

## *Eddy currents:*

منتدى روضة العلوم الطبيعية

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**(1)** “ It is the induced currents produced in the iron core of the coil as a result of changing  $I$  or  $m. f$ ”.

### **(2) Factors affecting it:**

a- material of the / b- Rate of change in current ( frequently) Loss in elect. energy in the form of heat, melting the coil.

### **(3) Defects:**

loss in elect. Energy in the form of heat, melting the coil.

### **(4) Decreasing it :**

By using a thin isolated sheets of iron core” laminates”

### **(5) Advantage :**

Due to its heat effect , it can be used to melt metals using devices called “ induction furnace “ by replacing the metal block as a core in a crucible folded by a number. of copper tube coil joined to a.C of high frequency which produced a strong variation in magnetic field. The internal energy of atoms of the metal increases, which raises its temp. till the metal melts. The tube is cooled by a current of cold water to prevent its melting.

