

$$\vec{\nabla} \cdot \vec{E} = \frac{\rho}{\epsilon_0} \Leftrightarrow \int \vec{E} \cdot d\vec{a} = \frac{Q_{\text{enc}}}{\epsilon_0}$$

$$\vec{\nabla} \cdot \vec{B} = 0 \Leftrightarrow \int \vec{B} \cdot d\vec{a} = 0$$

$$\vec{\nabla} \times \vec{E} = -\frac{\partial \vec{B}}{\partial t} \Leftrightarrow \int \vec{E} \cdot d\vec{l} = -\frac{d\Phi_B}{dt}$$

$$\vec{\nabla} \times \vec{B} = \mu_0 \vec{J} + \frac{1}{\mu_0 \epsilon_0} \frac{\partial \vec{E}}{\partial t} \Leftrightarrow \int \vec{B} \cdot d\vec{l} = \mu_0 I_{\text{enc}} + \mu_0 \epsilon_0 \frac{d\Phi_E}{dt}$$