

$$\overrightarrow{\nabla} \times \overrightarrow{H} = \overrightarrow{J}_f + \frac{\partial \overrightarrow{D}}{\partial t} - g_{a\gamma\gamma} \sqrt{\frac{\epsilon_0}{\mu_0}} \left(\overrightarrow{B} \frac{\partial a}{\partial t} + \overrightarrow{\nabla} a \times \overrightarrow{E} \right)$$