Production Status for ẽ± studies
IN2P3 Resources Requests

J-J.Blaising, S.Poss

Pre-selection Cuts

Following the studies done at generator level using whizard, pre-selection cuts have been defined for background events:
Whizard cuts:

- $10° < \Theta(e) < 170°$
- $Pt(e) > 4$ GeV

Post whizard cuts

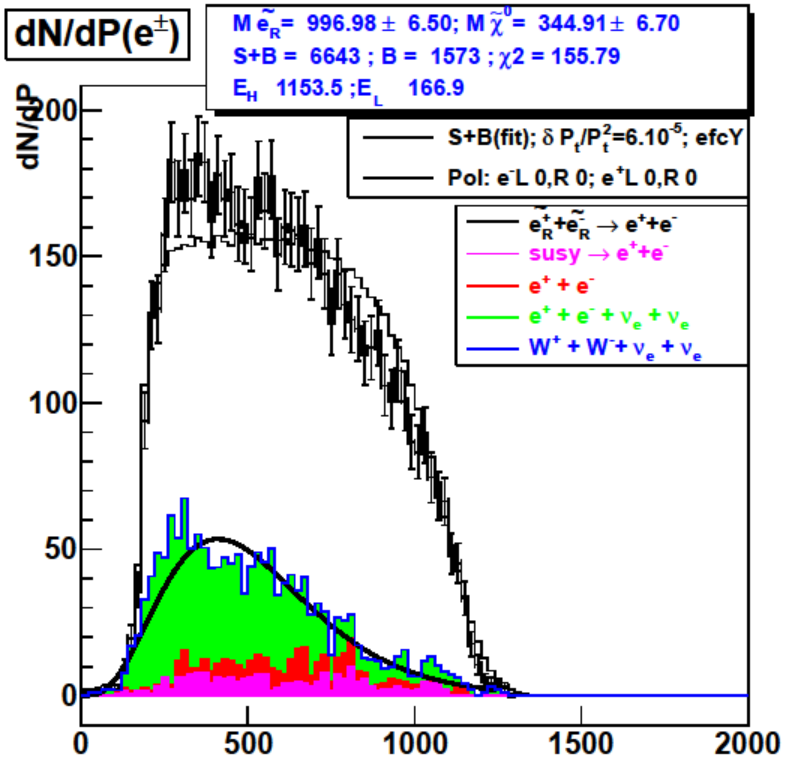
- $Evis < 2.4$ TeV
- $4° < \Delta\Phi(e,e) < 176°$
- $Pt(e,e) > 10$ GeV
- $M(e,e) > 100$ GeV

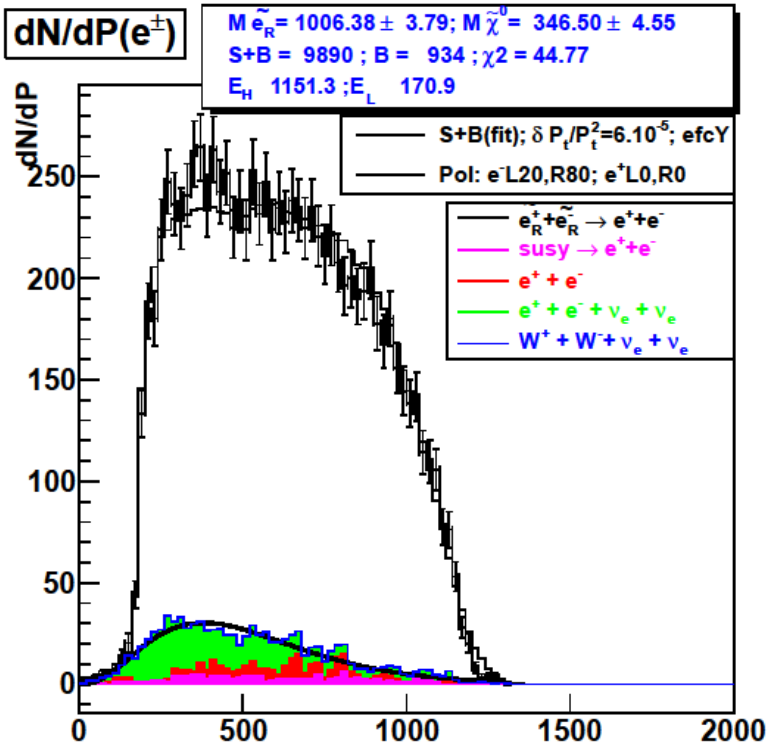
Stdhep Production Status

Process	σx Br	Events generated	L fb^{-1}	Events Pre-sel	Events Final-sel
$e^- e^+ \to \tilde{e}^- \tilde{e}^+$	6	$2.\ 10^4$	3300	19990	16800
SUSY-$\tilde{e}^- \tilde{e}$	2	$5.\ 10^4$	1200	2338	302
$e^- e^+ \to e^- e^+$	80	$5.5\ 10^6$	880	64622	184
$e^- e^+ \to e^- e^+ \bar{\nu} \nu$	26.5	$2.\ 10^5$	1060	26477	1158
$e^- e^+ \to W^- W^+ \bar{\nu} \nu$	0.3	$1.\ 10^5$	1080	264	3
$e^- e^+ \to Z^- Z^+ \bar{\nu} \nu$	0.1	0			

Signal cross section is 6 fb, => 500 fb^{-1} is ok for analysis, need
50% of events for training, 50% for measurement.
With 64000 $e^- e^+$, the weight is 1.1 for this sample. For $e^- e^+ \to e^- e^+ \bar{\nu} \nu$, the weight is 0.5.

Stdhep level Analysis





Analysis done at generator level assuming $\delta Pt/Pt^2 = 6 \cdot 10^{-5}$ and no polarization gives:

$\delta m/m =$ 0.7% for $\tilde{e}\pm$ and $\delta m/m = 2\%$ for $\tilde{\chi}^0$.

Production Plan

The processing time for e^- e^+ events is ~ 1 hour/event (Stephane).

Stdhep files exist; they were split into ~ 6000 files of 20 events.

The simulation of the ~120000 events will require ~ 120000 h.

Production organization will be setup with Stephane.

For the μ̃± I plan to proceed in the same way fir the signal. For the background events I will only

IN2P3 Resources Requests

In 2010 ILC used 4.10^6 HS06.h at CCIN2P3, the storage reached 32 TB.

For 2010, I requested 7.10^9 kSI2k .sec = $7.8\ 10^6$ HS06.h for LCD

The ILC+LCD request submitted by for 2011 Roman Poeschl is:
12.10^6 HS06.h and 67.5 TB

End 2010 the storage was full, 9.5 TB were already added.