

## Physics Issues:

Various target materials discussed and to be further explored, Ti, W, liquid Pb and Hg. Target studies are connected with the capturing system design/schemes. Issues are heating, radiation damages, windows and mechanical stresses and so on.

Collection systems. Currently, considering  $\frac{1}{4}$  wave xfmr, flux concentrator or even immersed/partially immersed cases. Li lens is very efficient if we can build it. All the cases are somewhat inter connected with the undulator parameters.

Also collection and stacking schemes for the Compton scheme needs to be further investigated. These schemes need to show the ILC operating parameters can be achieved.

Spinning targets in Magnetic fields: Accurate thermal calculations are needed. RAL, ANL, Cornell, LLNL's results need to converge. New target configurations such as geometries, different materials and slots (interrupting eddy current).

Undulator choices: Low K or high K, needs to have a clear understanding pros and cons of each scheme, parameter settings and target requirements (low K needs W).

Collimator and optics seems to be in good shape, may need minor adjustment when other part changes.

Activation calculations: target, accelerator and magnets. we have gained qualitative understanding, need to do photon collimator activation calculations.

Undulator jitter studies: electron beam jitter tracking through the undulator, what effect it has on the e+ polarizations if photon collimators used. Also other errors like undulator and alignments.

Electron beam properties after traversing the undulator, anything changes except energy?

Polarizations: A complete tracking S2E ? On-line monitoring polarizations needed?

KAS, spins, and other issues?