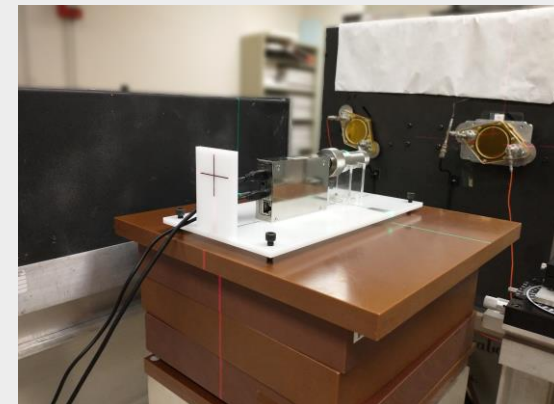




Mammographic Beam Quality Matching: Monte Carlo Simulations and Spectrometry

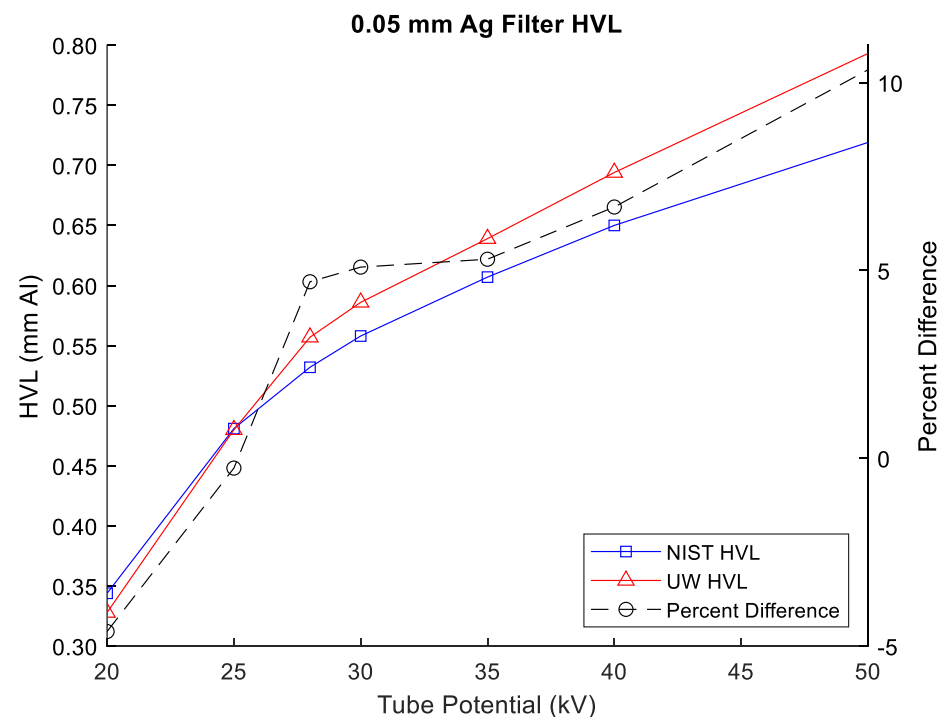
Introduction

- No existing W-anode mammography calibration beams in the US
- Desire W-anode mammography calibration beams matched in terms of half-value layer (HVL) with beams in development at NIST
- This work focuses on initial HVL and spectral measurements and Monte Carlo modelling



Results

- HVL measurements showed significant differences between NIST and UW-Madison beams
- Spectral measurements revealed endpoint tube potentials are different than set tube potential
- Simulations validated



Future Work

- Use validated simulations to determine filter materials and thicknesses to produce matched HVLs
- Determine corrections necessary to produce accurate spectra from raw measurements