Simulation Results Summary

1 Mass Model

The geometry includes:

- 0.4 mm Aluminum
- 1 mm Beryllium plate
- Caliste-SO detector
- Insulators were not modeled.

The Beryllium components use the same material properties as those implemented in the STIX instrument. Aluminum is modeled as pure aluminum.

2 Incident Photon Parameters

1. **Total Photons Simulated:** 1×10^8 photons
2. **Photon Beam Area:** 12×12 mm$^2 = 1.44$ cm^2
   - **Photon Flux:**
   $$\frac{1 \times 10^8}{1.44} 69444444 \text{ photons/cm}^2$$
3. **Photon Energy Range:** 0–150 keV

Differential Flux:

$$462962 \text{ photons}/(\text{keV} \cdot \text{cm}^2)$$

3 Response Matrix

- Incident photon energy range: 0–150 keV, divided into 1500 bins
- Energy deposition range: 0–150 keV, divided into 1500 bins.
- The energy bins in the excel file are the centers of bins.
- Only deposited energy values were used in constructing the response matrix.
- Detector effects, such as near-surface phenomena and energy resolution smearing, were not included.