

# Angular smearing

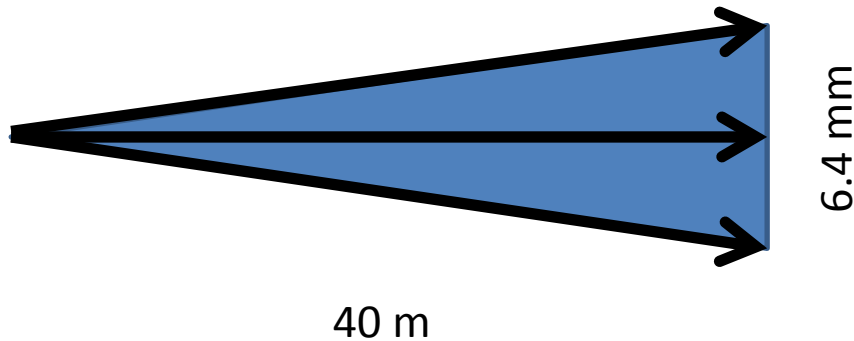
J.W. Flanagan

X-ray det. mtg.

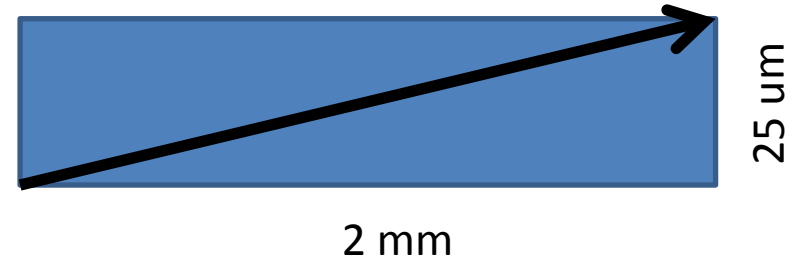
2013.8.6

# Extreme cases

Beam on Detector:



Single pixel:



- Detector is  $\sim 40$  m from beam, with height of  $\sim 6.4$  mm (for 256  $25$  μm pixels).
- For beam in center of detector, the maximum x-ray incidence angle is  $3.2 \text{ mm} / 40 \text{ m} = \sim 0.1$  mrad.
- For a  $25$  μm high by  $2$  mm deep pixel, the corner-to-corner angle is  $12.5$  mrad.
- $\rightarrow$  Maximum inter-pixel smearing due to angular effects is  $\sim 1\%$  ( $2\%$  for beam extremely off center.)