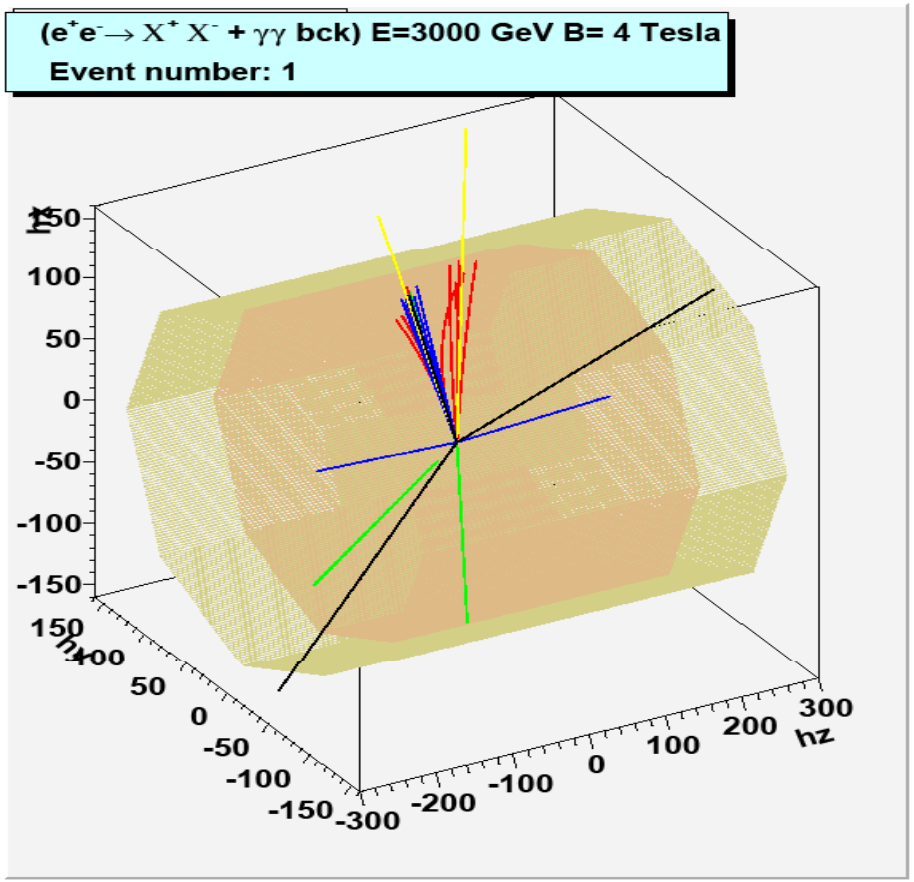
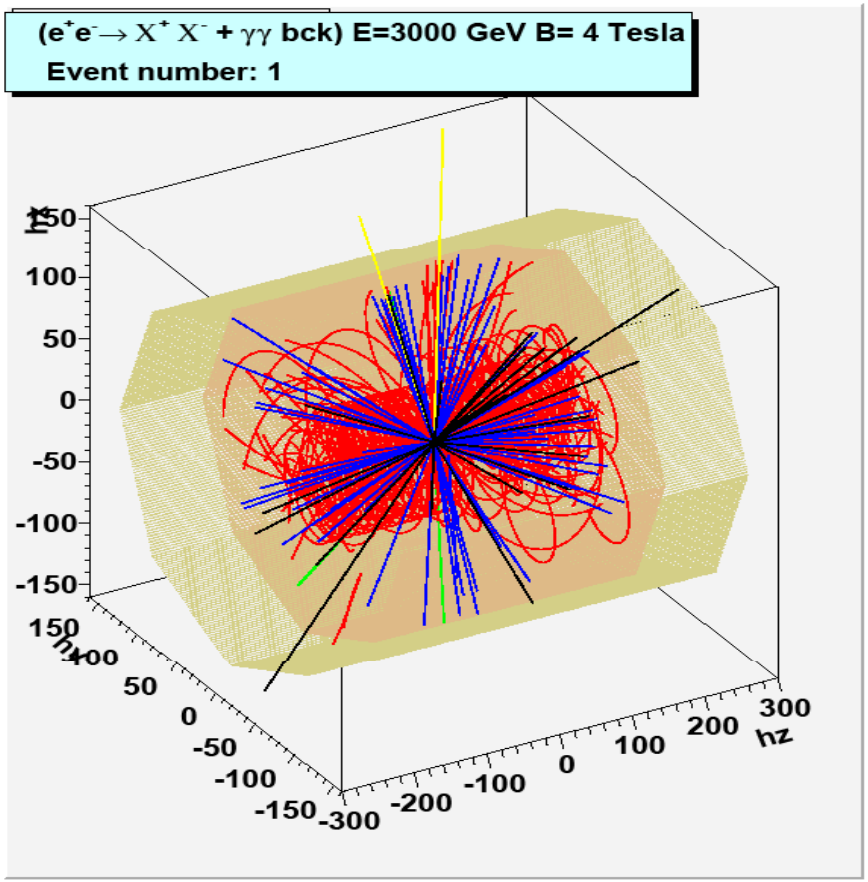
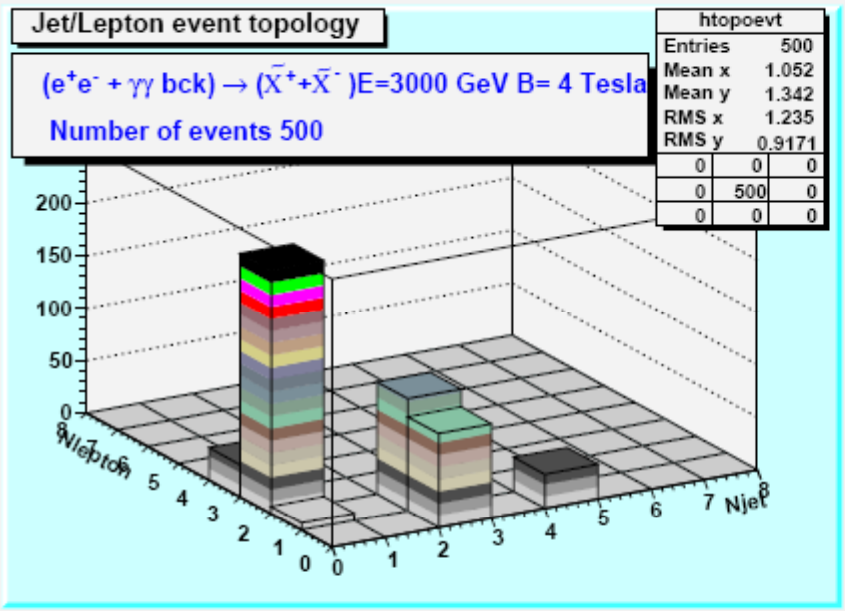
$e^+ + e^- \rightarrow \chi^+ + \chi^- \rightarrow \chi^o + \chi^o + \ldots$

