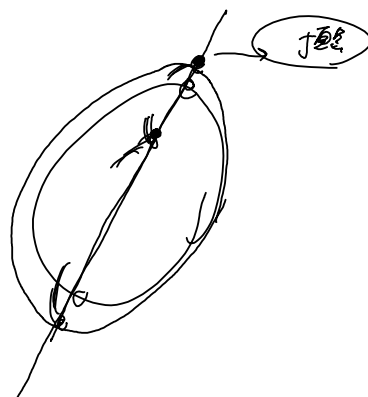


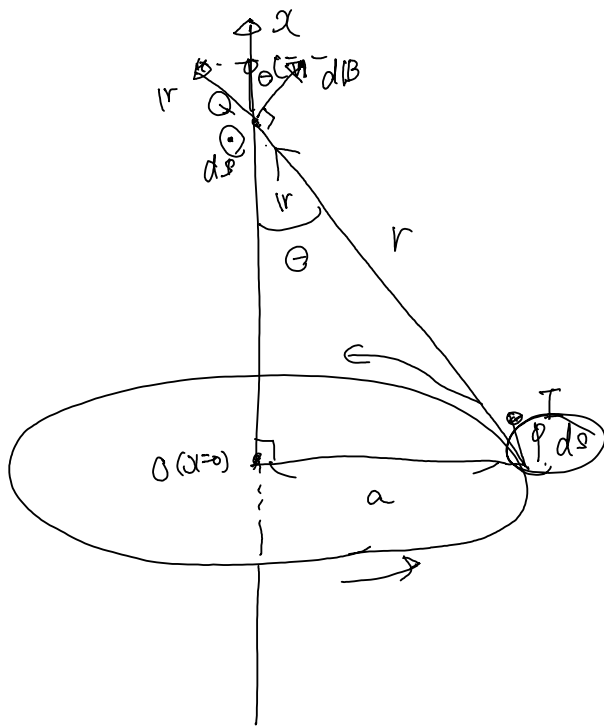
- 2D (
- 坐标系 (r, \theta)

dm



$$r_+ = \frac{l}{1-\varepsilon}, \quad r_- = \frac{l}{1+\varepsilon}, \quad L = r_+ + r_- = \frac{2l}{1-\varepsilon^2}$$

$1 + \varepsilon^2$



$$dB = \frac{\mu_0}{4\pi} \cdot \frac{Id\vec{s} \times \vec{r}}{r^3}$$

$$\xrightarrow{\text{size}} \frac{\mu_0}{4\pi} \cdot \frac{r}{r^3} \cdot \underbrace{\sin\theta}_{\left(\frac{a}{r}\right)} Ids = \frac{\mu_0}{4\pi} \cdot \frac{Ia}{r^2} ds$$

$$\therefore B = \frac{\mu_0}{4\pi} \cdot \frac{Ia}{r^2} \int_0^{2\pi} ds = \frac{\mu_0}{4\pi} \cdot \frac{Ia}{(a^2+x^2)^{3/2}} \cdot 2\pi a$$

$$= \frac{\mu_0 I a^2}{2(a^2+x^2)^{3/2}} \quad B_x$$