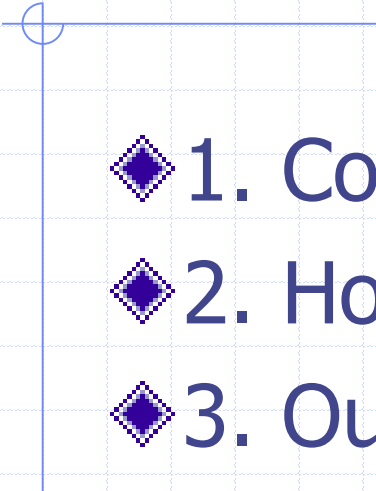


A Preliminary Transmission Computed Tomography Scanner

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- ◆ 1. Computed Tomography
 - ◆ 2. How Computed Tomography Works
 - ◆ 3. Our Design
 - ◆ 4. Apparatus
 - ◆ 5. Collected Data
 - ◆ 6. Conclusion

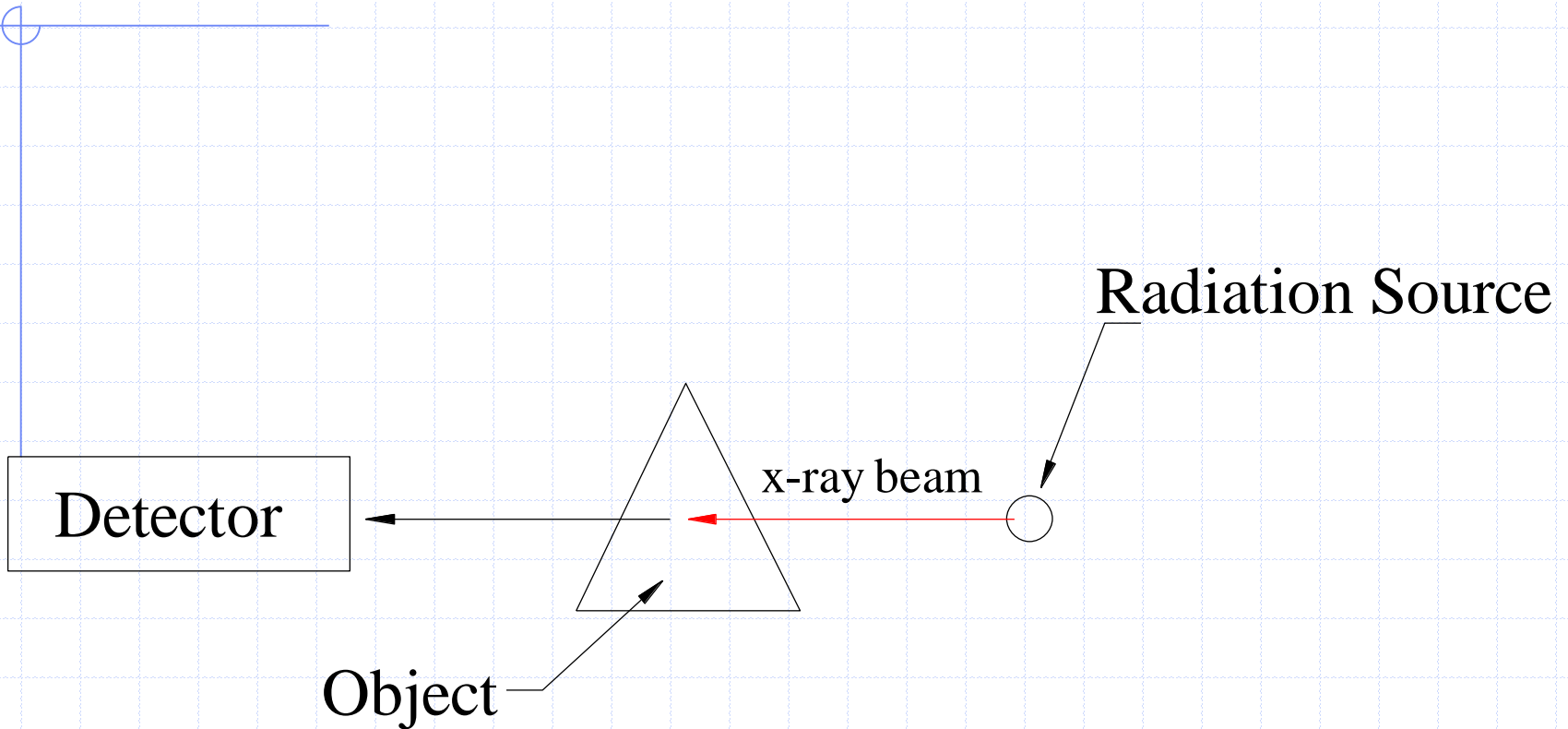
Computed Tomography

- ◆ What is Computed Tomography?

- ◆ What is the Purpose?

Radiography vs Computed Tomography (CT)

How Does a CT Scanner Work?



