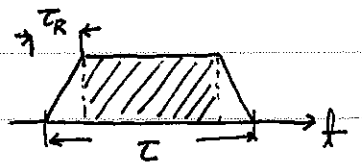
* Readout lobes



ex> $\tau = 1\,ms$, $\tau_R = 1/4\,ms$

$$2k_{x,max} = \frac{\gamma}{2\pi}(\tau - 2\tau_R)\,G_{max}$$

$$= 4.257\ KHz/G \cdot \frac{1}{2}\,ms \cdot 4\,G/cm$$

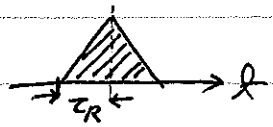
$$= 8.514\ cycles/cm$$

$$\Delta x = \frac{1}{2k_{x,max}} = \frac{1}{8.514\ cycles/cm} \cong 0.12\,cm \quad (TBW=1)$$

with a TBW = 4 pulse (Typical)

$$4 \cdot \Delta x \cong 0.47\ cm$$

* Blips



$$\Delta k_y = \frac{\gamma}{2\pi}\ \frac{1}{2} \cdot 2\tau_R\ G_{max}$$

$$= 4.257\ kHz/G \cdot \frac{1}{4}\,ms\ \ 4\,G/cm$$

$$= 4.257\ \ cycles/cm$$

Assume $L = 11$ (k-space lines)

$$2k_{y,max} = (L-1)\Delta k_y = 42\ \ cycles/cm$$

$$\Delta y = \frac{1}{2k_{y,max}} = 0.024\ cm$$

$$FOV = \frac{1}{\Delta k_y} = 0.23\ cm$$