

# The gyroradius issue

- Presence of the constant magnetic field causes that they move on spiral trajectories
- The gyroradius is a function of electron momentum and magnetic field and is given by equation
$$r_g = \frac{p_T}{B \cdot q}$$
- The IPM resolution is limited by the gyroradius
- The broadening is not only the gyroradius effect (beam size and intensity dependance).
- However, the higher magnetic field not only helps with gyroradius limitation but also with the space-charge broadening.

