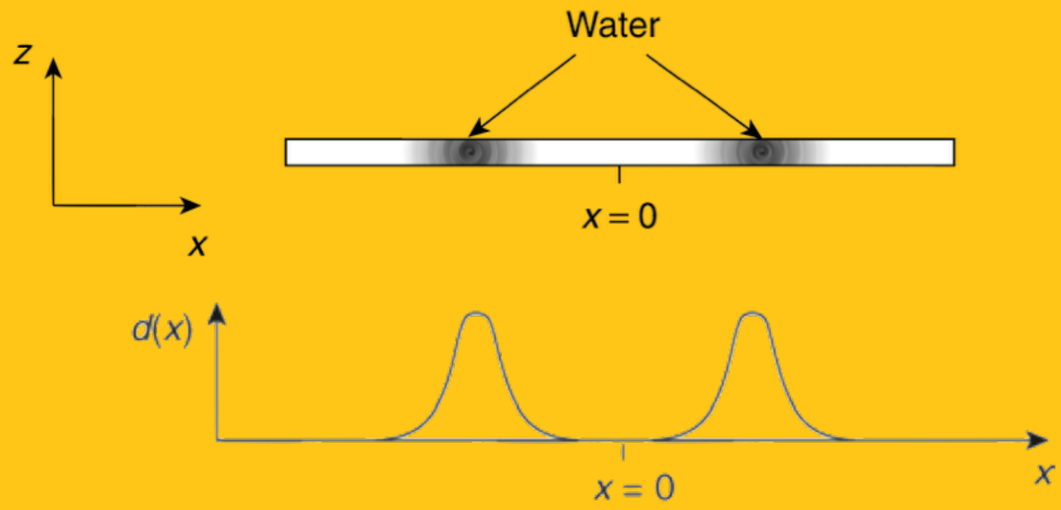
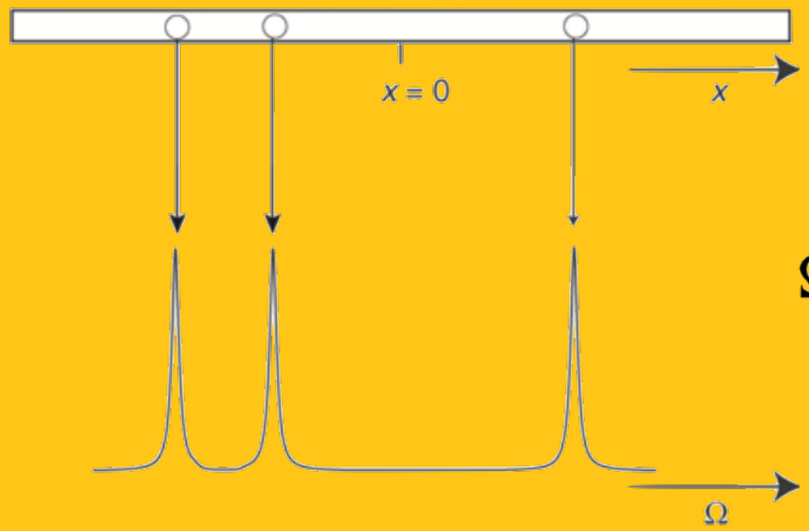
IMAGING

