

94. From the given information, we find

$$\frac{dB}{dt} = \frac{0.030 \text{ T}}{0.015 \text{ s}} = 2.0 \text{ T/s} .$$

Thus, with $N = 1$ and $\cos 30^\circ = \sqrt{3}/2$, and using Faraday's law with Ohm's law, we have

$$i = \frac{|\mathcal{E}|}{R} = \frac{N\pi r^2}{R} \frac{\sqrt{3}}{2} \frac{dB}{dt} = 0.021 \text{ A} .$$