Evidence for Semileptonic WW/WZ Decays at DZero
8 p.m.
Fermilab Lecture Series - Ramsey Auditorium
Speaker: Adrienne Kolb
Title: Facing the Frontier: Fermilab 1967 - 2008

Monday, Nov. 17
2:30 p.m.
Particle Astrophysics Seminar - Curia II
Speaker: Adam Lidz, Harvard-Smithsonian Center for Astrophysics
Title: Future Probes of Hydrogen Reionization, Current Probes of Helium Reionization
3:30 p.m.
DIRECTOR'S COFFEE BREAK - 2nd Flr X-Over
4 p.m.
All Experimenters' Meeting - Curia II
Special Topics: Pinged Extracted Beam from the MI; T-980 Crystal Collimation Tests in the Tevatron

Click here for NALCAL, a weekly calendar with links to additional information.

Weather

Chance of showers
52°/33°

Extended Forecast
Weather at Fermilab

Announcement

No-parking areas will save salt, labor and money

These lime-green cones will mark the special no-parking areas during the winter.

Every winter, FESS Roads and Grounds crews clear more than 85 parking lots across the Fermilab site. In fact, our crews haveplowed more paved parking areas than actually used by employees and users. An extensive study revealed that the crews plowed 36 percent more parking spaces than the laboratory needed on a busy day.

In an effort to streamline our parking lot plowing operations without jeopardizing safety, FESS Roads and Grounds met with building managers across the laboratory to review the parking lot snow removal program. Together, we identified about 30 parking lots where concentrated parking of vehicles will reduce the area that needs to be plowed this winter while maintaining safe access to buildings and vehicles.

The week after Thanksgiving, we will mark the areas that will not receive snow removal service during this winter season with lime-green, highly visible cones.

The cones will designate the areas as no-parking zones throughout the winter season. No vehicles may park in the marked zones. The cones will remain in place until the second half of March. Fermilab security personnel will monitor the no-parking areas.

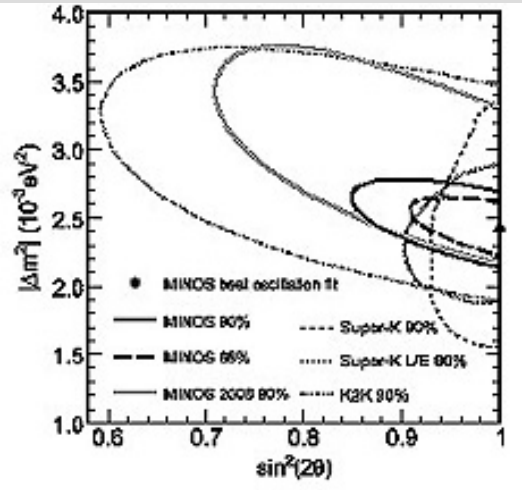
Establishing these no-service areas will allow for better and more frequent snow removal efforts in high-priority snow removal locations while still reducing overall cost. In addition, the use of less salt and less fuel will have a positive environmental effect.

If you have questions about parking during the winter season, please contact the building manager for your work area.

Press release

Special Result of the Week

Neutrino: Wave or particle?



The MINOS experiment has shown that as neutrinos oscillate from one type to another they act a lot like waves.

The MINOS experiment has shown that as neutrinos oscillate from one type to another they act a lot like waves. The experiment, which sends a beam of neutrinos from Fermilab to a detector in northern Minnesota, confirmed in 2006 the Super Kamiokande discovery that neutrinos disappear in flight. Now, MINOS confirmed that the neutrinos' disappearance arises from the wave phenomenon of oscillations.

MINOS is a large scale replay of Thomas Young's famous 1801 double slit experiment. Young was then in a debate with Isaac Newton about whether light is a wave or a particle. Particles, when added together, give us more particles. Waves, when added together, can add to each other or cancel one another out to give us nothing. (Think of noise-canceling headsets.)

Young's experiment passed light through slits in a pair of barriers (see figure on additional page). The first barrier's single slit (a) gave a source of light. The second barrier's two slits (b) created two light beams from that source. If light is a wave, those two beams when combined could either add to or cancel one another on their paths to a screen. Thus, an observer at a remote location (d) might see either bright light or no light at all. The interference pattern that Young observed seemed to confirm that light is indeed a wave.

Current Security Status

Secon Level 3

Wilson Hall Cafe

Friday, Nov. 14
- Spicy beef & rice soup
- Corned beef reuben
- Honey dijon glazed pork loin
- Vegetable lasagna
- Chicken oriental wrap pineapple
- Assorted sliced pizza
- Pacific Rim rice bowl

Wilson Hall Cafe Menu

Chez Leon

Thursday, Nov. 13 Dinner
- Closed

Wednesdsay, Nov. 19 Lunch
- Asian grilled flank steak with rice noodles and vegetables
- Coconut caramel cake

Chez Leon Menu

Call x3524 to make your reservation.

Archives

Fermilab Today

Result of the Week

Safety Tip of the Week

ILC NewsLine

Info

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

Send comments and suggestions to: today@fnal.gov

World's largest cosmic-ray observatory inaugurated

A surface detector station with the Andes in the background at the Pierre Auger Observatory in Malargüe, Argentina.

Scientists of the Pierre Auger Observatory, a project to study the highest-energy cosmic rays, will celebrate the inauguration of their 3,000-square-kilometer detector array at the southern site of the observatory in Malargüe, Argentina, this Friday, Nov. 14, 2008. The event will mark the completion of the first phase of the observatory construction and the beginning of the project's second phase, which includes plans for a northern hemisphere site in Colorado, USA, and enhancements to the southern hemisphere site.

The inauguration celebration in Argentina will begin with an informal reception on November 13. A symposium on Friday, Nov. 14, will include presentations on the origins of the project, the construction of the experiment and the latest science results.

The Pierre Auger Observatory is exploring the mysteries of the highest-energy cosmic rays—charged particles showering the Earth at energies 10 million times higher than the world's highest-energy particle accelerator. Until now, there has been no consensus on the origin of these highest-energy cosmic rays.

Read more

The neutrinos in the MINOS experiment show a similar wave behavior to Young's experiment. Neutrinos produced or detected in experiments are one of three types, the electron neutrino, ν_e, muon neutrino, ν_μ, or tau neutrino, ν_t. The MINOS experiment begins with a source of muon neutrinos.

A "neutrino slit experiment" occurs because these obscure particles are so massive. Since neutrinos have mass, they could also be labeled as ν_1,ν_2, ν_3 (light, middle, heavy). The indivdual mass states cannot be detected in nature, and any muon neutrino produced in a neutrino beam is really a superposition of all three mass types. By the time the neutrinos arrive at the MINOS detector in Minnesota they add up in different ways - like the light waves in Young's experiment - and are observed as either ν_e, ν_μ, or ν_t. Because the MINOS detector sees only muon neutrinos, those neutrinos that combine as either electron or tau neutrinos appear to be lost, resulting in a deficit of muon neutrinos.

Read more

Announcements

Have a safe day!

Public lecture on history of Fermilab today at 8 p.m.

Join Fermilab volleyball, training

Barn dance Sunday, Nov. 16

NALWO Thanksgiving feast Nov. 17

Annual Enrollment Nov. 17 - Dec. 10

English Country Dancing, Nov. 23

Director's volunteer award Nov. 25

Exciting Explorations! child care program offered Nov. 24-26

Additional Activities

Submit an announcement

Classifieds
Find new classified ads on *Fermilab Today*.