Imaging from this basic squiggle



$$\mathbf{B} = (B^0 + G_x x)\,\mathbf{e}_z$$

$$\omega^0(x) = -\gamma(B^0 + G_x x) = \omega^0(0) - \gamma G_x x$$

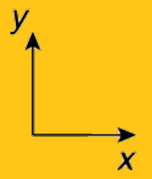


$$\Omega^0(x) = \omega^0(x) - \omega_{\text{ref}} = -\gamma G_x x$$

MRI in Practice Westbrook et. al. 2019

IMAGING

Adding dimensions

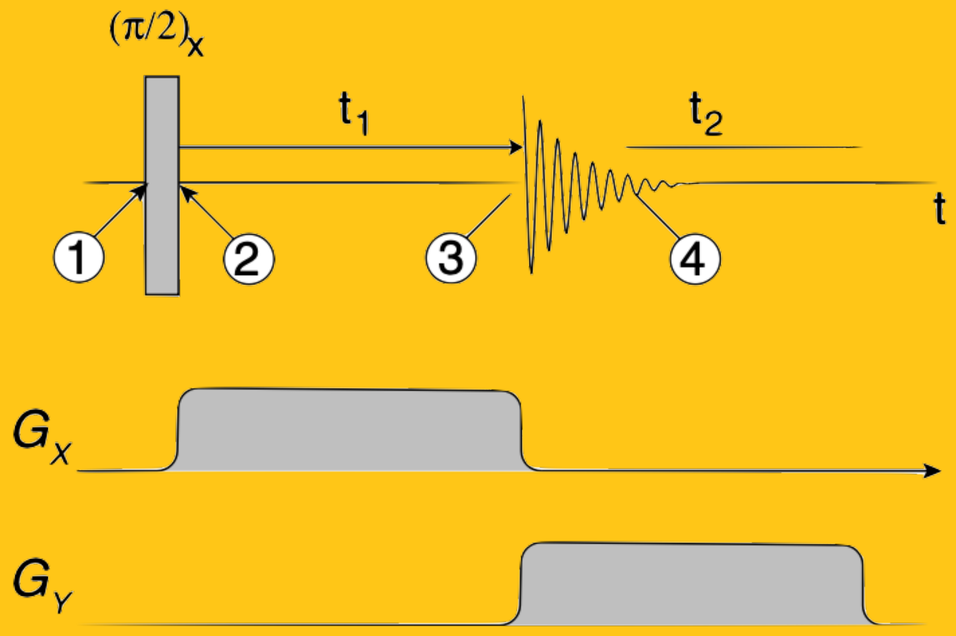


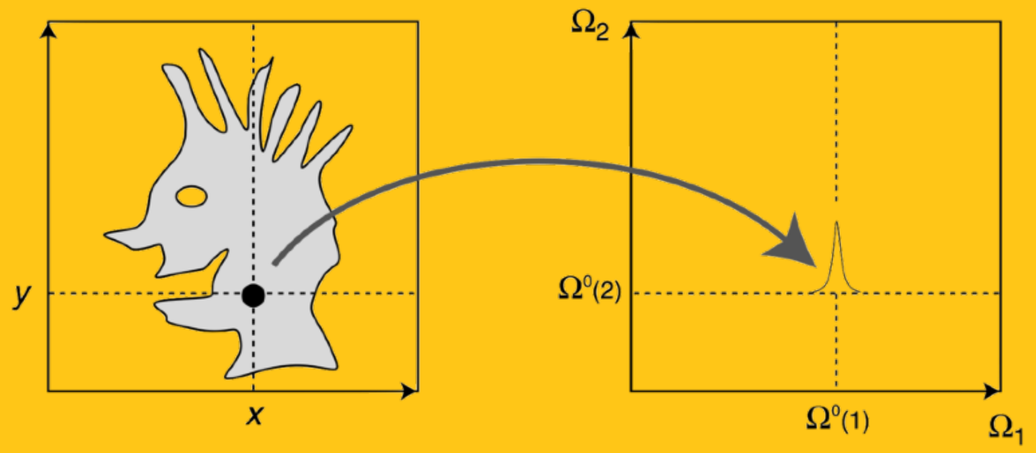
$$\Omega^0(1) = -\gamma G_x x$$

$$\Omega^0(2) = -\gamma G_y y$$

$$s(t_1, t_2; x, y) \sim \exp\{\left(\mathrm{i}\Omega^0(1) - \lambda\right) t_1 + \left(\mathrm{i}\Omega^0(2) - \lambda\right) t_2\}$$

$$S(\Omega_1, \Omega_2; x, y) \sim \mathcal{L}\left(\Omega_1, \Omega_2; \Omega^0(1), \lambda, \Omega^0(2), \lambda\right)$$





Spin Dynamics H. Levitt 2008