

Lab 8: Radioactivity and Shielding

Author: Shaaz Feerasta

CCID: feerasta

Student ID: 1704756

Lab Partner(s): Morgann Reinhart

PHYS 126, LAB HR81

TA: Nicolas Concha Marroquin

Date of Lab: March 20, 2025

1 Source Choice

Gamma has more energy than beta, and that's why we want to use a thicker material for gamma because gamma waves can pass through metal. That's why we use metal plates for cesium and its gamma waves.

2 Table

Thickness (cm)	Count Rate I (cpm)
0	73
0.1	44
0.2	51
0.3	37
0.4	34
0.5	34
0.6	34
0.7	37
0.8	34
0.9	26
1	38
1.1	23
1.2	39
1.3	32
1.4	26
1.5	24
1.6	29
1.7	18
1.8	32
1.9	28

Table 1: Collected Data of Strontium-90 observations, with $I_0 = 73$

3 Linearization

4 Graph

5 Thickness

6 Banana Equivalent

References

- [1] Department of Physics. *PHYS 126 Lab Manual*. University of Alberta, 2025.
- [2] TA assisted with the lab, and provided guidance on the data collection and analysis.
- [3] Lab partner Morgann Reinhart assisted with the data collection and analysis.