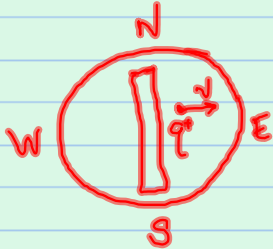


Ex 19.1 p 592

ϕ^+ $v = 1 \times 10^5 \frac{m}{s}$



$B = 55 \mu T$

$F_{max} \quad v \perp B \quad (\perp B)$

$F = 0 \quad q \text{ moves } N \quad (\parallel B)$

$F = ?$

direction = ?

$F = 1.6 \times 10^{-19} C (1 \times 10^5 \frac{m}{s}) (55 \times 10^{-6} T)$

$F_m = 8.8 \times 10^{-9} N$

direction runs N/S

$F_g = ? \quad 1.67 \times 10^{-27} kg$

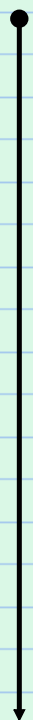
$F_g = mg$

$F_g = mg$
 $= 1.67 \times 10^{-27} kg (9.8 \frac{m}{s^2})$

$F_g = 1.6 \times 10^{-26} N$

compare

$F_m > F_g$



$F = qvB \sin \theta$
angle between $v + B$

at $F_{max} \quad v \perp B \quad \theta = 90^\circ$

$\sin 90 = 1$

$\sin 0 = 0$

$F = qvB \sin \theta$