ACCELERATOR SEMINAR

"Construction and Commissioning Plan of the Compact ERL Injector at KEK"

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In the KEK Photon Factory (PF), a synchrotron light source based on an Energy Recovery Linac with a 3 GeV beam energy is a planned future light source. As a test accelerator toward the ERL light source, a compact ERL (cERL) is being constructed to develop key components, such as a DC photo cathode gun and superconducting RF cavity systems, and to demonstrate the generation of high current and high brightness electron beams and the energy recovery.

Before the beam commissioning of the whole cERL, the beam commissioning of the cERL injector, which consists of the photo cathode DC gun, the injector, super conducting cavities and a beam diagnostic line; is scheduled for April to June 2013 in order to demonstrate the injector performance. Toward the injector commissioning, the construction of the cERL injector is in its final stage. As the DC gun, a photo cathode DC gun system developed by JAEA, which achieved 550 kV operation with a segmented ceramic insulator, was employed. In the injector commissioning, the maximum beam current and the beam kinetic energy are about 1 micro ampere and 5 MeV, respectively. The first goal of the commissioning is to verify the hardware performances, and the second goal is to establish a beam tuning method to transport the beam without any loss to the dump, which is located at the end of the diagnostic line. After the injector commissioning, the construction of the whole ERL beam line is scheduled for this summer, and its commissioning is scheduled for this autumn.

Coffee before seminar at 10:45 a.m.

Tuesday, March 12, 2013
11:00 a.m.
CEBAF Center, Room F113

Jefferson Lab

For further info, please contact Alex Bogacz at x5784 or Anne-Marie Valente at x6073