

ILD TECHNICAL DELIVERABLES

This short document describes the expected content and structure of the ILD technical deliverable (due end 2018), in line with the ILD optimization strategy sketched by the E.T. The general philosophy is to document all progress made on the detector design since the DBD in a self-consistent document superseding the previous ones. The document will stay compact and refer to external references such as technical publications or ILD internal notes for details.

Reminders

- Overall ILC constraints
- ILD concept: low tracker material, high granularity, particle flow, triggerless ...

Updated external constraints since DBD

- Updated beam conditions: new L^* , backgrounds, energy profile ...
- Primary focus on 250 GeV with future upgrades to higher energies

Technological studies since DBD

- Latest subdetector prototypes and beam test results
- Subdetector interfaces (based on interface documents) and integration scheme incl. services
- Mechanical structure options: mechanical studies, calo integration issues ...
- Coil studies: updated field maps, technological options for anti-DID ...
- Beam background studies: beam-beam w and w/o anti-DID, backscattered neutrons ...
- Alignment/calibration procedures

Updated detector models

- Updated structure of subdetectors: VFS, calo layers, silicon trackers ...
- The 2 global size options and their rationale : 1 DBD-like as ref and 1 smaller radius / same length
- Simulation description (level of detail) incl. hybrid options for calorimeters, methods for BG overlap, method for anti-DID inclusion ...

Detector performance on various levels as function of size (2 models) and/or technology (hybrid sim)

- Response to individual particles
- Global response incl. particle flow
- Performance on a few physics benchmarks at 500 GeV (tbd: top + recoil ZH ?)

NB: description of updated reconstruction and analysis methods to be coordinated with physics deliverable

Updated cost evaluation as function of size (and techno)