



- (b) As shown in the figure below, a loop carrying a current of I_l with normal $\hat{n} = \frac{1}{\sqrt{2}}(\hat{x} - \hat{y})$ is placed a distance d above a straight wire, which is carrying a current of I_0 . Calculate the magnetic moment of the current loop and the magnetic field generated by straight wire at the loop's position. Using these two values, calculate the torque vector, \vec{T} , of loop. In what direction does the loop move due to the torque?

