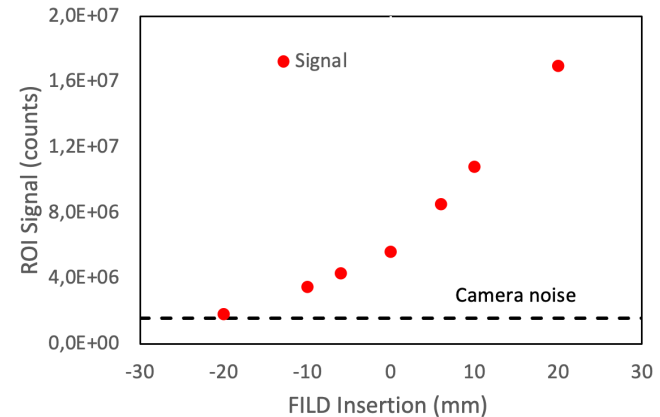
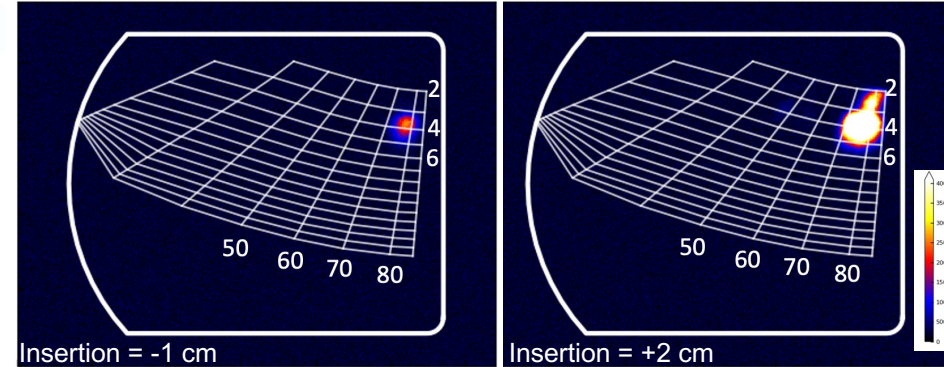


Optimization of FILD Detector Head Geometry Using Synthetic Diagnostics

- Over 90 collimator configurations explored by new FILDSIM version
 - Probe head geometry to be optimized
 - Explore the possibility of measuring alphas and double collimator for cntr NBI
- Final diagnostic synthetic signal is estimated, considering preliminary optical throughput
 - Inputs from ASCOT included P-NBI only
 - N-NBI and updated profiles to be included
 - Optical design to be finalized
- Estimation of SNR as a function of insertion
 - Neutron noise and degradation to be included



Shutter Has Negligible Influence on Resulting Head and Scintillator Temperatures

- Temperature rise during insertion dominates over irradiation at retracted position
- Avoiding shutter reduces operational risks
- Estimation of scintillator temperature important to account for synthetic signals

