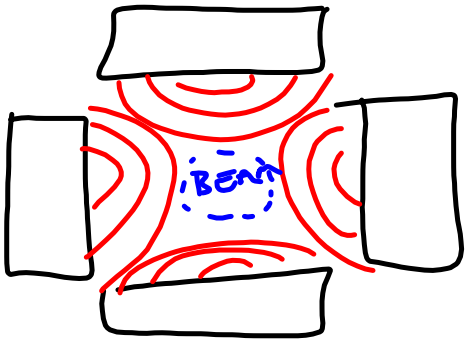

CROSS-SECTIONAL VIEW

Beam is a set of charged particles, and you can change the direction of with magnetic (and electric) fields.

$$\vec{E}_1 = \frac{\vec{F}}{q_2}$$

$$= \frac{\frac{1}{4\pi\varepsilon_0}\frac{q_1 q_2}{|\vec{r}|^2}\hat{r}}{q_2}$$

$$\vec{E}_1 = \frac{1}{4\pi\varepsilon_0}\frac{q_1}{|\vec{r}|^2}\hat{r}$$

$\hat{r}$ ← unit vector pointing in direction of $\vec{r}$