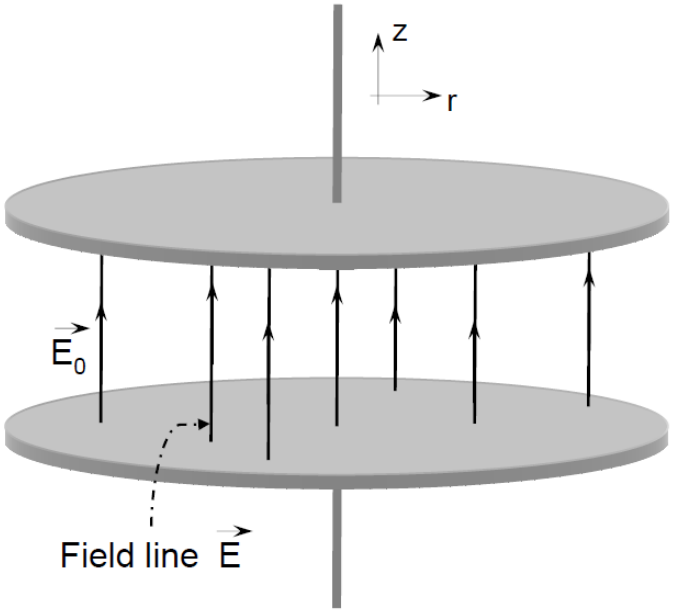
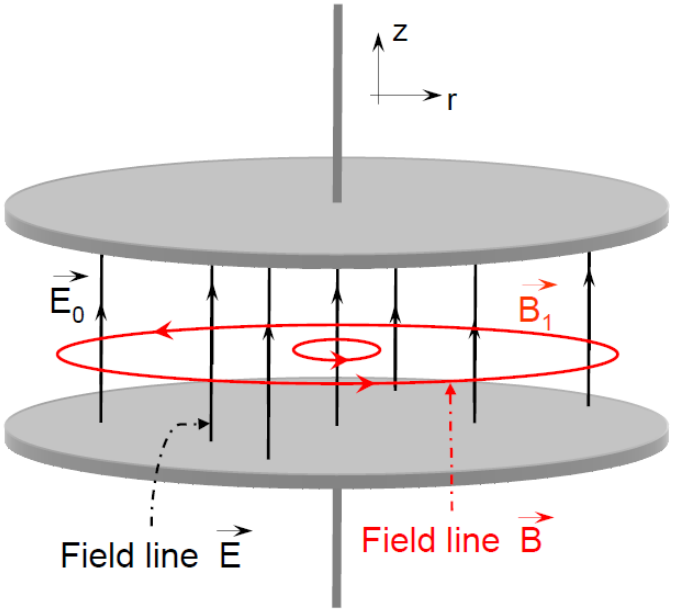
# The capacitor at high frequency
## (Feynman "Lectures on Physics", chapter 23-2)




$$E = E_0 e^{i\omega t}$$

# The capacitor at high frequency
## (Feynman "Lectures on Physics", chapter 23-2)



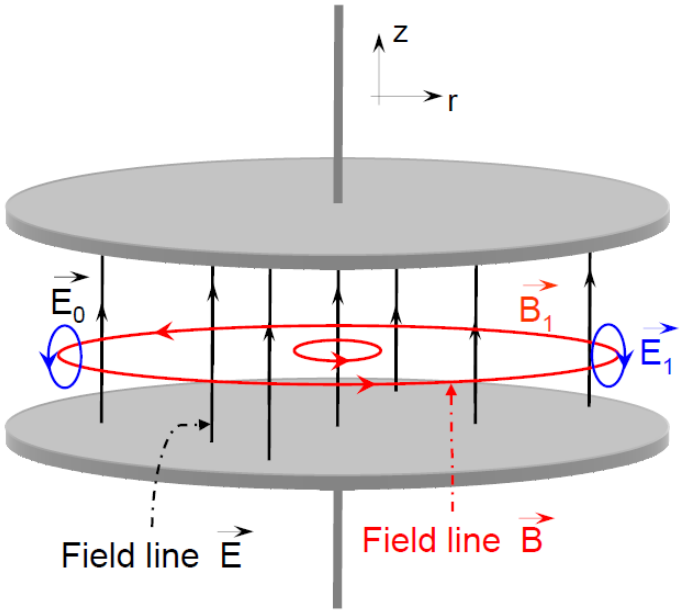

$$E = E_0 e^{i\omega t}$$

$$\vec{\nabla} \times \vec{B} = \epsilon_0 \mu_0 \frac{\partial \vec{E}}{\partial t}$$

