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Name: Thanh Nguyen

Lab Partners: Giana Piettrafesa

Nikitapatel

Esi Ejembi

John Virtue

Lab # 5

Biot- Savart Law

**Objective:**

To verify the dependence of magnetic field on current and the distance to source of magnetic field.

**Data/Result:**

the angle on left size of coil  
 the angle on right size of coil

the average angle of the sum of left and right size divide 2 of coil

is the constant of magnetic file from horizontal to earth.

is the magnetic file of coil (T)

: is the current (mA)

X is the distance from the center (cm)

Let’s do example of ,

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| X(cm) |  |  |  |  |
| 15 |  |  |  |  |
| 25 |  |  |  |  |
| 30 |  |  |  |  |
| 35 |  |  |  |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| X(cm) |  |  |  |  |
| 15 |  |  |  |  |
| 25 |  |  |  |  |
| 30 |  |  |  |  |
| 35 |  |  |  |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| X(cm) |  |  |  |  |
| 15 |  |  |  |  |
| 25 |  |  |  |  |
| 30 |  |  |  |  |
| 35 |  |  |  |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| X(cm) |  |  |  |  |
| 15 |  |  |  |  |
| 25 |  |  |  |  |
| 30 |  |  |  |  |
| 35 |  |  |  |  |

**Conclusion:**

From the data, we can see the distance of source of magnetic field affect to the magnetic field on the current. If the distance of object closes to the center of the coil, the magnetic field will be bigger. On the contrary, if the distance of object goes far from the center of the coil, the magnetic field will be smaller.