General Physics Notes (07282026):

I don't have a lot of time today. I'll go over the Maxwell relations.

$$\nabla \cdot E = \frac{\rho}{\epsilon_0} \tag{1}$$

$$\nabla \cdot B = 0 \tag{2}$$

$$\nabla \times E = -\frac{\partial B}{\partial t} \tag{3}$$

$$\nabla \times B = \mu_0 I + \epsilon_0 \mu_0 \frac{\partial E}{\partial t} \tag{4}$$

The one thing I would add is a B field correction as quantum spin contains the magnetic field.

$$\nabla \times B = \mu_0 I + \epsilon_0 \mu_0 \frac{\partial E}{\partial t} + g S_1 \cdot S_2 \tag{5}$$