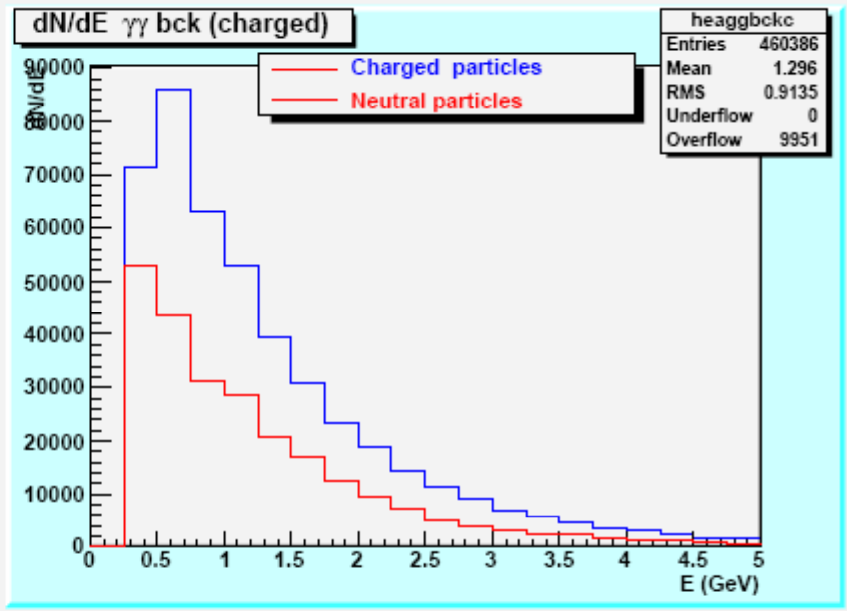
500 charginos events with ~ 150 bunch crossings of $\gamma\,\gamma$ background at 3 TeV

