The Maxwell-Faraday Equation

The equation can be written equivalently as a differential equation or an integral equation. Here is the differential version:

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

And here it is in integral form:

$$\int_{\partial \Sigma} E \cdot d\ell = -\frac{d}{dt} \iint_{\Sigma} B \cdot dA$$