Choosing SiD's Global Parameters

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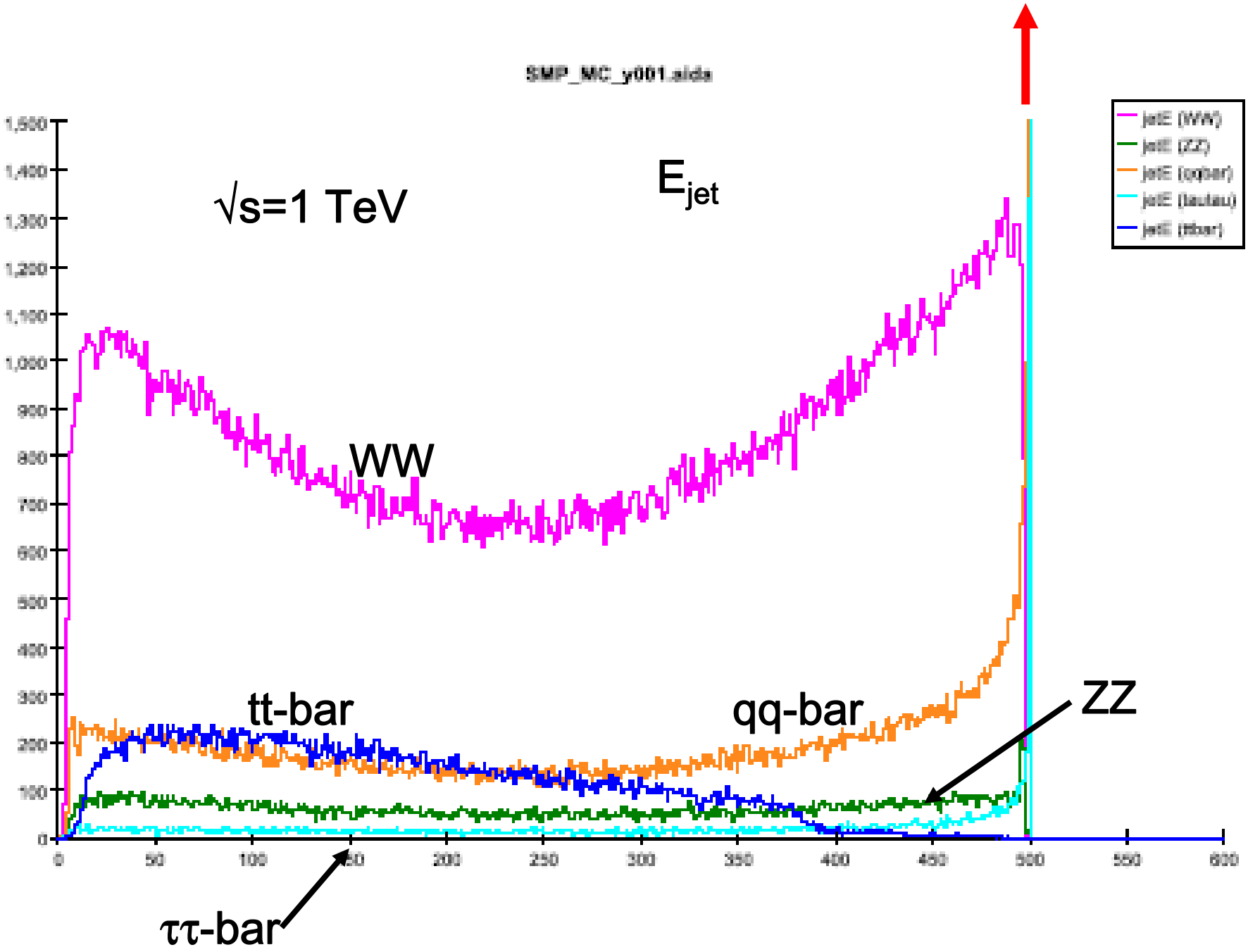
