

Calendar

Monday, November 14

2:30 p.m. Particle Astrophysics Seminar
- Curia II

Speaker: S. Profumo, California Institute of Technology

Title: TeV Gamma-Rays and the Largest Masses and Annihilation Cross Sections of Neutralino Dark Matter

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

4:00 p.m. All Experimenters' Meeting -
Curia II

Special Topic: Recent Progress on ILC Test Area

Tuesday, November 15

11:00 a.m. Academic Lecture Series - 1
West

Speaker: C. Quigg, Fermilab

Title: The Electroweak Theory and Higgs Physics – Lecture 5

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

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

Speaker: H. Damerau, GSI, Darmstadt

Title: Creation and Storage of Long and Flat Bunches in the LHC

Weather



Chance of Rain **49°/37°**

[Extended Forecast](#)

[Weather at Fermilab](#)

Current Security Status

MuCool Project Receives New RF Cavity for Testing



Alan Bross examines the new 201 MHz cavity. (Click image for larger version.)

Fermilab's MuCool project has received a new radiofrequency cavity in the effort to develop accelerator technology for a neutrino factory and possibly a muon collider. With the goal of creating compact muon beams, MuCool physicists eventually will test accelerating capabilities of the new 201 MHz cavity along with an older 805 MHz cavity and liquid hydrogen absorbers. The MuCool project is part of the Neutrino Factory and Muon Collider collaboration, which includes particle and accelerator physicists from U.S., Japanese and European laboratories and universities.

Muons can be used to produce intense beams of neutrinos. However, muon beams are large and diffuse, too big to fit into an accelerator. To solve this problem, the Muon collaboration hopes to use a process called muon-ionization cooling. "The concept is to take a beam of muons which is large and has lots of angles and squeeze that into a very small, very tight, highly focused beam that you can fit into an accelerator," said MuCool spokesman Alan Bross. The process relies on two components: liquid hydrogen absorbers, which reduce the

Safety Tip of the Week

ES&H perspectives with Jack Hawkins: People are the Key



Accommodations Manager Jack Hawkins stands in front of the Housing Office in the Fermilab Village. (Click image for larger version.)

Jack Hawkins has been the Accommodations Manager in Laboratory Services Section for about five years. This assignment carries responsibility for the Housing Office, Daycare, Users' Center/Office and Food Service. He is also the SSO for Lab Services. This latter role is a good fit since, before coming to Fermilab, Jack worked a decade as an occupational safety and health professional in the steel industry. As Accommodations Manager, he has developed the following "secrets to success" for dealing with the ES&H problems that go with this assignment.

"Initiate" service and construction subcontractors - Work planning does not always need to be formal, but it does need to be done. Jack and the other Accommodations personnel take time to meet subcontractors at their work location and review planned activities. He also checks that they understand local

[Secon Level 3](#)**Wilson Hall Cafe****Monday, November 14**

- Minestrone
- Chicken & Mushroom Cheese Steak
- Baked Chicken Enchiladas
- Pot Roast
- BLT Ranch Wrap
- Assorted Slice Pizza
- Chicken Stir Fry

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

[Wilson Hall Cafe Menu](#)

Chez Leon**Wednesday, November 16****Lunch**

- Rouladen
- Buttered Dill Egg Noodles
- Pickled Carrots
- German Chocolate Cake

Thursday, November 17**Dinner**

- Vol-au-Vents w/Mushrooms
- Stuffed Filet of Sole w/Crabmeat
- Vegetable Medley
- Maple Walnut Cake w/Maple Glaze

[Chez Leon Menu](#)

Call x4512 to make your reservation.

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spread of the beam in transverse directions, and radiofrequency cavities, which reaccelerate the muons in the longitudinal (forward) direction. The process is repeated many times to make a narrow, high-density beam.

Although the MuCool project doesn't actually execute this cooling process, it tests the equipment to be used. The 201 MHz cavity, which Bross calls a "real beast," is the latest apparatus submitted for testing. The RF cavity, designed at Lawrence Berkeley National Laboratory, was recently completed and tested at low power at Thomas Jefferson National Accelerator Facility and sent to Fermilab for further testing. It was designed at Lawrence Berkeley National Laboratory. MuCool experimenters will begin testing the 805 MHz cavity first, while preparing for testing on the more complex 201 MHz cavity. "Just getting the cavity set up, getting all of the instrumentation support for it is a big deal," Bross said. "That's why we started with the 805."

