

Beamstrahlung studies

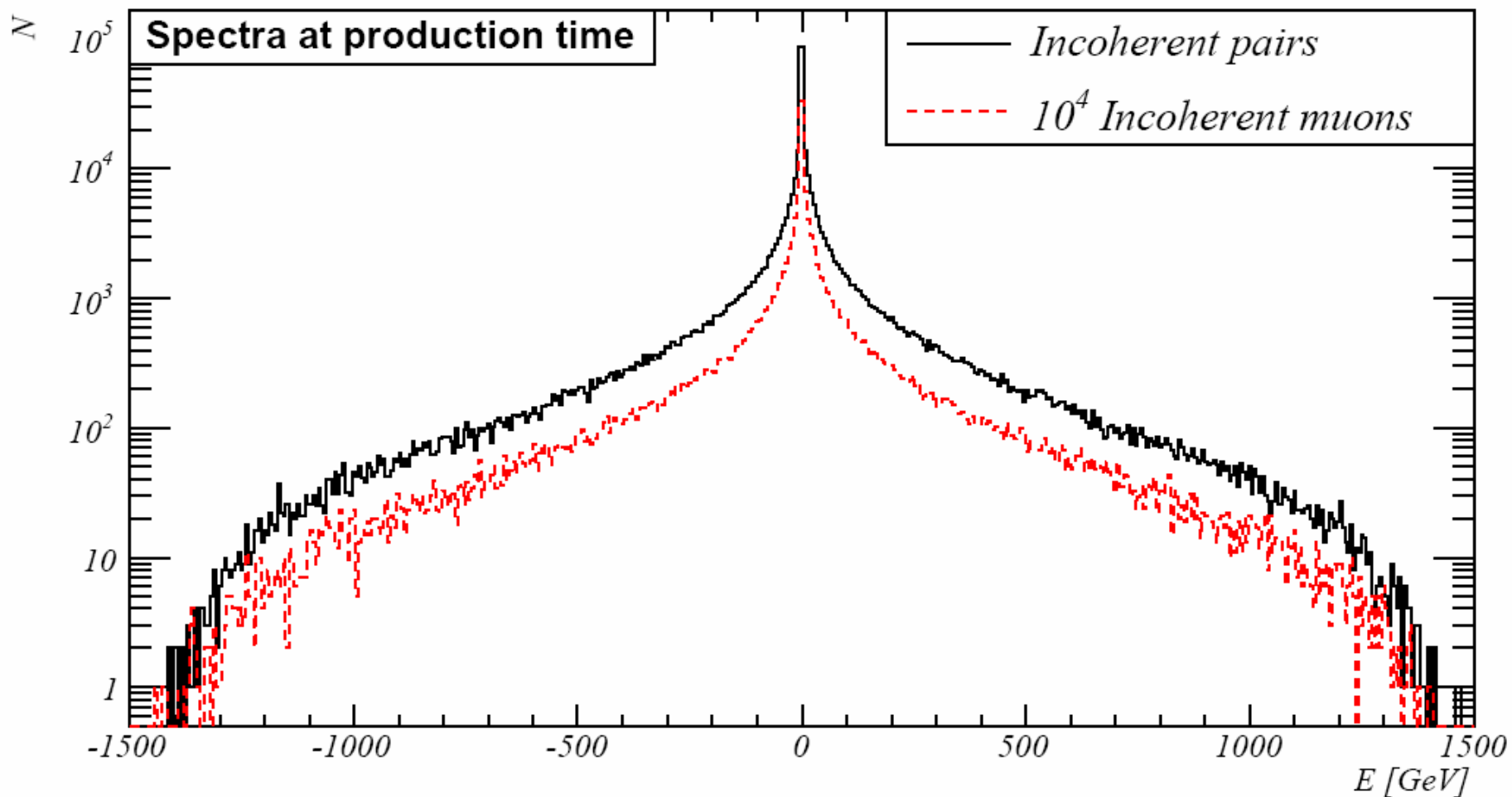
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