

65. We set $u_E = \frac{1}{2}\varepsilon_0 E^2 = u_B = \frac{1}{2}B^2/\mu_0$ and solve for the magnitude of the electric field:

$$E = \frac{B}{\sqrt{\varepsilon_0\mu_0}} = \frac{0.50 \text{ T}}{\sqrt{(8.85 \times 10^{-12} \text{ F/m}) (4\pi \times 10^{-7} \text{ H/m})}} = 1.5 \times 10^8 \text{ V/m} .$$