Maxwell's Equations

Time-Varying Fields:

	Integral Form	Differential Form
Faraday's Law	$\oint_c \bar{\mathcal{E}} \cdot d\bar{l} = -\frac{d}{dt}\int_s \bar{\mathcal{B}} \cdot d\bar{s}$	$\bar{\nabla} \times \bar{\mathcal{E}} = -\frac{\partial \bar{\mathcal{B}}}{\partial t}$
Ampere's Law	$\oint_c \bar{\mathcal{H}} \cdot d\bar{l} = \int_s \bar{\mathcal{J}} \cdot d\bar{s} + \int_s \frac{\partial \bar{\mathcal{D}}}{\partial t} \cdot d\bar{s}$	$\bar{\nabla} \times \bar{\mathcal{H}} = \bar{\mathcal{J}} + \frac{\partial \bar{\mathcal{D}}}{\partial t}$
Gauss' Law	$\oint_s \bar{\mathcal{D}} \cdot d\bar{s} = \int_V \rho_v \, dV$	$\bar{\nabla} \cdot \bar{\mathcal{D}} = \rho_v$
	$\oint_s \bar{\mathcal{B}} \cdot d\bar{s} = 0$	$\bar{\nabla} \cdot \bar{\mathcal{B}} = 0$