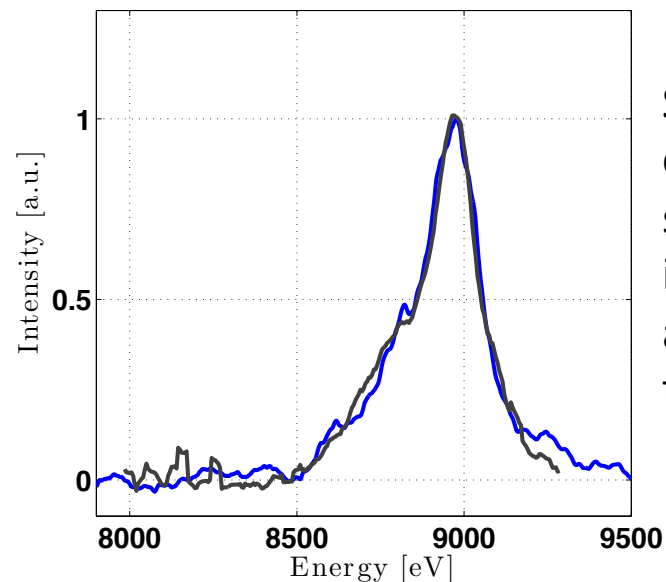
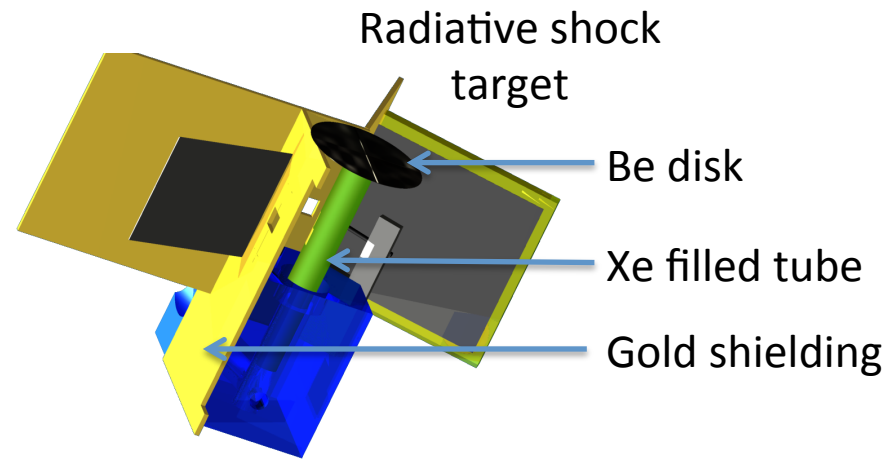


# OLUG Request: 3 independent beam legs

- Long-term request: 3 independent legs
  - Benefits include
    - Overall increased flexibility in beam/driver configuration
    - **Use 2 beam legs on BL Driver**
    - 3 independent pulse shapes
    - **Beam delays longer than current PLAS limitations**
    - Increased energy performance on BL Driver
- Short-term request:
  - Benefits include
    - Overall increased flexibility in beam/driver configuration
    - **Use 2 beam legs on BL Driver**
    - Increased energy performance on BL Driver

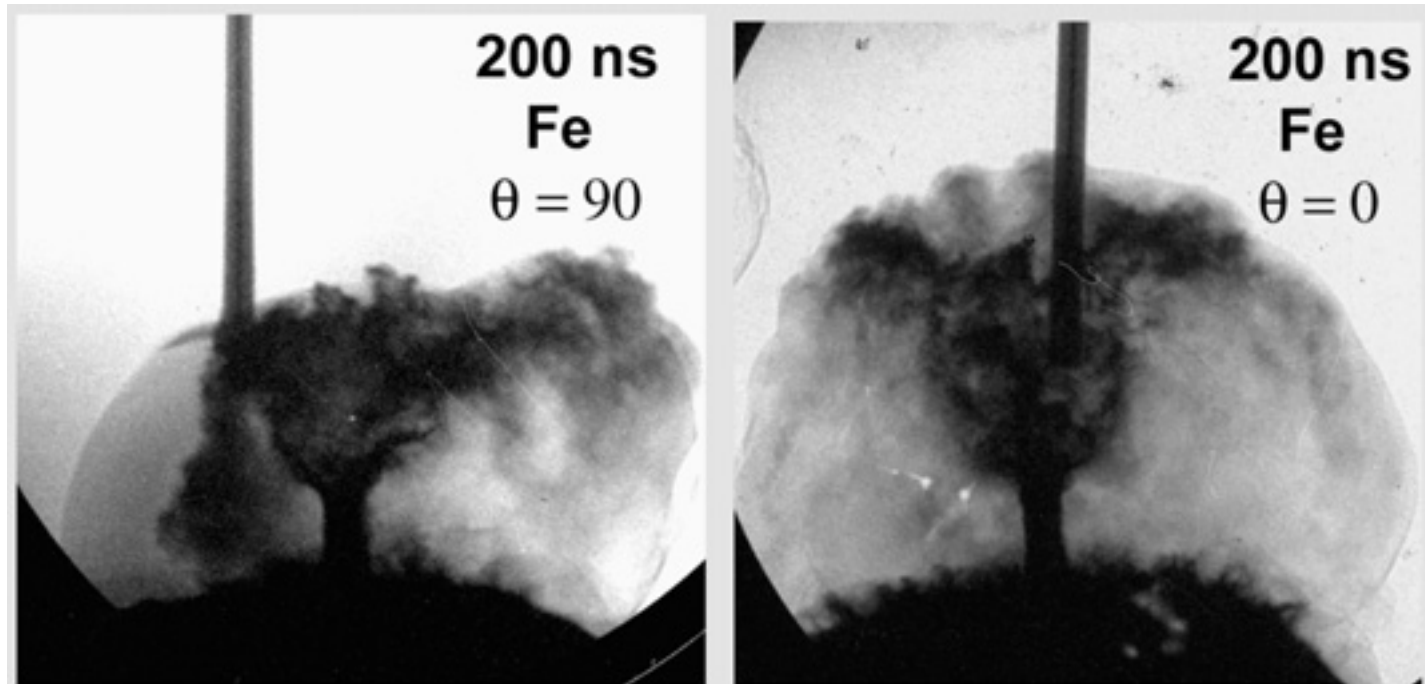
# Using 2 beam legs on BL Driver would benefit experiments that need bright x-ray sources for diagnostic techniques

- Techniques such as x-ray radiography and x-ray Thomson scattering require bright x-ray sources
- Creating x-ray sources from high-Z materials requires high-irradiance laser pulses
- This will improve current experiments as well as open a new class of experiments involving bright x-ray sources



Scattered spectrum collected with the zinc spectrometer. Analysis indicates a weighted average electron temperature of  $\sim 35$  eV.

Beam delays longer than current PLAS limitations can be used to increase delays between multiple observations on a single shot



Hartigan et al, Astrophysical Journal, 2009

- Beneficial to experiments using multiple diagnostic techniques