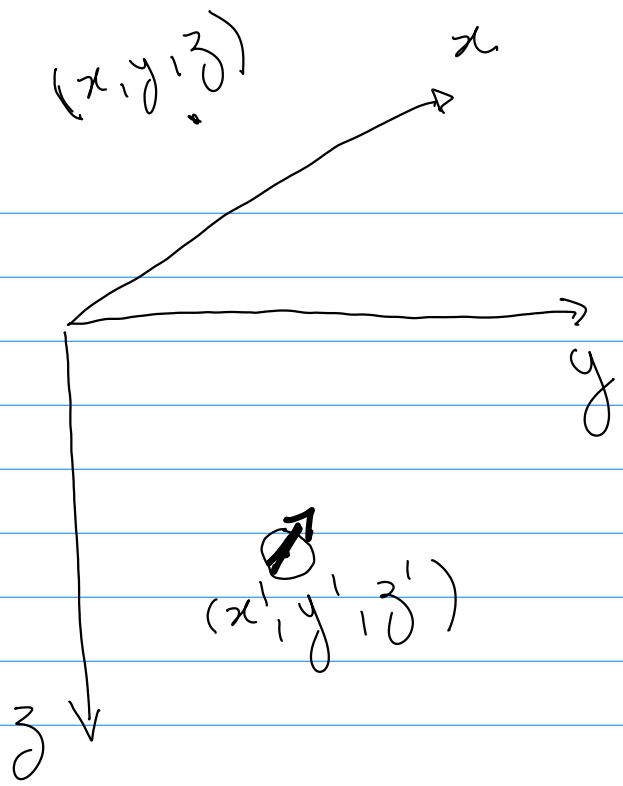
Dipolo

$\mathcal{B}(x,y,z)$ ?




condições magnetostáticas
(ausência de corrente elétrica)

potencial magnético escalar

$$V(x,y,z) = -C_m \nabla \frac{1}{r}^T \mathbf{m} \quad \left[10^9 \frac{H A}{m}\right] \rightarrow 10^9 T \cdot m$$

$$r = \left[(x-x')^2 + (y-y')^2 + (z-z')^2\right]^{1/2}$$

$$\nabla \frac{1}{r} = \begin{bmatrix} \partial_x \frac{1}{r} \\ \partial_y \frac{1}{r} \\ \partial_z \frac{1}{r} \end{bmatrix} \qquad \left[\frac{1}{m^2}\right]$$

$$\mathbf{m} = m\,\hat{\mathbf{m}}$$

$$\hat{\mathbf{m}} = \begin{bmatrix} \cos I' \cos D' \\ \cos I' \sin D' \\ \sin I' \end{bmatrix}$$

$$C_m = 10^9 \frac{\mu_0}{4\pi} \frac{H}{m}$$

$m$ = volume x intensidade de magnetização total

$[m^3]$ $\qquad$ $[A/m]$

indução magnética

$$\mathbf{B}(x,y,z) = -\nabla V(x,y,z)$$