Monitoring the Brightest Light in Canada

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About Me
The Canadian Light Source
Types of Radiation at the Light Source

Gamma/X-Ray
- Residual radioactive material and radioactive sources
- Prompt radiation from machines such as Klystrons & RF cavities
- Bremsstrahlung (braking radiation) from accelerated electrons
- Synchrotron radiation from beamline operation

Neutron
- Outside the accelerator enclosures when beam is on
  - At high energies, neutrons transfer energy by collision with light atoms.
  - At lower energies, neutrons can be absorbed and the absorbing material may become radioactive.

Beta
- Contamination & Activated Material
- Residual removable material
Monitoring Methods

- DOSIMETERS
- AARMS
- SOURCES
- RADIOACTIVE SAMPLES
- SURVEY METERS
Dosimeters
Active Area Radiation Monitors
Sources for Function Testing

Fe-55

Cs-137

Am-241

2241-44-172 Probe
– Low Energy X-Rays

2241-44-9 Probe
- Alpha, Beta & Gamma

3030
- Alpha & Beta
Radioactive Samples

2360 – 43-1-1 Probe
-Detects alpha and Beta
Meters for Surveying

FH40F5
Detects Gamma & X-Ray
For use with Accelerator Stored Beam Survey

490 IP
Detects Beta and Gamma
For use when exiting Industrial Science Lab

FHT762
Detects Neutrons
For use with Accelerator or Medical Isotope Facility Prompt Surveys

9DP
Detects gamma & X-Ray
For use with Injected Beam Surveys
ALARA

- TIME
- DISTANCE
- SHIELDING
Thanks!

Questions?