Experiment: 13

VERIFICATION OF BIOT SAVART LAW

AIM: To verify Biot- Savart law

PART : A

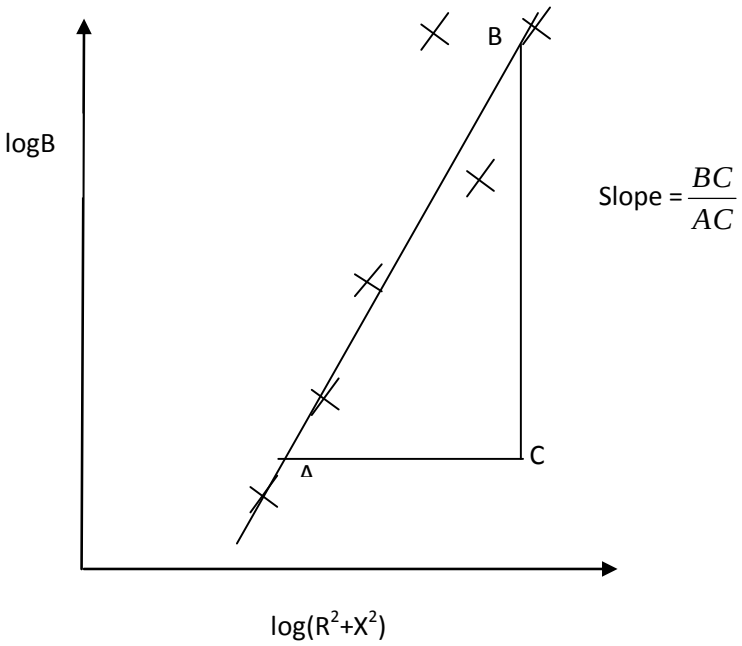
To calculate the Radius of the coil

PART : B To Verify Biot – Savart law

$$B = K\frac{1}{\left(R^2 + X^2\right)^{\frac{3}{2}}}$$

$$\log B = \log K - \frac{3}{2}\log\left(R^2 + X^2\right)$$

(Slope of logB versus log (R^2+X^2) is - 3/2. Intercept is log K)



I=……A Radius R= ….. cm = ……. m

Distance from Centre X (m)	Deflection (Θ)	tanΘ	$B = B_H$ tanΘ (T)	$\log_{10}B$	R^2+X^2 (m^2)	$\log_{10}(R^2+X^2)$

RESULT: 1. Radius of the given coil is ……..m

2. Slope of logB versus log (R^2+X^2) graph is …….. . Hence Biot –Savart law is verified