$\nabla \cdot E = \frac{1}{\epsilon_0}\rho$
$\nabla \times E = -\frac{\delta B}{\delta t}$
$\nabla \cdot B = 0$
$\nabla \times B = \mu_0 J + \mu_0 \epsilon_0 \frac{\delta E}{\delta t}$
$N = m \times b \ _{N=Torque}$
$F_{loop} = \nabla(m \cdot B)$
$J_b = \nabla \times M \ _{J_b=VolumeBoundCurrent}$
$K_b = M \times \hat{n} \ _{K_b=SurfaceBoundCurrent}$
$H \equiv \frac{1}{\mu_0}B - M$
$\nabla \times H = J_f \mid \oint H \cdot dl = I_{f_{enc}}$
$\nabla \cdot H = -\nabla \cdot M$
$M = \chi_m H \ _{\chi_m=MagneticSusceptibility}$
$B = \mu H$
$\mu \equiv \mu_0(1 + \chi_m)$
$F = ma = qE$
$J = \sigma(E + v \times B) \ _{\sigma=Conductivity}$
$J = \sigma E \ (Ohm'sLaw)$
$J_d = \epsilon_0 \frac{\delta E}{\delta t}$
$I = \sigma \int E \cdot da$
$P = VI = I^2 R$
$V = IR$
$\tau = RC$
$\varepsilon \equiv \oint f \cdot dl = \oint f_s \cdot dl \ _{\varepsilon=ElectromotiveForce}$

$\varepsilon = -\frac{d\Phi}{dt}$
$\varepsilon = IR$
A Changing magnetic field induces an electric field
Nature abhors a change in flux
$F_{mag} = \int I(dl \times B)$
$F_{mag} = Q(v \times B)$
$\Phi = LI \ _{L=SelfInductance}$
$\varepsilon = -L\frac{dI}{dt}$
$W = \frac{1}{2}LI^2$
$W = \frac{1}{2\mu_0}\int_{allspace} B^2 d\tau$

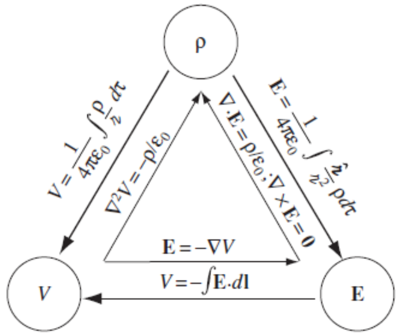

FIGURE 2.35

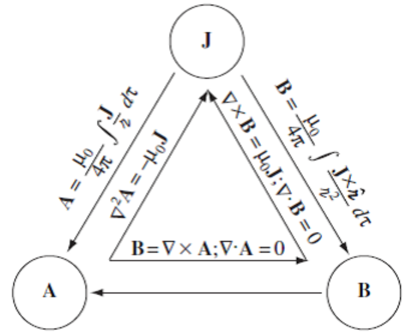

FIGURE 5.48