



Diagram of an electromagnetic lens. The yoke in the centre confines the field to a very small region.

After electrons are accelerating by kV (high voltage, also named as high tension(HT) or high potential), and now we begin to talk about ELECTRON OPTICS

as shown in the figure an electromagnetic lens, the "condensed" magnetic field is only available around "pole-piece" region, and it is shield by IRON SHELL in other parts of the lens..... (see a real "cut" one in Lab section)

inside the lens, there are several thousand tiny copper wires.... as changing wire current, the magnetic field will be changed correspondingly, resulted to curve electrons in different ways, to focus them at different points/planes (with different focus lengths).... this operation is much more simple than that of LM (need a group lens)!

concave and convex glass lens with +/- signs, could compensate lens defects in LM.... but an electromagnetic lens has only one "sign" i.e. aberration could not be fully cancelled....