



(a) Diagram showing how electrons passing through an electromagnetic lens are brought to focus; (b) a conventional optical ray diagram for comparison. Electrons rotate along this path (rotation omitted for clarity). Notice how the envelope marked by the dashed line in (a) resembles that of the ray in (b)

a charge particle moving (vector) inside a magnetic field, we can use "Right-Hand Rule" to figure out the applied FORCE direction. For a minus sign of electron, the final force direction should be reversed....

at any point inside the polepiece, there are always radial and circumferential forces applied on the electrons. The composite forces resulted a "spiral" movement of the electrons.... The dash-line "envelope" is exactly figured out the same beam path of an equivalent glass lens..... so later on we can always this "equivalent" for drawing the electron beam path for a SEM lens....