

Which gives

35 cont.

$$\dot{x} = -\omega R \sin(\omega t + \delta)$$

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$$\dot{y} = -\omega R \cos(\omega t + \delta)$$

$$p_x = m\dot{x} = -m\omega R \sin(\omega t + \delta)$$

$$p_y = m\dot{y} = -m\omega R \cos(\omega t + \delta)$$

$$m\omega R = -\frac{m e B R}{m} R \\ = -e B R$$

$$\therefore p_x = e B R \sin(\omega t + \delta)$$

$$p_y = e B R \cos(\omega t + \delta)$$

Now  $e B R = p_{\perp}$  and  $\omega t_a + \delta = -8.749^\circ$

$$\sin(\omega t_a + \delta) = -0.1521$$

$$e B R = 6.95 \times 10^{-21}$$

$$\cos(\omega t_a + \delta) = 0.988$$

$$\therefore \vec{p} = (-1.06 \hat{e}_x + 6.87 \hat{e}_y + 7.97 \hat{e}_z) \times 10^{-21} \frac{\text{kg meter}}{\text{sec}}$$

or

$$\vec{p} = -1.98 \hat{e}_x + 12.85 \hat{e}_y + 14.9 \hat{e}_z \quad \frac{\text{MeV}}{c}$$

Wow!