

0. 2-IP issue

e+e- experiment, then e-e-/gamma gamma experiment,
where accelerator shall be specialized for each experiment.

1. BDS Optics with $L^*=4.5\text{m}$

How to verify 4.5m in comparison with 3.5m?

2. BDSIM update in GEANT4, Jupiter, SAD-inputs, Detector geometry manual for users and homepage, cross-check with the UK-version effect of detector solenoid, DID and anti-solenoid, polarization, is it precise enough? or CAIN is needed?

-e. g. spin precession after the upstream polarimeter to IP
with errors of magnets

collimation depth (wake field and emittance growth)

v.s. min. vertex radius

synchrotron background

muon background - tolerable rate?

neutron, X-ray from extraction line

3. Crossing angle,

stau-pair production, (ee)tau tau background rejection by mini-veto angle
comparison of backgrounds for 2/20mrad crossing, three detectors

(SiD, LCD, GLD)

background: synchrotron radiations, pairs, neutrons, Xrays

- Si v.s. TPC ?

choice of final doublet -- especially for gamma gamma colliders

geometry package of e-e- and gamma gamma colliders with laser cavities

4. Headon collision with RF kicker

5. 1/4 horizontal emittance, is it possible ?

for gamma gamma collider

6. Beam parameter choice

e.g.

- Separation between bunch crossings: 154 to 462 nsec

- Average beamstrahlung energy loss: 1.8 to 7% (500 GeV)
and 4.4 to 18% (1000 GeV)

- Incoherent e+e- pairs per crossing: 0.8 to $6.4 \cdot 10^5$ (500 GeV)
and 1.5 to $13.6 \cdot 10^5$ (1000 GeV)

- Luminosity: 2 to $5 \cdot 10^{34} \text{ cm}^{-2} \text{ s}^{-1}$ (500 GeV)
and 3 to $8 \cdot 10^{34} \text{ cm}^{-2} \text{ s}^{-1}$ (1000 GeV)