



$$\vec{B} = -2.5 \hat{k} \text{ T}$$

antiproton:

$$m = m_p = 1.67 \times 10^{-27} \text{ kg}$$

$$q = -e$$

$$\text{Electric force: } \vec{F}_e = q\vec{E} = -e\vec{E} = -1.6 \times 10^{-16} \hat{j} \text{ N}$$

$$\begin{aligned} \text{Magnetic force: } \vec{F}_m &= q\vec{v} \times \vec{B} = -e\vec{v} \times \vec{B} \\ &= (evB)\hat{j} \quad \text{by RHR} \\ &= 2 \times 10^{-16} \hat{j} \text{ N} \end{aligned}$$

$$\text{So, } \vec{F} = \vec{F}_e + \vec{F}_m = 4 \times 10^{-17} \hat{j} \text{ N}$$

$$\text{Now: } \vec{F} = m\vec{a}$$

$$\vec{a} = \frac{\vec{F}}{m} = \underline{\underline{2.395 \times 10^{10} \hat{j} \frac{\text{m}}{\text{s}^2}}}$$