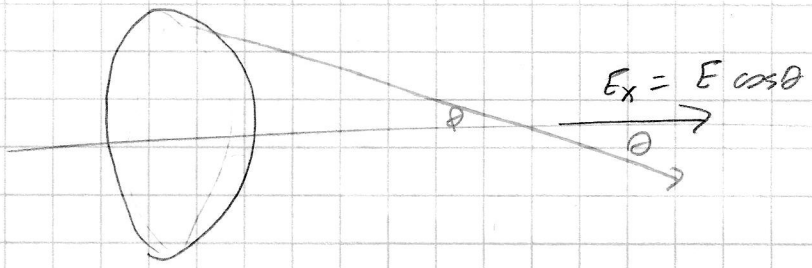

$$dE = \frac{da}{r^2} = \frac{dq}{x^2+a^2}$$

$$dE_x = dE\cos\theta = \frac{dq}{x^2+a^2}\,\frac{x}{\sqrt{x^2+a^2}}$$

$$E_x = \frac{x}{(x^2+a^2)^{3/2}}\int dq = \frac{Q\,x}{(x^2+a^2)^{3/2}}$$

$$T_{00} = \frac{1}{4\pi}\left(E^2+B^2\right)$$

$$\boxed{T_{00} = \frac{1}{8\pi}\,\frac{Q^2x^2}{(x^2+a^2)^3}}$$

$$\frac{dT_{00}}{dx} = \frac{Q^2}{8\pi}\,\frac{(x^2+a^2)^3\,2x - x^2\,3(x^2+a^2)^2\,2x}{(x^2+a^2)^6}$$

$$\boxed{\frac{dT_{00}}{dx} = \frac{Q^2}{4\pi}\left(\frac{x}{(x^2+a^2)^3} - \frac{3x^3}{(x^2+a^2)^4}\right) = 0}$$

$$\frac{1}{(x^2+a^2)^3} - \frac{3x^2}{(x^2+a^2)^4} = 0$$

$$x^2+a^2 - 3x^2 = 0$$

$$2x^2 = a^2$$

$$x = \pm\frac{a}{\sqrt{2}}$$

$$B = \oint \frac{I\, d\hat{l} \times \hat{r}}{r^2} \qquad B_{SI} = \frac{\mu_0}{4\pi} \int \frac{I\, d\hat{l} \times \hat{r}}{r^2}$$

$$dB_x = \frac{I\, dl}{(x^2+a^2)} \sin\theta = \frac{I\, dl\, a}{(x^2+a^2)^{3/2}}$$

$$l = 2\pi a$$

$$\boxed{B_x = \frac{I a}{(x^2+a^2)^{3/2}} \int dl = \frac{2\pi I a^2}{(x^2+a^2)^{3/2}}}$$

$$T_{00} = \frac{1}{8\pi}\left(\frac{Q^2 x^2}{(x^2+a^2)^3} + \frac{4\pi^2 I^2 a^4}{(x^2+a^2)^3} \right)$$

$$\frac{dT_{00}}{dx} = \frac{1}{8\pi}\left(\frac{Q\,2x}{(x^2+a^2)^3} - \frac{Q\,6x^2}{(x^2+a^2)^4} + \frac{4\pi^2 I^2 a^4\,(-6x)}{(x^2+a^2)^4} \right) = 0$$

$$Q(x^2+a^2) - 3Qx^2 - 12\pi^2 I^2 a^4 = 0$$

$$-2Qx^2 + Qa^2 - 12\pi^2 I^2 a^4 = 0$$

$$x = \pm \sqrt{\frac{Qa^2 - 12\pi^2 I^2 a^4}{2Q}}$$