

## Jefferson Lab Weekly Briefs

August 29, 2007

### 12 GeV Upgrade

Five of the seven new superconducting magnets for the 12 GeV Upgrade will be built for the Super-High Momentum Spectrometer (SHMS) in Hall C. The most critical component of these magnets is the multi-strand superconducting wire, which is used to make the high magnetic fields of several Tesla in magnitude. For these magnets, Jefferson Lab will make use of wire originally fabricated for the Superconducting Super Collider (SSC). For optimal use in two of the magnets, some of the wire has been slightly re-shaped from a keystone to a rectangular cross-section. Samples of the wire have been tested at a highly specialized facility at Brookhaven National Laboratory, and all test results indicate that both the original and the re-shaped wire are more than adequate to handle the required current.

### Physics

In Hall C, most of the major installation cabling work for the  $G^p_E$  experiment has been completed. During the course of the  $G^p_E$  experiment, the BigCal electron detector must be moved several times. BigCal was recently moved to test out the moving procedure in the detector's fully cabled configuration and to place it at the correct position for the first data point. De-installation of parts of the G0 experiment is continuing. The G0 magnet power supply has been removed from the hall, and cryogenic and control lines are being disconnected from the magnet. A new power supply, to be used for the splitter magnet for a future hypernuclear experiment, has been delivered. It has been moved to Hall C to undergo acceptance testing.

### JLab's Safety Numbers (August 29, 2007)

298 Days since Last Recordable Accident (JLab Record: 298) Congratulations, everyone!  
298 Days since Last Lost Workday Accident (JLab record: 455)

### Environment, Safety, Health & Quality

As the unofficial end of summer approaches, many of us are making plans for the Labor Day weekend. The following are some safety tips by the American Red Cross.

- If spending your vacation enjoying water-based activities, remember basic water safety rules. Never swim alone. Always wear a life jacket or personal floatation device when in any watercraft — check to make sure that the device is U.S. Coast Guard approved. Closely supervise all children when they are engaged in activities in or near the water.

- Going hiking, biking or camping? Remember to use an appropriate sun block if you will be outdoors for any activity. If riding your bicycle on a roadway with other vehicle traffic, use caution, and follow the rules of the road. Always wear an approved bicycle helmet when riding a bicycle; motorcycle and ATV riders should always wear approved helmets as well.

- Taking a road trip? Check your vehicle for safety, and include checks of tire pressure and the spare tire. Always wear seatbelts; ensure that children are securely fastened into child restraint seats or seatbelts. Alcohol and driving do not mix. Take a supply of water with you — for drinking and in the event your vehicle's radiator runs dry. Follow the rules of the road, be a courteous driver, and observe speed limits.

- **Lab QA Staff Changes** - Mary Jo Bailey recently accepted the Documentation Specialist/Technical Writer position and Brian Murphy the QA/QC Senior Technical Specialist position in the Lab's Quality Assurance/Continuous Improvement ([QA/CI](#)) Department in the ESH&Q Division. These are key roles in support of the JSA-JLab QA/CI organization, which is responsible for supporting contract commitments toward achieving ISO 9001 Certification and contributing to performance of various DOE contract-required measures.

## **Accelerator**

Beam was established to the 500-kilovolt (KV) Mott line in the injector. Laser setups in the injector are being modified for more efficient operation. Gun 3 has been heated and activated. NL04 cooldown began. The End Station Refrigerator compressor changeout continued. The Central Helium Liquefier 2 Kelvin (K) pumpdown was completed. The Personnel Safety System full functional certification of accelerator systems was completed. All acid flushing of cooling lines is now complete, and alignment work is going well. Arc1 box supply failed; repair resolution and planning meetings were held. Installation of cryomodule SL04 began. Finally, accelerator site tree and brush clearing for 12 GeV is underway.

## **Free-Electron Laser (FEL)**

Progress continues on the gun test stand with the completion of preparations for the big move from the ARC to the FEL. Optical Transport System tasks have been completed for all the labs. In addition, the Florida State University BigLight (FEL) design document is undergoing final editing in preparation for submittal to FSU.

## **Computing & Networking Infrastructure**

There will be a Computer Center maintenance period on Tuesday, Sept. 4 from 5-10 p.m. For more information, see the JLab Computer Center [maintenance Web page](#).

## **• Web Site Cyber Security Changes**

In ongoing efforts to improve cyber security practices throughout the lab's network, the Computer Center will begin restricting the use of executable code served through user's home directories. These areas are accessed through URLs of the form: [http://www.jlab.org/~/...](http://www.jlab.org/~/) This form of URL retrieves content from the public\_html directory within a user's home directory. Beginning on Sept. 4, the site web server ([www.jlab.org](http://www.jlab.org)) will be configured so that it will no longer allow perl, php, or other executable code to be processed from directories of this type. Static html pages, images, etc. will still be served through this area.

## **Announcements**

### **• BEAMS Volunteer Fair**

Check out Science Education's Becoming Enthusiastic About Math and Science program at the BEAMS Volunteer Fair. The Fair is set for Thursday, Aug. 30, from 11:00 a.m. - 2:30 p.m. All activities will be on display in the BEAMS classrooms (VARC 72). BEAMS volunteers expose middle school students to the applications, importance, and excitement of mathematics and scientific principles and either lead or assist with planned activities for the students. Science Education staff would love to have you join them this year, for the first time, the hundredth time, or for the first time in a long time! For more information, contact Christine Wheeler at [wheelerc@jlab.org](mailto:wheelerc@jlab.org).

### **• United Way School Tools Drive**

Collection boxes for donations of new school supplies have been placed in Building 85, VARC, CEBAF Center, and ARC lobbies. Supplies may be placed in the boxes by COB Sept. 6. Appropriate items include: pens, pencils, student scissors, crayons, spiral notebooks, three-ring binders, binder paper, pocket folders, rulers, protractor/compass sets, etc. For more information, call Tina Johnson, x7611.

### **• American Red Cross Blood Drive**

The next blood drive is scheduled for Thursday, Sept. 6, 10 a.m. - 4 p.m. in CEBAF Center room F113. Walk-ins are welcome; however, making an appointment allows the Red Cross to schedule adequate staff. Volunteers are also needed to help with the blood drive. To schedule an appointment or to volunteer, contact Johnie Banks at x7539 or [jbanks@jlab.org](mailto:jbanks@jlab.org).

## **JLab Calendar of Events**

Sept. 3: Labor Day holiday

[Sept. 6: American Red Cross Blood Drive](#)

Sept. 7: United Way Day of Caring

Sept. 10-14: 12 GeV Upgrade: OECM EIR Review

[Sept. 13: JSA's Electronic Commerce Small Business Vendor Show](#)