



FAP 0291

Gabarito – Lista de Exercícios 7 Lei de Ampère

E8.2 (A) $\mathbf{B}(x) = \frac{\mu_0 I}{\pi} \frac{a}{a^2 - x^2} \hat{\mathbf{y}}$; (B) $\mathbf{B} = 1,2 \text{ mT } \hat{\mathbf{y}}$; (C) $\mathbf{B} = 6,3 \text{ mT } \hat{\mathbf{y}}$; (d) $\mathbf{B} = -5,7 \text{ mT } \hat{\mathbf{y}}$.

E8.4 $\mathbf{B}_1 = 0,21 \text{ mT } \frac{-\mathbf{i} + \mathbf{j}}{\sqrt{2}}$, $\mathbf{B}_2 = 0,14 \text{ mT } \frac{\mathbf{i} + \mathbf{j}}{\sqrt{2}}$, $\mathbf{B} = 0,25 \text{ mT } \frac{\mathbf{i} + 5\mathbf{j}}{\sqrt{26}}$

E8.8 $B = 0,255 \text{ T}$

E8.9 (A) $B = 6,3 \times 10^{-4} \text{ T}$ (B) $B = 6,3 \times 10^{-7} \text{ T}$

E8.13 (A) $4,0 \text{ mT}$ (B) $8,0 \text{ mT}$

P8.2 $\mathbf{B} = \frac{\mu_0 I}{2\pi(R^2 - r^2)} \left[\left(-\frac{R}{2} + \frac{2Rr^2}{4R^2 + a^2} \right) \mathbf{i} + \left(\frac{ar^2}{4R^2 + a^2} \right) \mathbf{j} \right]$

P8.5 $B = \frac{\mu_0 I}{4\pi L \sqrt{2}}$, entrando no papel.

P8.7 $B = \frac{1}{2} \mu_0 \mathcal{I}$

P8.8 (A) $B = \mu_0 NI / 2\pi r$ (B) $B = 0$

P8.9 $B = \frac{3\mu_0 I}{8\pi a}$

P8.13 (A) Não; (B) Sim; (C) Sim.

P8.14 (A) Sim; (B) Sim; (C) Não.