

Lect. 1 Introduction

Maxwell's Equations (James Clerk Maxwell, 1831~1879)

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

Faraday's law

$$\nabla \times \overline{H} = \overline{J} + \frac{\partial \overline{D}}{\partial t}$$

Ampere's circuital law

$$\nabla \cdot \overline{D} = \rho$$

Gauss's law

$$\nabla \cdot \overline{B} = 0$$

No isolated magnetic charge

$$\overline{D} = \varepsilon \overline{E}$$

$$\overline{B} = \mu \overline{H}$$

$\left\{ \begin{array}{l} \varepsilon : \text{Permittivity} \\ \mu : \text{Permeability} \end{array} \right.$