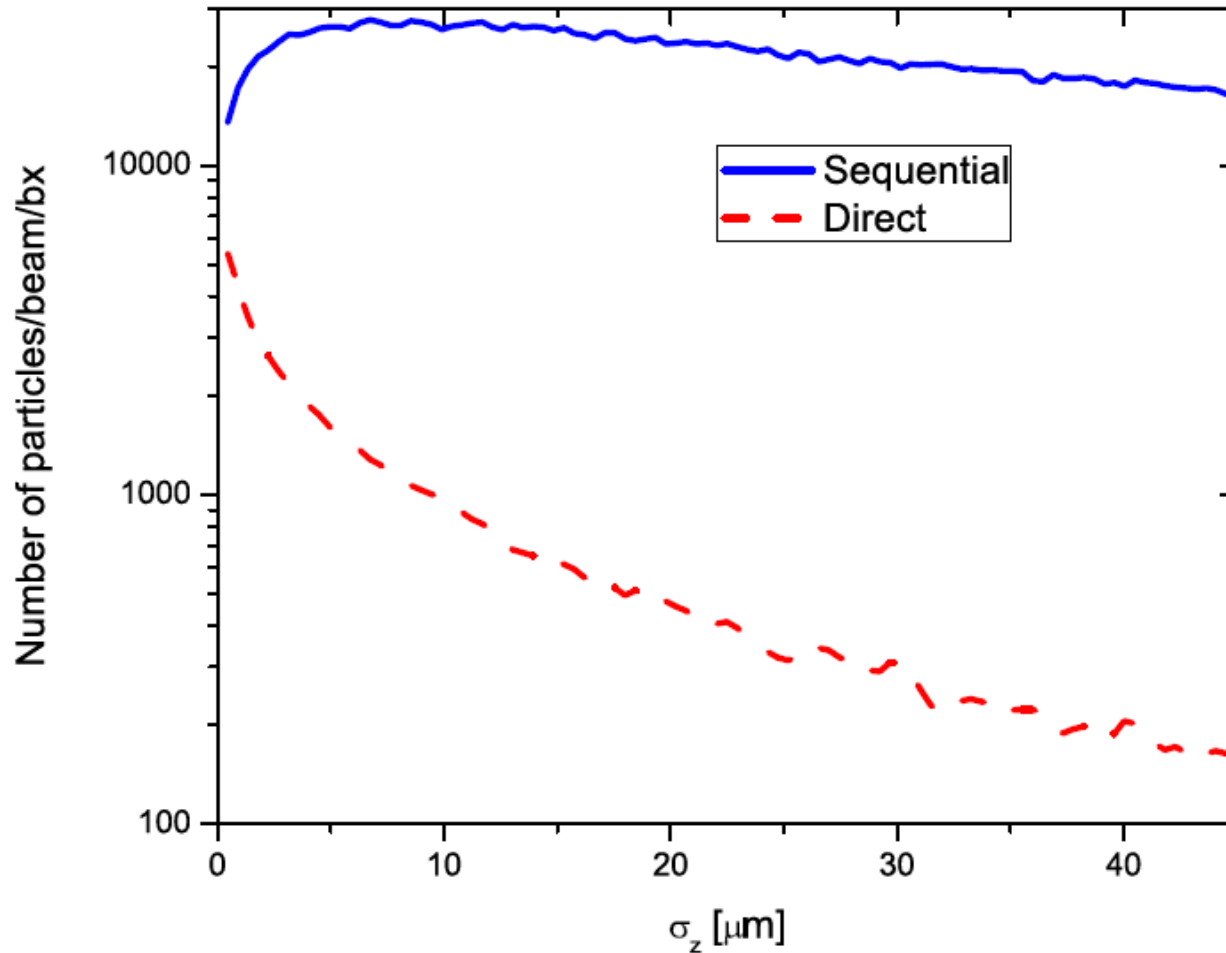
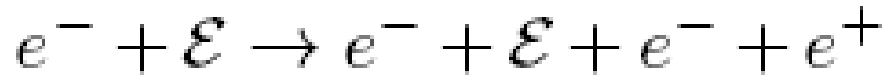
presented by Tord Ekelöf

