Linear Attenuation Coefficients

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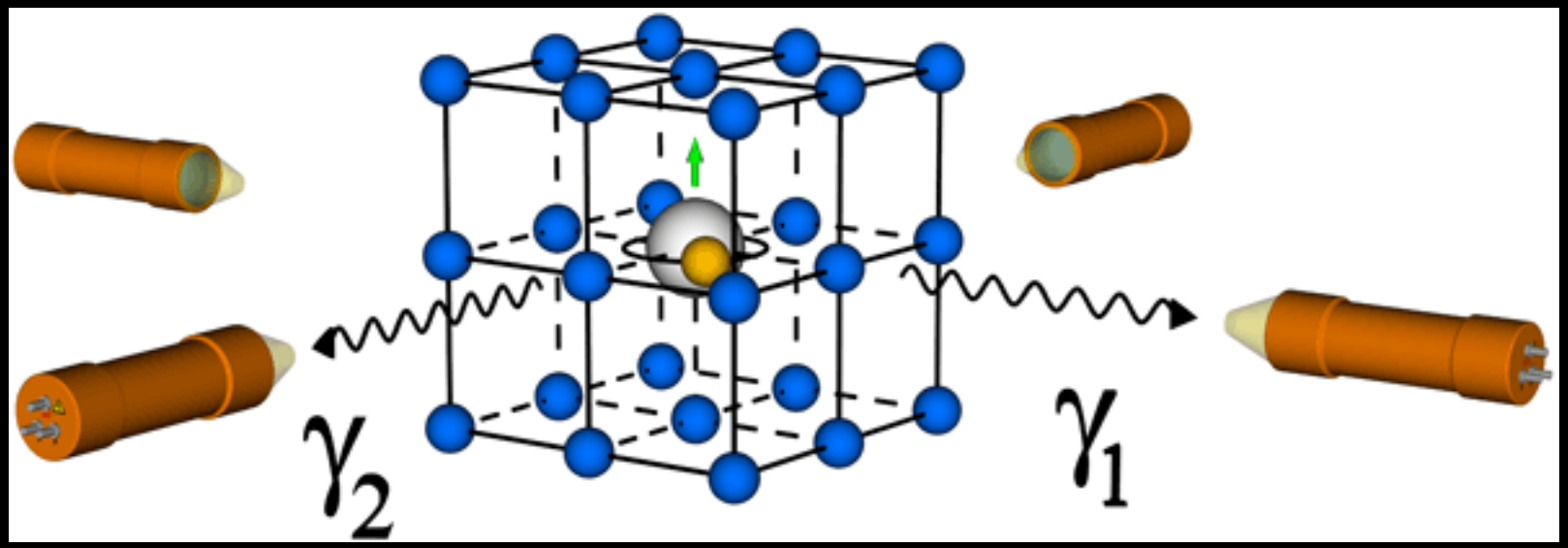
Review:

ISOLDE: Supplies radioactive isotopes

Perturbed Angular Correlation: Studies lattice environment



Correlation Measurements

$$W(\vartheta) = \sum_{\nu=0}^{\nu_m} \alpha_\nu P_\nu(\cos\vartheta).$$

- Why the alpha value?

- Determined from properties of detector

1.) Shape of detector

2.) Detector Material

3.) Energy of Gammas

What I have accomplished

1.) Determine all possible path lengths for given detector dimensions.

2.) Determine function of linear attenuation factors based on energy and material.

3.) Determine attenuation coefficient given dimensions and linear attenuation.

Future Goals

Create a GUI that allows user to input dimensions and detector material and outputs attenuation coefficients