

Shutdown News

A breaker panel (K800 RF Panel) is being replaced this week. This is an older breaker panel on the RF balcony that feeds mainly MODICON drops and RF power supplies as well as a couple of cryogenic related systems. Some circuits will need power during the week-long task, and thus electricians are prepared to provide alternate feeds to these circuits.

Engineering Update

Construction is progressing well on the Horizontal Bend Superconducting Dipole magnet for the Thomas Jefferson National Accelerator Laboratory, which will be used as part of their 12 GeV upgrade. Welding of the helium vessel (which also constrains the coils) has progressed to the point where coil installation is ready to begin. The saddle-shaped coil has been test-fit into the vessel's tight space. The vessel requires a lot of welds and is built heavily as it must contain the 180 tons of force created by the coils at the full magnetic field in the bore of 3.6T at a current of 4500 A.

Liquid Lithium Stripper

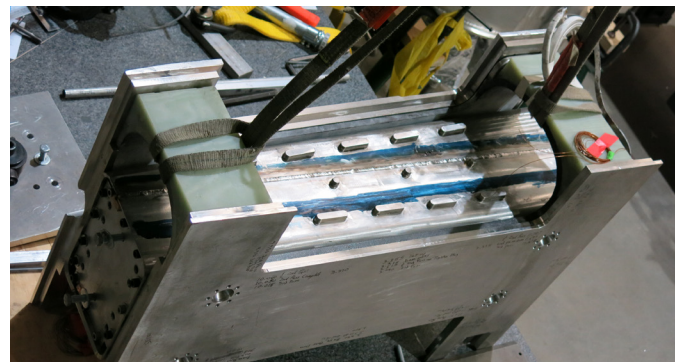
The FRIB stripper team has built a nozzle test stand to use with liquids that will simulate the film formation in the liquid lithium stripper. This DOE-SC supported effort will continue the work done at Argonne National Laboratory on the film formation. The goal is to obtain a flat film of the order of 10 micrometers. The test stand is currently being commissioned, and a monochromatic light source will be used to determine the flatness.

TPC Electronics

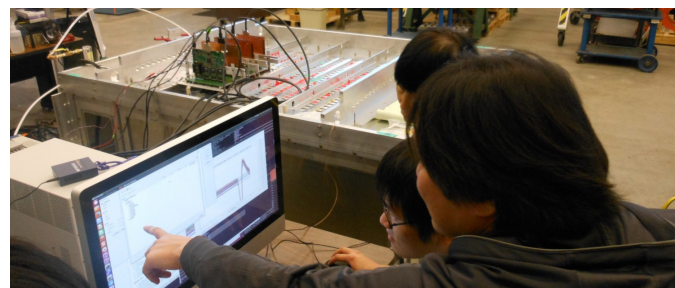
The development of a Generic Electronics system for TPCs (GET) is a collaborative effort between CEA-Saclay (France), CENBG (France), GANIL (France), RIKEN (Japan), and NSCL. The hardware is nearing completion and some milestones have been achieved recently. For the first time, a MicroTCA compliant CoBo (Concentration Board), designed and implemented at NSCL, has been tested with all possible 1024 input channels i.e. four AsAds (ASIC and ADC). The data acquired from all four AsAds was processed and transferred through a 10-Gigabit Ethernet link, then archived and analyzed on disk. During development and testing, several optimizations were performed to CoBo's firmware to increase its throughput. Now it achieves a 1.2 GB/s



A water jet thin film is measured as part of development of the FRIB liquid lithium stripper. The water drop at right can help give an indication of scale.



A saddle-shaped magnet coil is test fitted into the helium vessel of the JLAB Horizontal Bend Superconducting Dipole magnet.



The US-Japan SAMURAI-TPC collaboration using the full 1024-channel GET system to test the SAMURAI-TPC. The four AsAd boards can be seen mounted on top of the TPC in the background.

data rate written into its DDR2 SDRAM memory during full readout. That is equivalent to taking 1,000 four Megapixel digital photos per second. Subsequently, the system was mounted on the SAMURAI TPC for further testing.

Electric Hand Tool Safety

Employees using electric tools must be aware of several dangers; the most serious is the possibility of electrocution. Among the chief hazards of electric-powered tools are burns and slight shocks which can lead to injuries or even heart failure. Under certain conditions, even a small amount of current can result in fibrillation of the heart and eventual death. A shock also can cause the user to fall off a ladder or other elevated work surface.

To protect the user from shock, tools must have a three-wire cord with ground and be grounded, double insulated, or powered by a low-voltage isolation transformer. Three-wire cords contain two current-carrying conductors and a grounding conductor. One end of the grounding conductor connects to the tool's metal housing. The other end is grounded through a prong on the plug. Anytime an adapter is used to accommodate a two-hole receptacle, the adapter wire must be attached to a known ground. The third prong should never be removed from the plug.

Double insulation is more convenient. The user and the tools are protected in two ways: by normal insulation on the wires inside, and by a housing that cannot conduct electricity to the operator in the event of a malfunction.

These general practices should be followed when using electric tools:

- Electric tools should be operated within their design limitations;
- Gloves and safety footwear are recommended during use of electric tools;
- When not in use, tools should be stored in a dry place;
- Electric tools should not be used in damp or wet locations;
- Work areas should be well lit.

Seminars

- **Tuesday, September 17, at 11 AM**

Theory Seminar in the Lecture Hall

Leonid Grigorenko (Flerov Laboratory of Nuclear Reactions, JINR): "Few-Body Phenomena near the Driplines"

- **Wednesday, September 18, at 4:10 PM**

Nuclear Science Seminar in the Lecture Hall

Andrei Andreyev (University of York): "Beta-Delayed Fission: from Neutron-Deficient to Neutron-Rich Nuclei"

- **Thursday, September 19, at 11 AM**

Research Discussion in the Lecture Hall

Andrei Andreyev (University of York): TBA

Announcements

Don't forget to RSVP for the NSCL/FRIB End-of-Summer Family Picnic. The picnic is scheduled for Saturday, 9/28 from 11am - 3pm in Holt's Burchfield Park. Put your name in and volunteer a dish on Portal -> HR -> Community Page (direct link: <https://portal.frib.msu.edu/hr/SitePages/Summer%20Picnic%202013.aspx>) The site also contains a flyer about the picnic, directions and parking information.

The number of umbrellas available at the front desk has dwindled - if you borrowed one of them, please return it immediately!

Note that the Greensheet will not be published next week. The next issue will be distributed on September 27.

People at the Lab

Congratulations on their milestone anniversaries in the lab to Richard Jacobson (10 years) and Pawel Danielewicz (25 years).

Jeff Stetson has attracted media attention for his portrayal of a villainous mayor in the film "Approaching Midnight": <http://www.lansingstatejournal.com/article/20130911/THINGSTODO04/308260056/-Approaching-Midnight-film-stars-local-man-Michigan-sites>

Vincent Steinberg has joined Scott Pratt's research group as a graduate student.

New student assistants include:

- Deb Debayan in the JINA group
- Audrey Gotko in Georg Bollen's research group
- Jesse Sakstrup in Chris Wrede's research group
- Brandon Hart in the Accelerator Systems Electrical Engineering department
- Thomas Grubb in Remco Zegers' research group

Carolyn Fountain and Matt Hund have recently joined the FRIB staff.

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