I_0 - beam intensity before
passing through object

x - distance through material

I - beam intensity after passing through object

$$I = I_0 e^{-\mu x}$$

$$\mu_1 + \mu_2 = 2$$

$$\mu_3 + \mu_2 = 1$$

$$\mu_3 + \mu_4 = 3$$

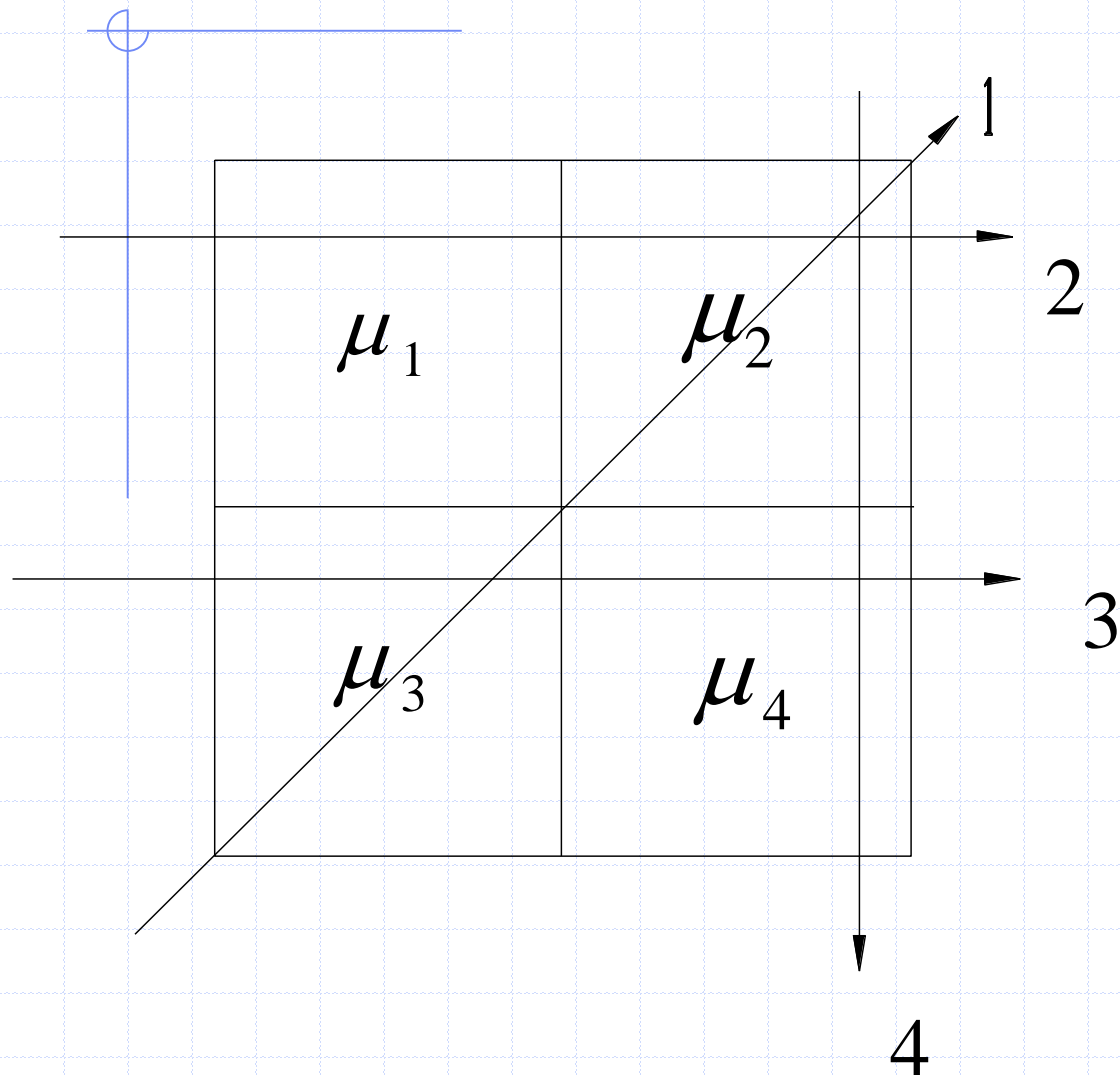
$$\mu_2 + \mu_4 = 4$$

$$\mu_1 = 1$$

$$\mu_2 = 1$$

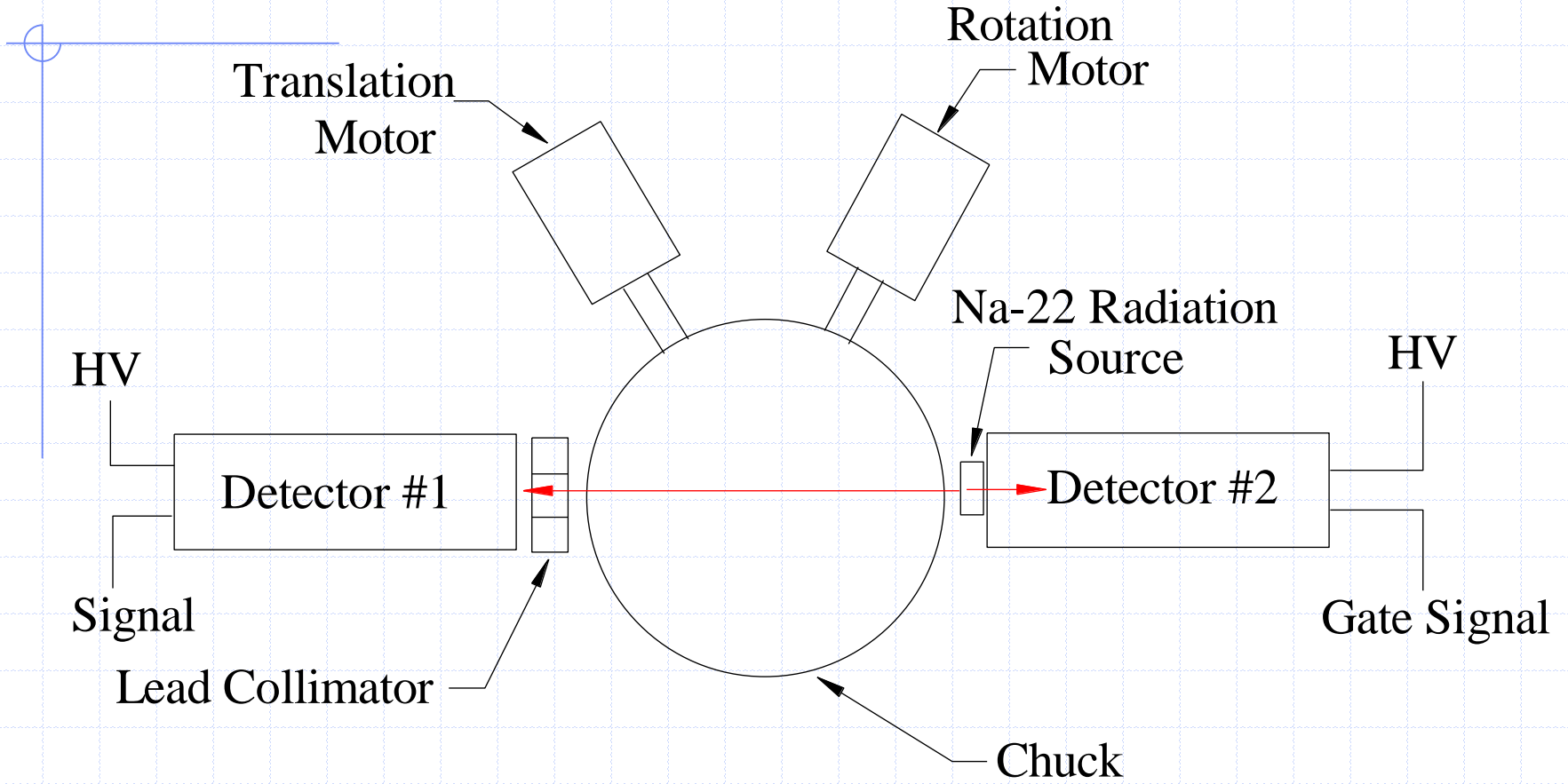
