

$$\frac{\partial}{\partial t}(\vec{p}_q / volume + \vec{p}_{EM} / volume) = \nabla \cdot (\mathbf{T})$$

$$\vec{p}_{EM} / volume = \mu_0 \epsilon_0 \vec{\mathbf{S}}$$

But what kind of beast is  $\mathbf{T}$ ? (Vector, scalar, other?)

If we integrate both sides over volume,  
what is the first term on left side?