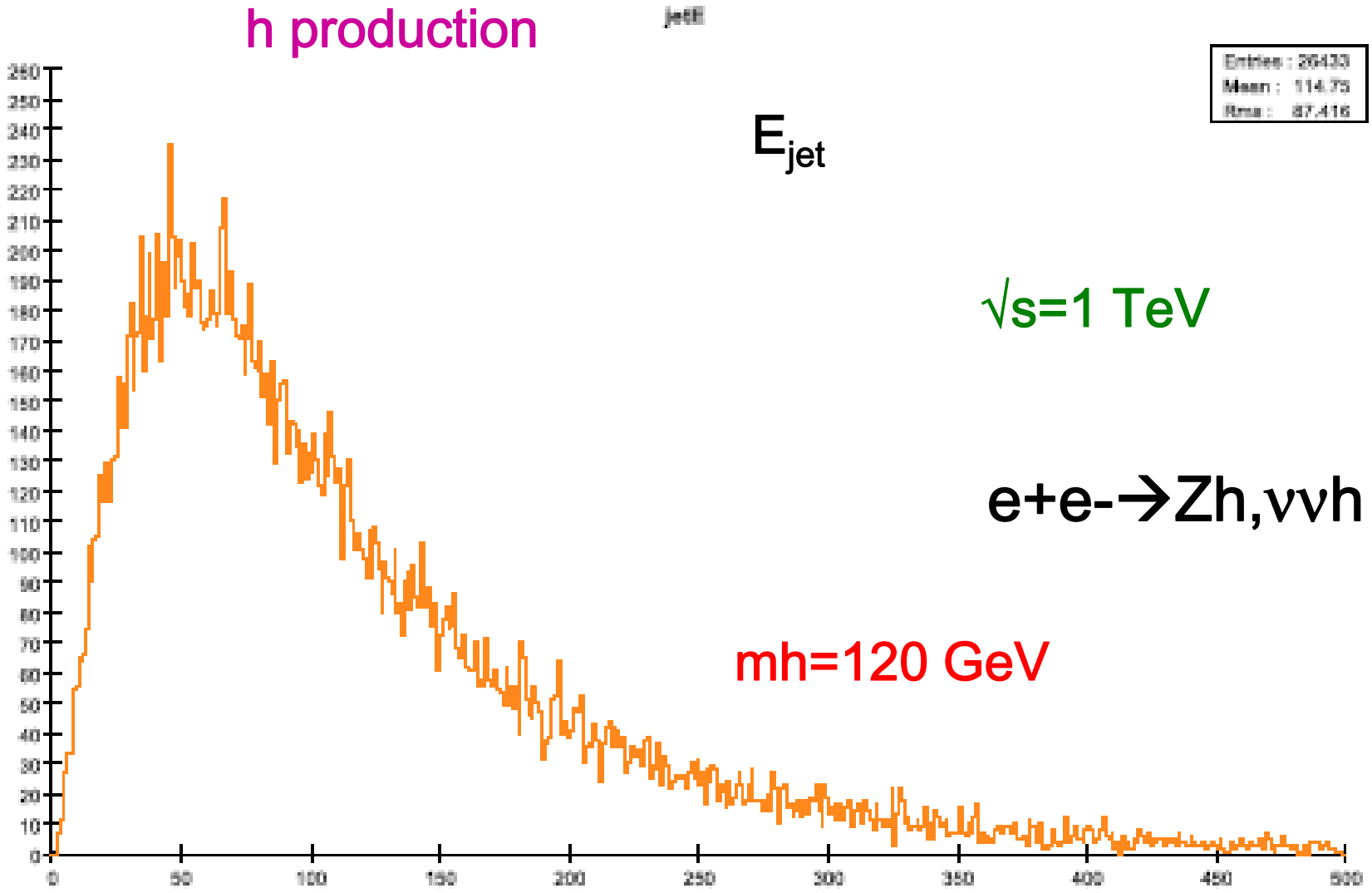
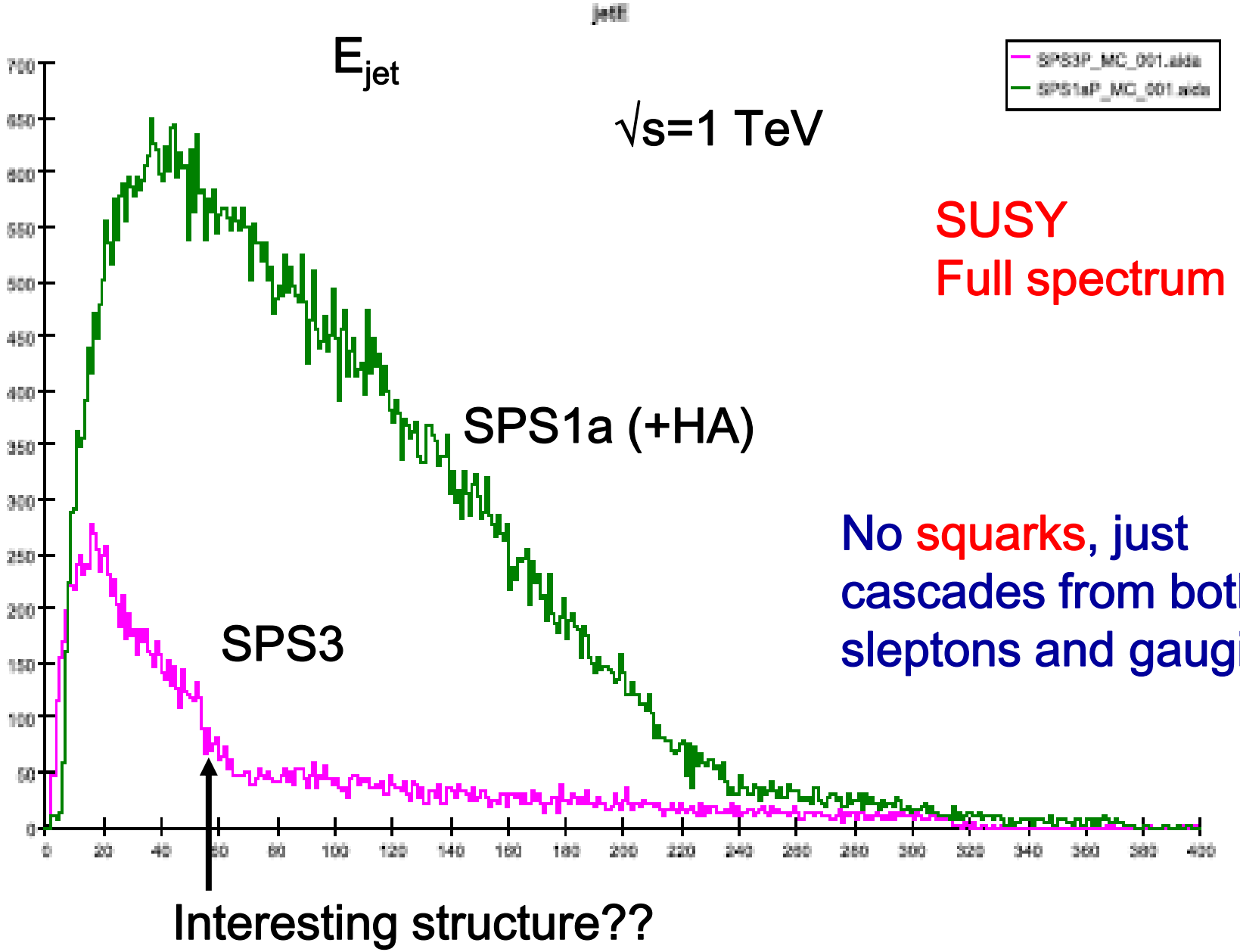
Outstanding Issues