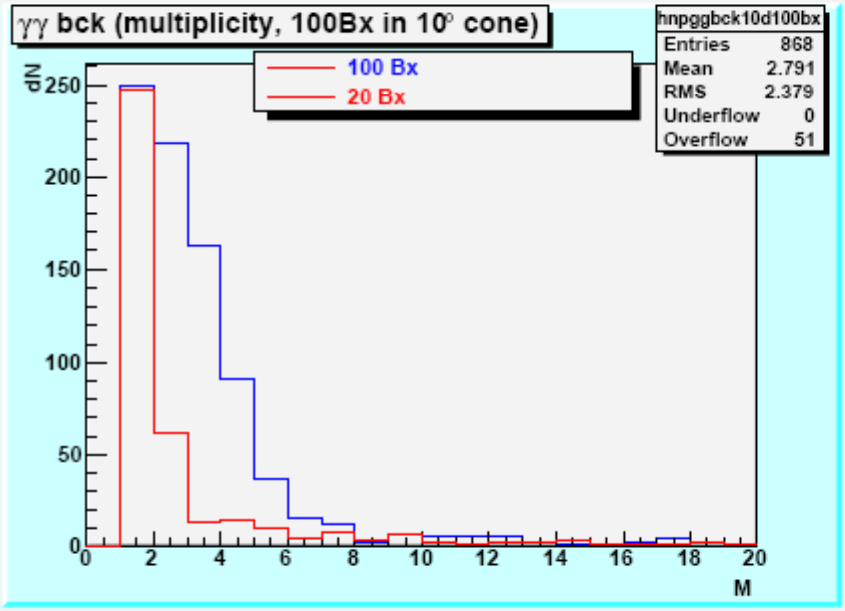
# $e^+ + e^- \rightarrow \chi^+ + \chi^- \rightarrow \chi^o + \chi^o + \ldots$
# without/with 20 Bx of γ γ

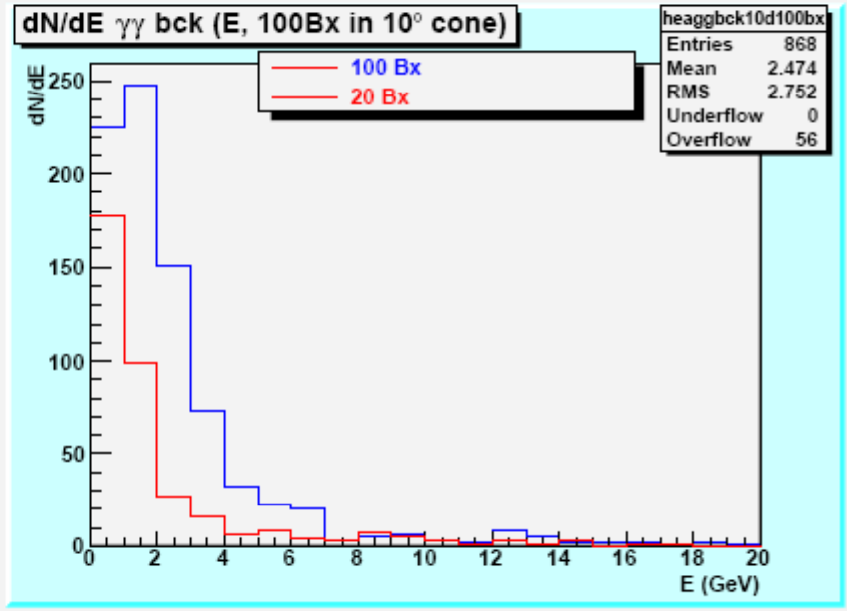



Jet/Lepton event topology
$(e^+e^- + \gamma\gamma$ bck$) \rightarrow (\bar{X}^+ + \bar{X}^-)$E=3000 GeV B= 4 Tesla
Number of events 500
htopoevt
Entries 500
Mean x 1.052
Mean y 1.342
RMS x 1.235
RMS y 0.9171
Nlepton
Njet


dN/dE γγ bck (charged)
Charged particles
Neutral particles
heaggbckc
Entries 460386
Mean 1.296
RMS 0.9135
Underflow 0
Overflow 9951
dN/dE
E (GeV)


γγ bck (multiplicity, 100Bx in 10° cone)
100 Bx
20 Bx
hnpggbck10d100bx
Entries 868
Mean 2.791
RMS 2.379
Underflow 0
Overflow 51
dN
M


dN/dE γγ bck (E, 100Bx in 10° cone)
100 Bx
20 Bx
heaggbck10d100bx
Entries 868
Mean 2.474
RMS 2.752
Underflow 0
Overflow 56
dN/dE
E (GeV)

# Comments

The γ γ background is composed of 2/3 charged and 1/3 neutral particles of very low energy, ~ 1 GeV.
The charged particles are trapped by the B field and only ~ 1/4 reach the ECAL.
In a cone of 10 deg around the direction of the missing energy (neutralino) the number of particles from γ γ background is ~ 3
For 10 Bx. A time window of 10/20 ns would be ok.
The occupancy created by the γ γ background requires additional Work, to understand the occupancy integrated over a full train; 312 Bx.