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Radiation

Safety Minutes of RSC Subcommittee of March 29, 2016

Committee

Issued: March 29, 2016

Subject: Operation of Experiment AD-021-2015-AUG-18 (Inverse Compton Scattering)

Present: M. Fedurin, K. Kusche, P. Cirnigliaro, and D. Beavis

A small group got together to discuss and potential radiation of conventional safety concerns for the inverse Compton scattering experiment in beam line 2. An outline of the beam setup and conditions was provided by K. Kusche[1].

All components have been used before although they may have been in a different configuration. The primary components are the CO2 laser beam, an undulator, and a permanent magnet. The magnet will bends the bean down into a phosphor that is viewed by a camera. The beam can be spread in energy from 52 MeV to 93 MeV. The CO2 laser beam is reflected back by a copper mirror with a hole to allow the electrons to be transported.

- Other experiments have used permanent magnets to bend the beam down. The beam power of 0.04 Watts is low. The electrons will be terminated in the stainless steel vacuum box, which has a wall thickness of almost one inch.
- The area is posted as an activation area so any devices removed will have an RCT conduct an activation survey.
- During early tuning the LP/Operator should ensure that the permanent magnet bends the beam in the correct direction.
- A survey will be conducted of the east door area and the equipment door area on the west.
- The CO2 laser is confined to the beam pipe and has been used in similar conditions in the past.
- All equipment has been reviewed for conventional safety in the past.

CC:

RSC
M. Sivertz
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[1] K. Kusche, "Attachments for AD-021-2105-AUG-18 (Inverse Compton Scattering)