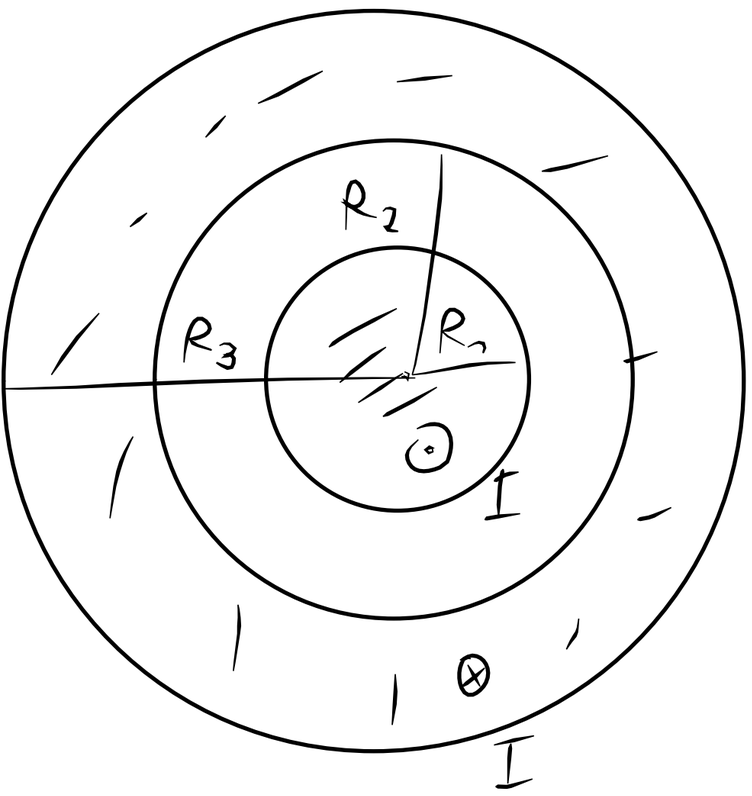

$\bar{j} = const$

dla $r \leq R_1$

$$I = j \cdot S = j \cdot \pi R_1^2$$

$$I' = j \cdot S' = \frac{I}{\pi R_1^2} \pi r^2 = I \frac{r^2}{R_1^2}$$

$$\mu_0 I' = B \, 2\pi r$$

$$\mu_0 I \frac{r^2}{R_1^2} = B \cdot 2\pi r$$

$$\frac{\mu_0 I \, r}{2 \pi R_1^2} = B$$

dla $R_1 \leq r \leq R_2$

$$I' = I$$

$$\mu_0 I = B \cdot 2\pi r$$

$$B = \frac{\mu_0 I}{2\pi r}$$

dla $R_2 \leq r \leq R_3$

$$I' = I - I \frac{r^2 - R_2^2}{R_3^2 - R_2^2}$$

$$\mu_0 I' = B \, 2\pi r$$

$$B = \frac{\mu_0 I}{2\pi r} \left(1 - \frac{r^2 - R_2^2}{R_3^2 - R_2^2}\right)$$

$$B = \frac{\mu_0 I}{2\pi} \left(\frac{R_3^2}{r} - r\right)$$

dla $R_3 \leq r$

$I' = 0 \Rightarrow B = 0$