

## SUMMARY

E/M forces acting on electrons inside a wire:

1. Forces from Coulomb electric fields due to surface charges
2. Forces from non-Coulomb electric fields associated with time-varying magnetic fields  $(\frac{d\vec{B}}{dt})$ .
3. Magnetic forces  $q\vec{v} \times \vec{B}$  if wire is moving

## FARADAY'S LAW

$$\oint \vec{E} \cdot d\vec{l} = - \frac{d}{dt} \oint \vec{B} \cdot d\vec{A}$$