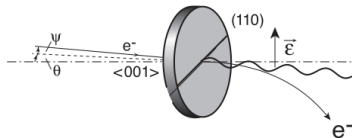


Polarized beamstrahlung photons

- We plan to use a foil to produce high energy photons
- As well as a foil (amorphous structure), use oriented crystal (Si, Ge, Diamond)
- Energetic, linearly polarised photons produced by unpolarised electrons
- Coherent bremsstrahlung, resonance from lattice planes in phase with photon energy
- Order of magnitude enhancement of photon rate
- Crystal oriented so that electron path is 5 mrad from (001) axis and $70\text{ }\mu\text{rad}$ from (110), 150 GeV e^- [CERN-SPSC98-17]
- 10-60% polarisation possible
- OPPP is polarisation dependent
- Schwinger field polarisation dependent?

Polarised beamstrahlung from oriented crystal



Enhancement of bremsstrahlung

