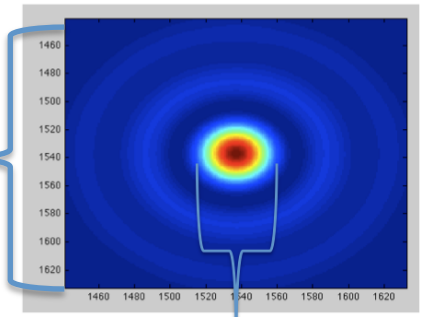
1. Start with relation:

$$1pixel_{F-domain} = \frac{2\pi}{L_x} = \frac{k}{width_{peak}}\theta$$

X-space

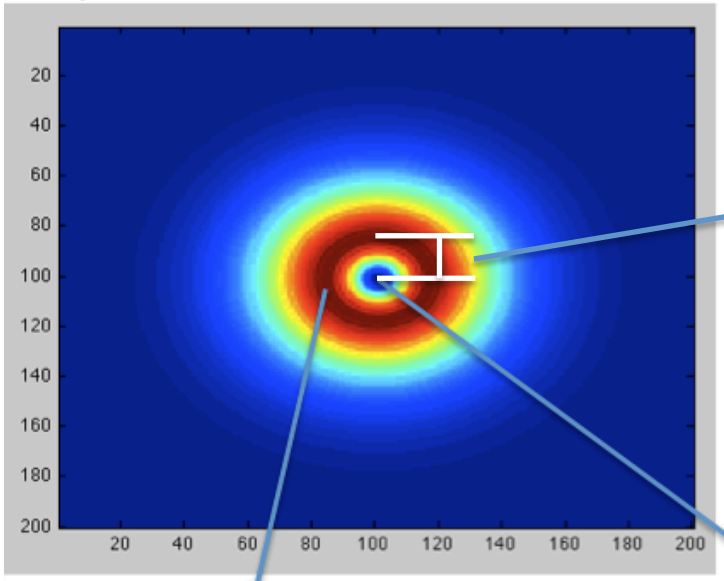


→ L_x = total length of xspace window

→ θ = angle of incoming light the peak occurs

→ $width_{peak}$ = the # of pixels the peaks occurs from center

K-space



Lens is focused at infinity so:

$$f\theta = width_{peak}$$

2. Solve for Lx:

$$1pixel_{F-domain} = \frac{2\pi}{L_x} = \frac{k}{width_{peak}}\theta$$

$$\frac{2\pi}{L_x} = \frac{k}{width_{peak}}\theta$$

$$L_x = \frac{2\pi * width_{peak}}{k\theta}$$

2. Solve for dx(unit pixel size in x-space):

$$dx = \frac{L_x}{N}$$

$$dx = \frac{2\pi * width_{peak}}{k\theta}\frac{1}{N}$$

Where N is total number of pixels in the x axis, which in my case is the same as the y axis (the window is a perfect square)