

# DATA FOR MAGNETIC FIELDS LAB (with Helmholtz Coils):

Helmholtz coil radius  $R = .1$  meters

Number of winds in Helmholtz coil  $N = 125$

Plate voltage  $V = 50$  volts

the charges are electrons, so  $q = 1.6 \times 10^{-19}$  C

the current in the Helmholtz coil to get the beam to arc a radius of .01 m is:

$$i = 2.4 \text{ amps}$$

the constant  $\mu_0 = 4\pi \times 10^{-7}$