The MuCool project accompanies the Muon Ionization Cooling Experiment (MICE) at the Rutherford Appleton Laboratory. The project, which received funding approval in March, will actually attempt to measure muon-ionization cooling in a muon beam currently under construction at Rutherford. Fermilab is helping to develop the components of the cooling channel and detector instrumentation for MICE. "The two experiments are distinct, but complementary," Bross said. "The collaborations have a tremendous overlap."

—Kendra Snyder

requirements including the Lab's emergency phone number and emergency exits.

Tidy chaos - Housekeeping takes on extra importance when the work environment is constantly changing. For example, most things in the Cafeteria are moving at any given time: packaging, food, waste, trays, utensils and people. Because of that, less obvious hazards can easily go unnoticed by workers. Jack emphasizes prompt spill clean up and good housekeeping for groups involved in food handling.

Minimize lifting - Daycare workers are encouraged to get down to the child's level first, rather than picking them up right away. In the Cafeteria, soft drink syrup bags were relocated from the floor to higher, more manageable levels. The Housing group also works with delivery personnel to minimize the number of times materials have to be moved from location to location.

Jack believes that Integrated Safety Management (ISM) is not just a catchphrase. The concept of integrating safety into all of the processes here at the lab challenges us all to broaden our approach to our work tasks. "Safety should not be viewed as a separate function, but become part of every aspect of our work life."

In parting, Jack commented that it is remarkable how Fermilab is just like a steel mill when it comes to managing safety: "It all comes down to people."

[Safety Tip of the Week Archive](#)

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In the News

From *Interactions*. **Org November 11, 2005: Open Science Grid Consortium Press Release Open Science Grid Technology and Applications Featured at SC|05**

The Open Science Grid, a nationwide community grid built by research groups from United States universities and national laboratories, will showcase advanced grid technologies and innovative scientific applications at SC|05, the premier international conference on high performance computing, networking and storage.

Presentations and demonstrations at 13 booths will show how scientists from diverse fields contribute manpower and resources to the OSG and benefit from easy access to local and remote resources, testing and production environments for middleware and applications, and a common computing infrastructure. Over 20 member organizations representing more than 50 institutions and hundreds of researchers contribute to the OSG and benefit from access to shared resources worldwide, including over 10,000 CPUs and many terabytes of data storage.

The U.S. Department of Energy's Fermi National Accelerator Laboratory and Stanford Linear Accelerator Center exhibit, Booth 302, is dedicated to the OSG as well as the high-performance networking, computing and scientific advances from the two national laboratories. OSG-related demonstrations and presentations at SC|05 will include:

Accelerator Update

November 9 - 11

- Two stores provided 41 hours and 11 minutes of luminosity.
- NuMI problems
- Electron Cooling back in action.
- **Store 4495 sets New Luminosity Record: 166E30.**

[Read the Current Accelerator Update](#)

[Read the Early Bird Report](#)

[View the Tevatron Luminosity Charts](#)

Announcements

Holiday Book Fair

Your ONE STOP SHOPPING for the Holidays. The Fermilab Recreation will sponsor its annual Holiday Book Fair, hosted by Books are Fun, in the Atrium on Tuesday, November 29 from 10:00 AM until 6:00 PM and on Wednesday, November 30 from 7:00 AM until 3:00 PM. The Book Fair accepts cash, check, MasterCard, Visa, American Express, and Discover card. Be sure to tell your spouse and mark your calendars now. A portion of the proceeds from the Book Fair subsidizes some of our Recreation Programs.

Film Development

For Film, Disposable Cameras and Digital Prints Fermilab Recreation offers the convenience of film developing through the Sundance Photo Developing Company. Many types of photo finishing services are available. Film developing, disposable camera developing, enlargements, posters, black & white, slides, and digital is available at competitive pricing. Digital order forms are now available. Any questions, please contact the Recreation Office, x5427 or x2548. For more information go to [the](#)

a. Astronomy and astrophysics: Sloan Digital Sky Survey astronomers are running several applications on the OSG, including a search for near Earth objects and the processing of tens of thousands of spectra to determine the properties of quasars. LIGO physicists use the OSG to search for gravitational waves from the binary inspiral of neutron star systems

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Movie tickets

AMC movie tickets make great stocking stuffers. Tickets are only \$5.75. Save up to \$3.75 per ticket. Tickets do not expire until March 2007. Tickets are not valid for shows stipulating no passes. Purchase up to 10 tickets at a time. Cash, check, Visa or MasterCard is accepted.

[Upcoming Activities](#)