- Can some of Martys's cost caveats be removed?
- Do we stretch SiD?
  Marcel's studies of resolution vs z and segmentation for 100 and 250 GeV jets should provide the needed input.
- Should we sit "beyond the cost v performance" knee?
  Re-evaluate cost v performance with SiD/SiDish differences "accounted for".
- Physics with higher energy jets
  See following slides from Tom Rizzo.
  No clear physics case, yet, for high resolution beyond E~ 250 Gev.


SMP_MC_y001.aida
√s=1 TeV
E_jet
jetE (WW)
jetE (ZZ)
jetE (qqbar)
jetE (tautau)
jetE (ttbar)
WW
tt-bar
qq-bar
ZZ
ττ-bar
0
50
100
150
200
250
300
350
400
450
500
550
600


h production
jetE
Entries : 26433
Mean : 114.73
Rms : 67.416
E_{jet}
√s=1 TeV
e+e-→Zh,ννh
mh=120 GeV
260
250
240
230
220
210
200
190
180
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0
0
50
100
150
200
250
300
350
400
450
500


jetE
E_{jet}
√s=1 TeV
SPS3P_MC_001.akda
SPS1aP_MC_001.akda
SUSY
Full spectrum
SPS1a (+HA)
SPS3
No squarks, just cascades from both sleptons and gauginos
Interesting structure??

Q for subsystems/engineering

- Are there concerns about going to “SiD stretch” (z=2.05 vs 1.7 m?)
  If so, we should resolve them soon.

- Given preferred global dimensions, when can engineering come back with subsystem “envelopes”?

- Are subsystems ready to proceed with subsystem optimization and specification?
  Due date: SiD Colorado Workshop!