First order

$$B(r) = \frac{j\omega r}{2c^2} E_0 e^{j\omega t}$$

# The capacitor at high frequency
## (Feynman "Lectures on Physics", chapter 23-2)



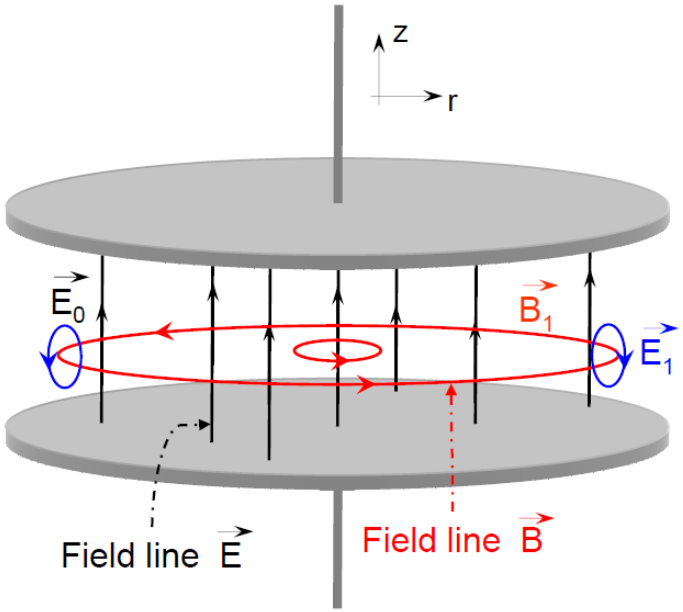

$$B(r) = \frac{j\omega r}{2c^2} E_0 e^{j\omega t}$$

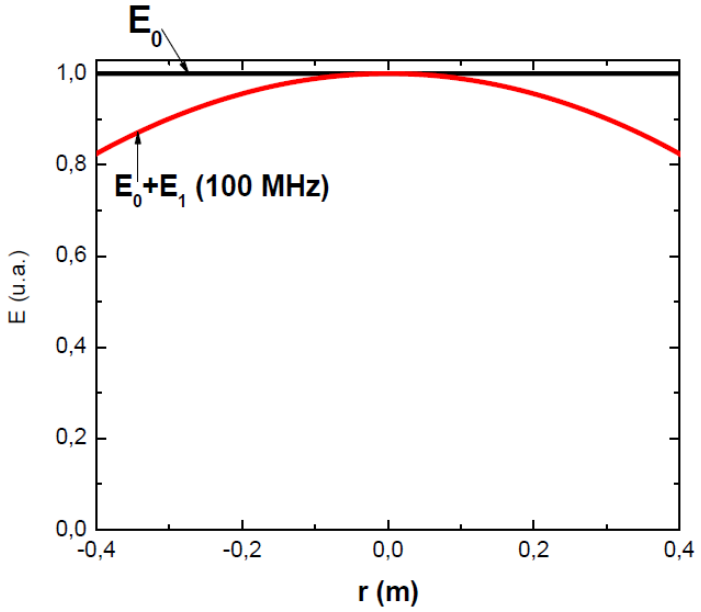
$$\vec{\nabla} \times \vec{E} = -\frac{\partial \vec{B}}{\partial t}$$

First order

$$E_z(r) = E_0 e^{j\omega t}\left[1 - \frac{k_0^2 r^2}{4}\right]$$

# The capacitor at high frequency
## (Feynman "Lectures on Physics", chapter 23-2)




- Standing wave profile
- The electric field is not radially uniform