

1. Demuestra que

$$F_{\mu\nu}F^{\mu\nu} = 2(\vec{B}^2 - \vec{E}^2)$$

2. Demuestra que

$$\epsilon^{\mu\nu\rho\sigma}F_{\mu\nu}F_{\rho\sigma} = -8(\vec{B} \cdot \vec{E})$$