$$\mu_3 = 0$$

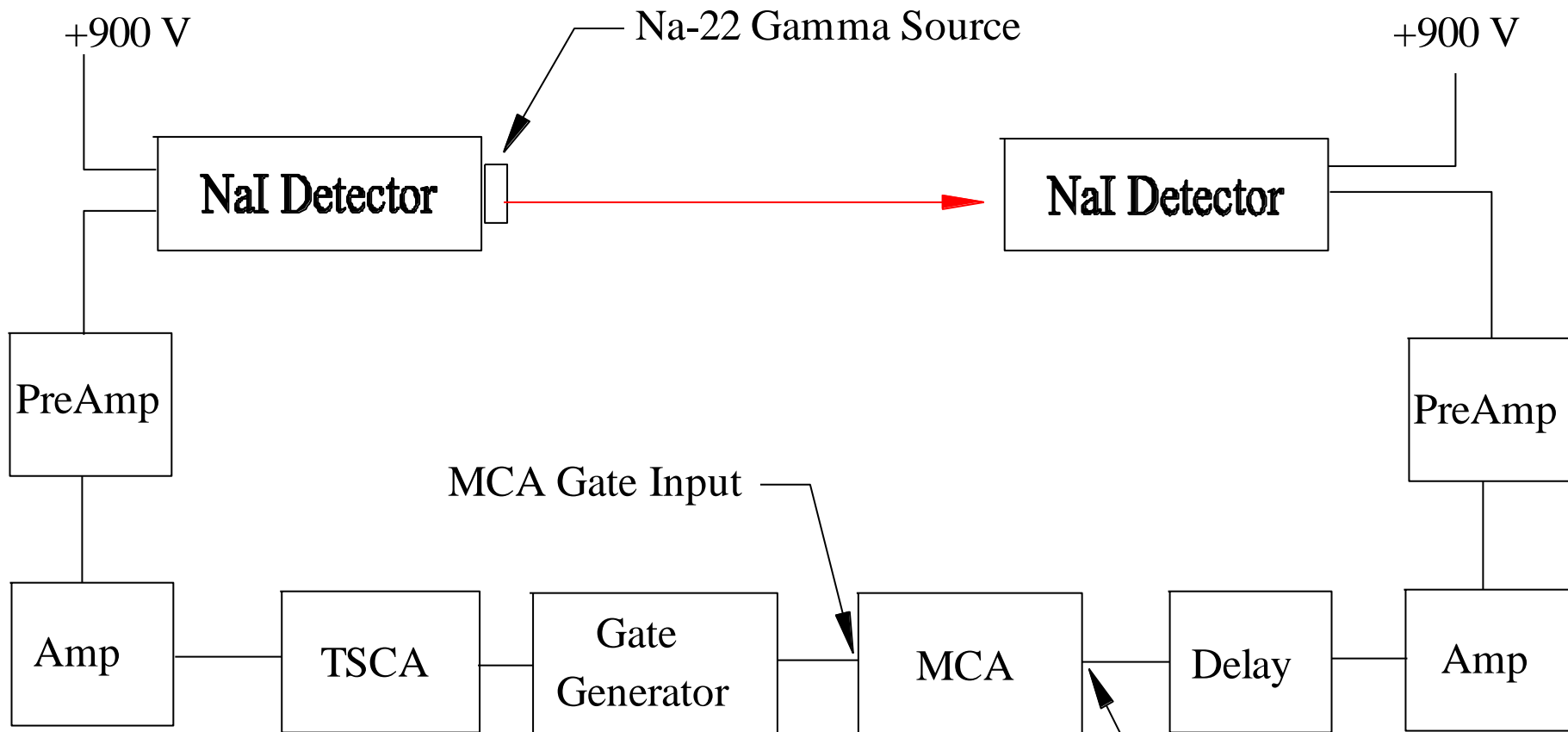
$$\mu_4 = 3$$



Our Design



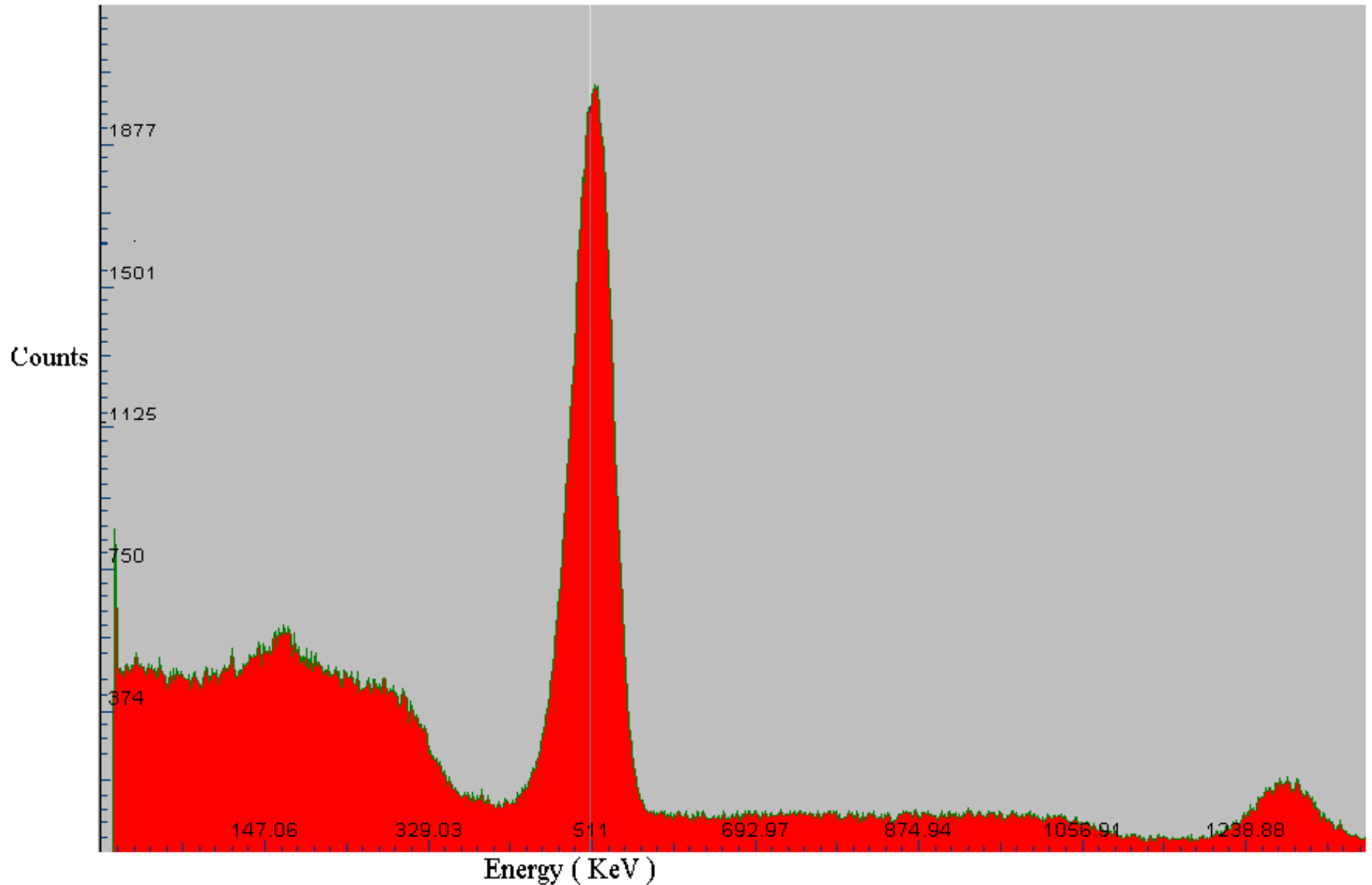




