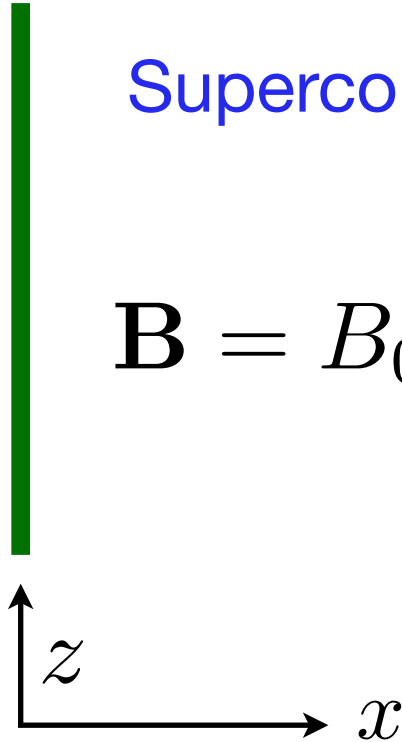
Empty space

$$\mathbf{B} = B_0 \hat{z}$$

Superconductor

$$\mathbf{B} = B_0 \exp(-x/\lambda_L)\hat{z}$$