

SOP for detector tests with Sr-90 source

Building/Room(s) covered by this SOP	Cenpa 110
Department	Physics
Principal Investigator Name	Peter Kammel
Principal Investigator Signature/Date	8/14/2022

The detector tests with a Sr-90 will take place in Labs Rm.110. All procedures will follow the General CENPA Sealed Source SOP. Here we add specifics for the measurements.

- The Sr-90 beta source is used to test the light yield and response of plastic scintillation detectors and scintillating fibers, as well as solid state silicon detectors. Typically the source is contained in its original shielding with additional shielding added to achieve ALARA conditions. The source is strongly collimated.
- The usual arrangement for detector testing consists of a dark box where the source is mounted facing downwards to irradiate the detector under test. The detector can be re positioned with remote control on a linear motion device.
- Simpler tests consist of directly irradiating a scintillator and observing its response on an oscilloscope
- The source should be handled such that operators point the collimated beam always away from people. That is the reason that the standard arrangement has the source pointing downwards, so that it is safe to open the lid of the dark box, without even experiencing short time exposure.
- When not in use, the source has to be stored in the locked cabinet in Rm 110, marked with a radiation sign. The radiation sign will be updated for the sources stored. Currently only the use of the Sr-90 source is foreseen.

I have read and understand the content of this SOP:

Training records maintained by G. Holman

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