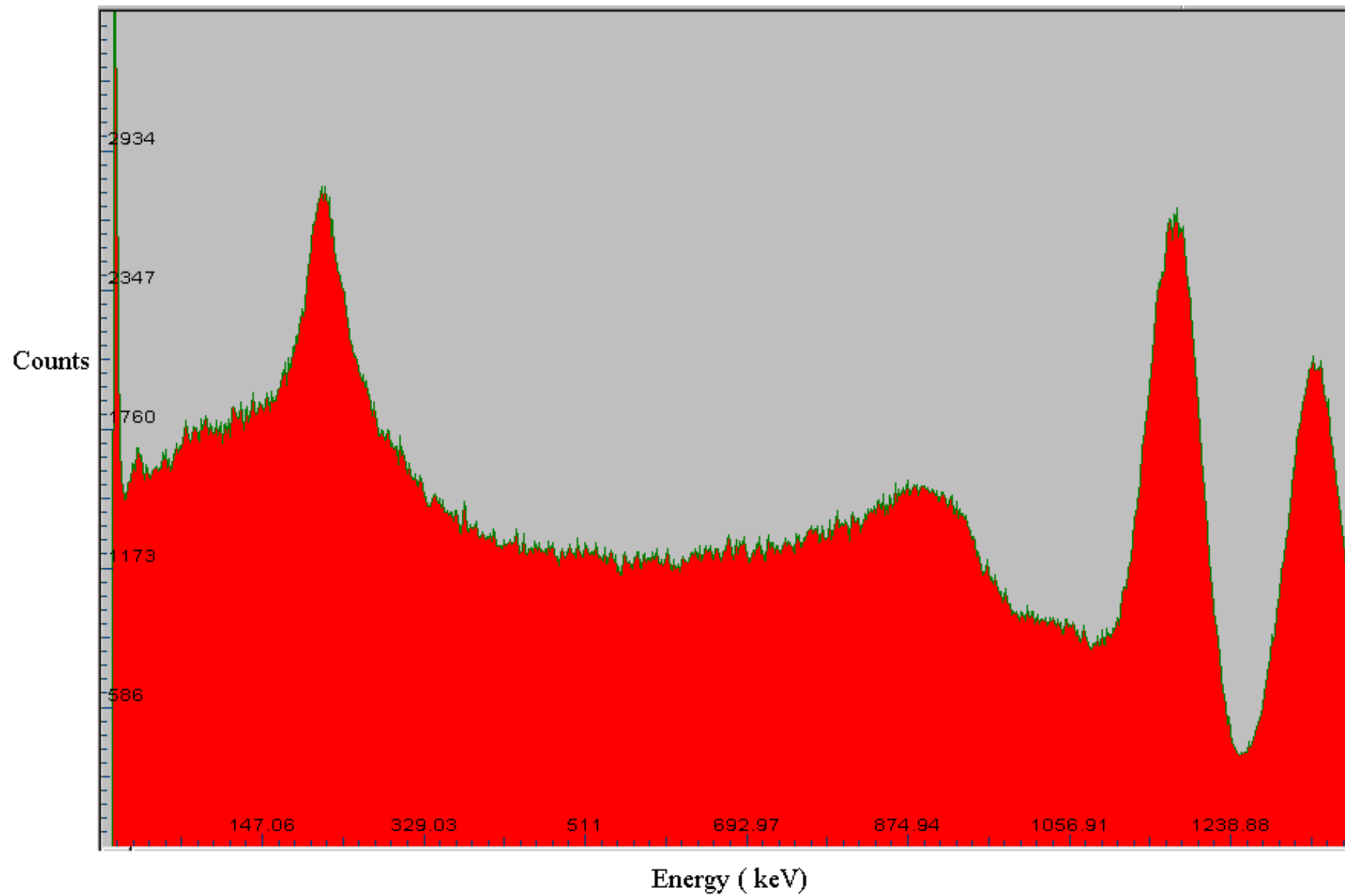
TSCA - Timing Single Channel Analyzer

MCA - Multi Channel Analyzer

