Las ecuaciones de Maxwell en forma diferencial son:

$$\nabla \cdot \mathbf{E} = \frac{\rho}{\varepsilon_0} \qquad \text{(Ley de Gauss)} \tag{1a}$$

$$\nabla \cdot \mathbf{B} = 0 \qquad \text{(No monopolos)} \tag{1b}$$

$$\nabla \times \mathbf{E} = -\frac{\partial \mathbf{B}}{\partial t} \qquad \text{(Ley de Faraday)} \tag{1c}$$

$$\nabla \times \mathbf{B} = \mu_0 \mathbf{J} + \mu_0 \varepsilon_0 \frac{\partial \mathbf{E}}{\partial t} \qquad \text{(Ley de Ampère)} \tag{1d}$$