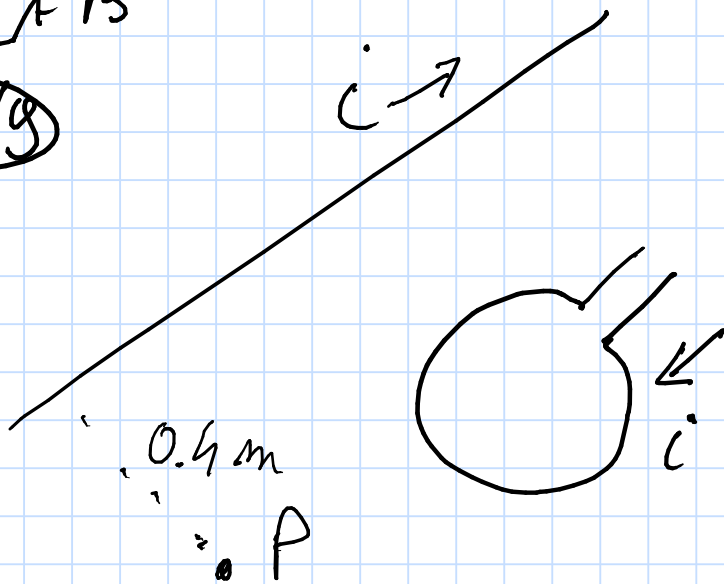


FIL 13

(4/9)



$$B_F = \frac{\mu_0}{2\pi} \frac{i}{d}$$

$$B_S = \frac{\mu_0}{2} \frac{i}{R}$$

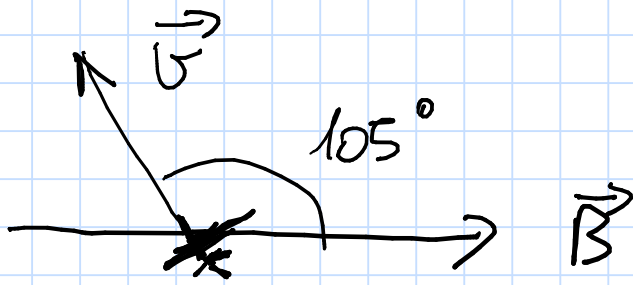
$$B_S = B_F$$

$$\frac{\mu_0 i}{2} \frac{i}{R} = \frac{\mu_0 i}{2\pi} \frac{i}{d}$$

$$\pi d = R$$

$$R = 3.14 \cdot 0.4 = 1.256 \approx 1.26\text{ m}$$

5/10 B



$$|\vec{v}| = 1008 \text{ km/h} = 280 \text{ m/s}$$

$$Q = 17 \cdot 10^{-6} \text{ C}$$

$$B = 50 \cdot 10^{-6} \text{ T}$$

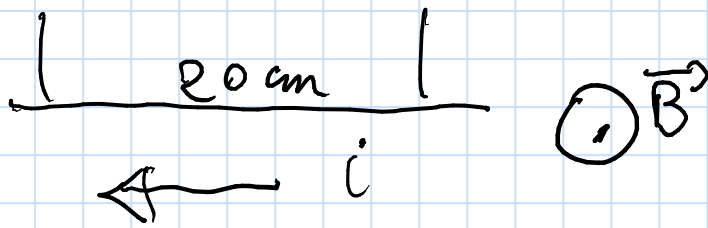
FORZA DI LORENZ

$$\vec{F} = q \vec{v} \times \vec{B}$$

$$F = Q v \cdot B \sin 105^\circ =$$

$$= 50 \cdot 10^{-6} \cdot 17 \cdot 10^{-6} \cdot 280 \cdot 0.966 = 0.23 \cdot 10^{-6} \text{ N}$$

4A



$$m = 0.015 \text{ Kg}$$

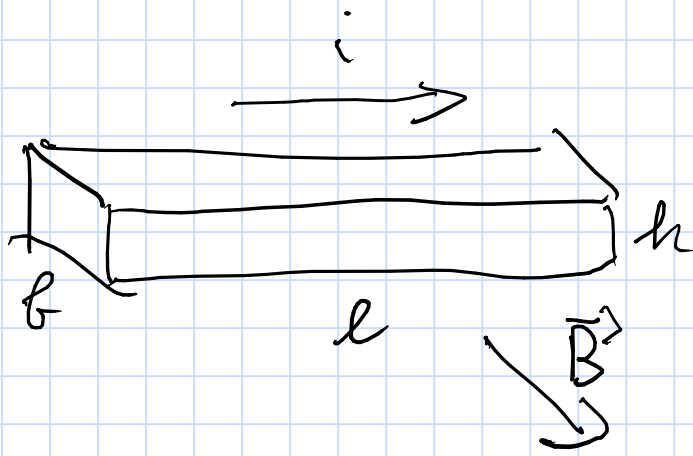
$$B = 0.74 \text{ T}$$

$$F_B = B i l$$

$$P = m g$$

$$B i l = m g$$

$$i = \frac{m g}{B l} = \frac{0.015 \cdot 9.8}{0.74 \cdot 0.2} = 0.993 \text{ A}$$



$$l = 4.0 \text{ cm}$$

$$b = 1.0 \text{ cm}$$

$$h = 10 \cdot 10^{-6} \text{ m}$$

$$i = 3 \text{ A}$$

$$B = 1.5 \text{ T}$$

$$V_H = 10 \cdot 10^{-6} \text{ V}$$

$$V_H = h v B$$

$$v = \frac{V_H}{hB} = \frac{10 \cdot 10^{-6}}{10 \cdot 10^{-6} \cdot 1.5} = \frac{2}{3} = 0.67 \text{ m/s}$$

electroni