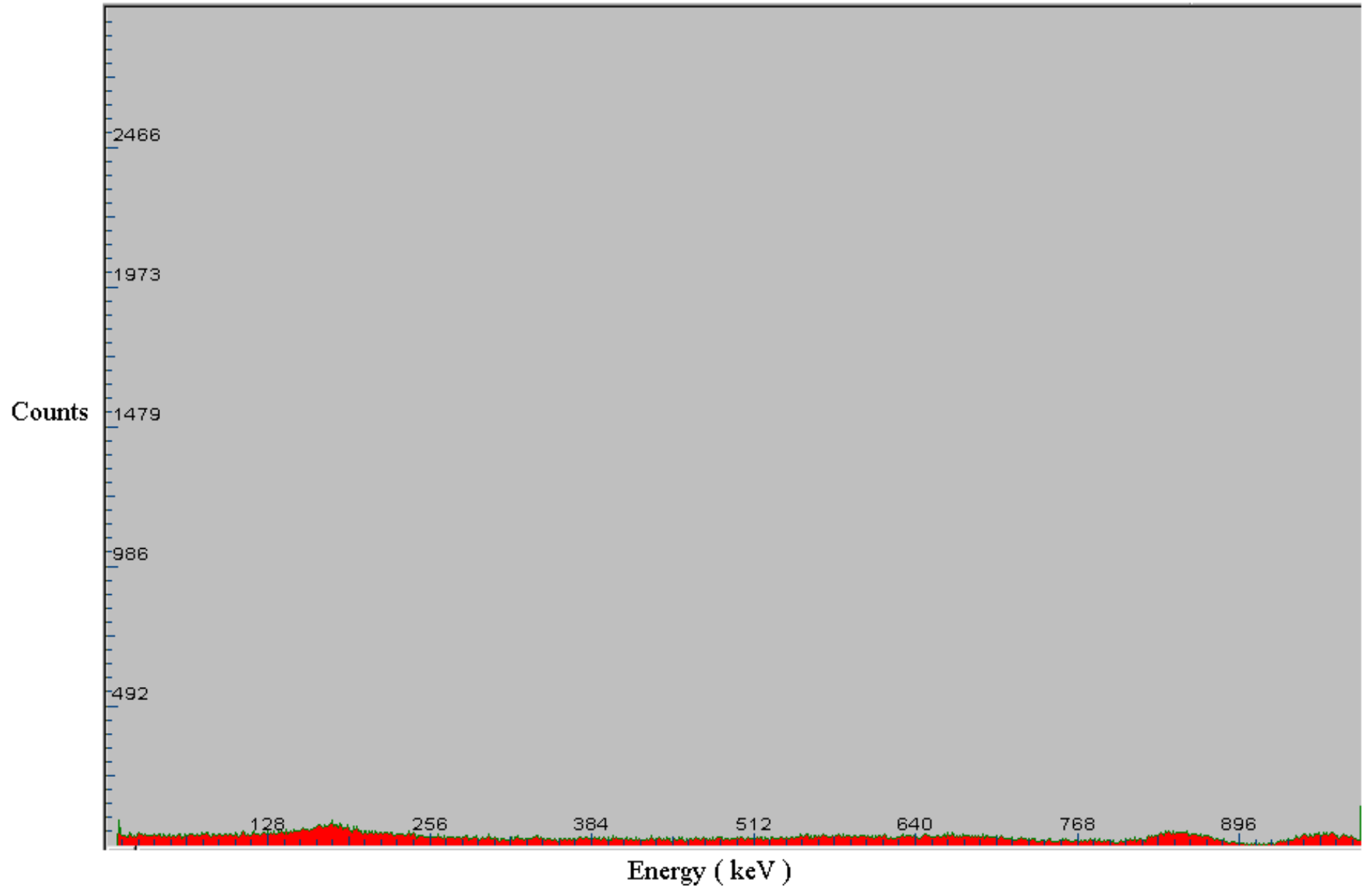
Na-22 Energy Spectrum



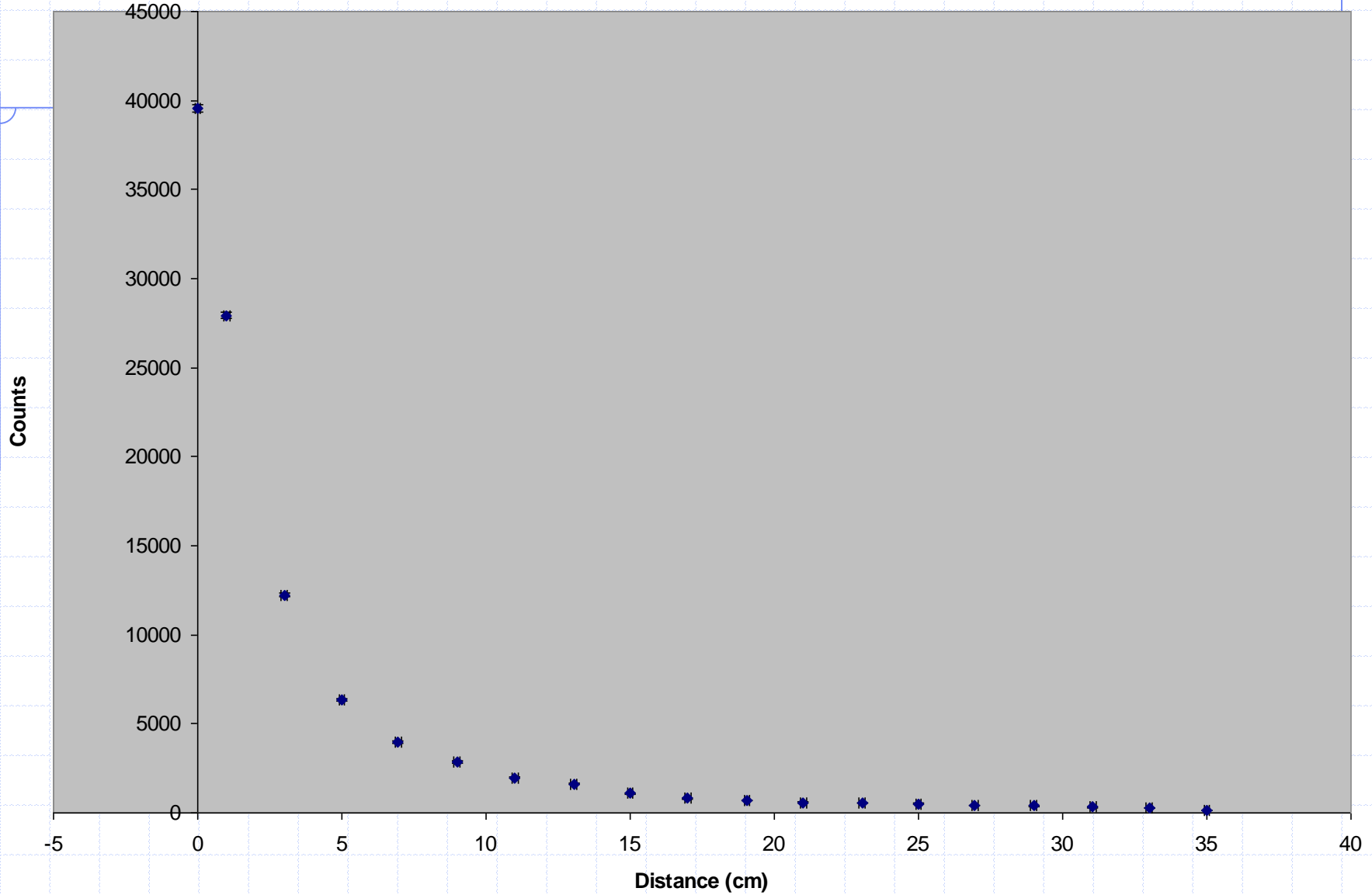
Co-60



Co-60



Signal Attenuation Due to Distance



Conclusion

◆ What needs to be done?

1. Motion
2. Data Collection
3. Image Assembly