

## Elektrik Alanının Enerjisi

$$\Delta V = E l, \quad Q = C \Delta V$$

$$U = \frac{1}{2} q \Delta V$$

Ner bit plaka  $q < Q$  kadar yüklenirin  $dq$  kadar bir plaka bit plakadan elipter plakanya getirerek ikin yapilmasi gereken is  $\int dV = \frac{dq}{C}$

$$\int dV = \frac{Q}{C} dq$$

$$U = \frac{1}{2C} Q^2$$

$$U = \frac{C(\Delta V)^2}{2C}$$

$$U = \frac{1}{2} C(\Delta V)^2$$

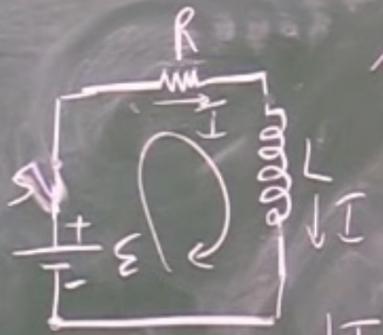
$$C = \frac{\epsilon_0 A}{l}$$

$$U = \frac{1}{2} \frac{\epsilon_0 A}{l} E^2 l^2$$

$$U = \frac{1}{2} \epsilon_0 E^2 (A l)$$

$$U_E = \frac{1}{2} \epsilon_0 E^2$$

Birim hacim besine düşen enerji miktarı.



$$E - IR - L \frac{dI}{dt} = 0$$

$$E = IR + L \frac{dI}{dt}$$

$$IE = IR + L I \frac{dI}{dt}$$

$$P_L = LI \frac{dI}{dt}$$

$$\frac{dU}{dt} = LI \frac{dI}{dt}$$

Magnezik Alanının Enerjisi

$$dU = L \int_0^{I_{max}} dI \quad L = \frac{N \Phi_B}{I}$$

$$U = \frac{1}{2} L I^2$$

$$L = \frac{N \mu_0 N A}{l}$$

$$L = \mu_0 \frac{N^2 A}{l}$$

$$U = \frac{1}{2} \mu_0 \frac{N^2 A B^2 l}{l} \frac{l}{\mu_0 N^2}$$

$$U = \frac{1}{2} \mu_0 B^2 A l$$

$$U_B = \frac{1}{2} \mu_0 B^2$$

$$B = \mu_0 \frac{N I}{l}$$

$$\Phi_B = BA$$

$$\Phi_B = \mu_0 \frac{N I A}{l}$$

$$I = \frac{B l}{\mu_0 N}$$



Birim hacim

başına düşen enerji  
miktarı.