GUINEA-PIG simulations



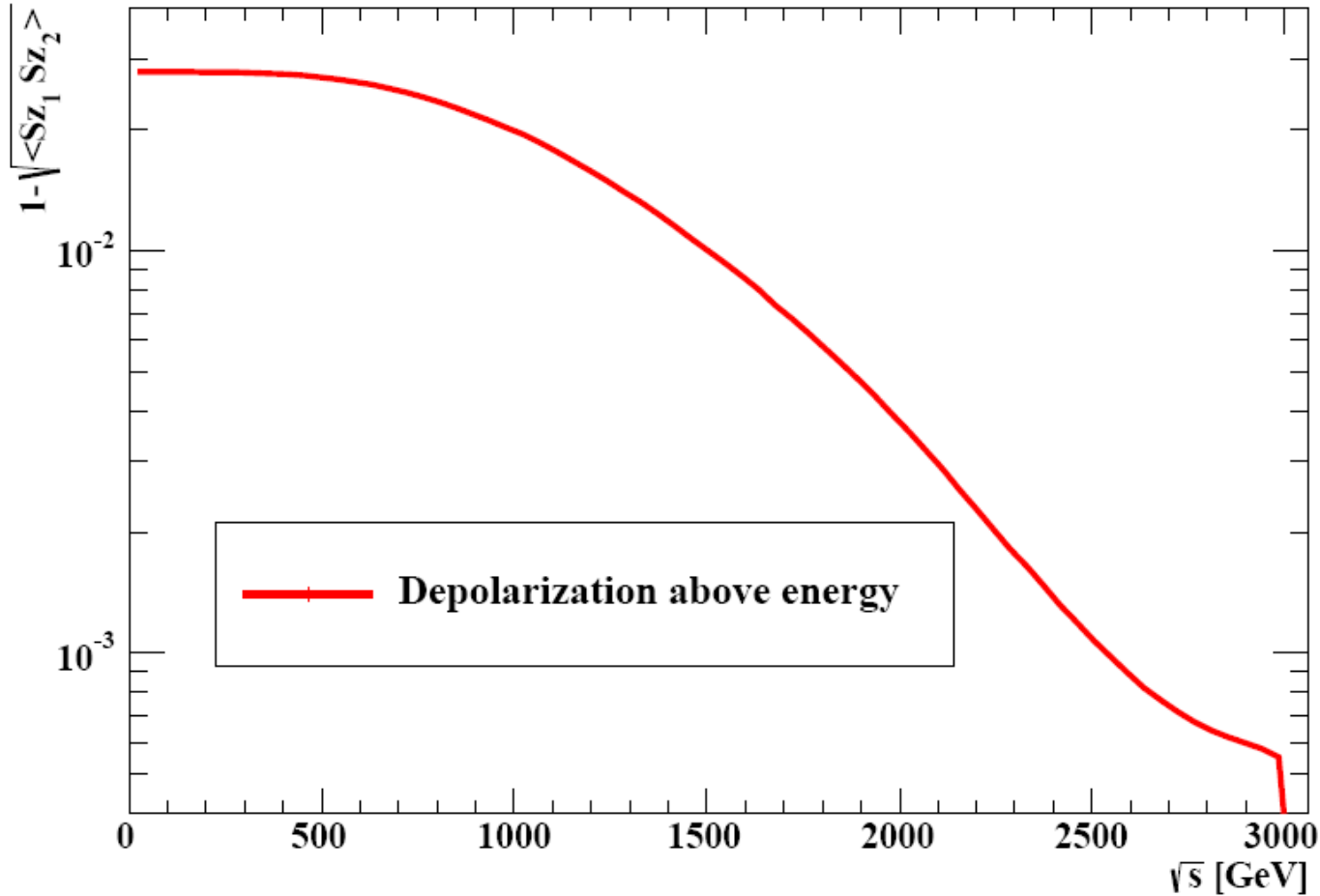
The spectrum of incoherent muons and electron-positron pairs. Note that the muon production cross section has been scaled up by a factor 10^4 to bring the processes to the same scale. These are the spectra of leptons before any tracking in the beam-beam field.

Trident production implemented



Bunch length dependence of the yield of the coherent pair production mechanisms

Depolarization



Systematic differences found between CAIN (A. Hartin) and GUINEA-PIG simulations – under study.

The depolarization as function of a cut in the lower CM energy.

Contributions to CLIC

- Presently 1 doctoral student – Jakob Esberg – working on beamstrahlung processes. Finishes ph.d. in April 2012.
- 1 new doctoral student planned to contribute starting summer 2012 and working 4 years with CLIC-related processes, but mainly being based in Aarhus.