

2009 Phy 2 Q4 (MHO) charge density

$$\rho \frac{dv}{dt} = \frac{\mathbf{J} \times \mathbf{B}}{c} - \nabla \cdot \mathbf{P} + \sigma \mathbf{E}$$

$$\mathbf{J} = \mathbf{E} + \frac{\mathbf{v} \times \mathbf{B}}{c}$$

$$\nabla \times \mathbf{E} = -\frac{1}{c} \frac{\partial \mathbf{B}}{\partial t}$$