$$e^{-} \underbrace{\mathbf{J}}_{\mathbf{J}} \underbrace{\mathbf{J}}_{\mathbf{J}} e^{-} \qquad \nabla \cdot \mathbf{J} = -\frac{\partial \rho}{\partial t}$$

$$e^{-} \underbrace{\mathbf{J}}_{\mathbf{J}} \underbrace{\mathbf{J}}_{\mathbf{J}} e^{-} \qquad \left( \operatorname{Gauss} \Rightarrow \iiint \nabla \cdot \mathbf{J} \, d\mathbf{S} = - \iiint \frac{\partial \rho}{\partial t} \, d\mathbf{V} = -\frac{\partial}{\partial t} \iiint \rho \, d\mathbf{V} \right)$$

$$e^{-} \underbrace{\mathbf{J}}_{\mathbf{J}} \underbrace{\mathbf{J}}_{\mathbf{J}} e^{-} \qquad \frac{\partial \rho(\mathbf{x}, t)}{\partial t} > 0 \quad \Leftrightarrow \quad \nabla \cdot \mathbf{J}(\mathbf{x}, t) < 0$$

$$\nabla \cdot \mathbf{J} = -\frac{\partial \rho}{\partial t}$$

$$\left(\text{Gauss} \Rightarrow \iiint \nabla \cdot \mathbf{J} \, dV \equiv \underbrace{\oiint \mathbf{J} \cdot d\mathbf{S}}_{\mathbf{C/s}} = - \iiint \frac{\partial \rho}{\partial t} \, dV = - \frac{\partial}{\partial t} \underbrace{\iiint \rho \, dV}_{\text{"q", C}}\right)$$

$$\frac{\partial \rho(\mathbf{x}, t)}{\partial t} > 0 \qquad \Leftrightarrow \qquad \nabla \cdot \mathbf{J}(\mathbf{x}, t) < 0$$