

Exotics group's MC needs for the winter (of discontent?)

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**Update
to the MC group
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Synopsis

- Needs mostly met by bigger samples from other groups.
- As usual, hard to get all the needs, specific numbers and timelines out.
- Some confusion about official sample vs farm generation
- Also, about different groups having different “queues”
- Signal sample needs: parameter scan samples.
- There were complaints about the turnaround time.
- Ray Culbertson, as usual, has the best input.

- SUSY Trileptons (High Priority analysis):
- More heavy flavor: likely a sample of $b\bar{b}$ in PYTHIA (tcl file all the way) and a bunch of ISAJET (hepg files supplied).
About 1M in PYTHIA and 10M of ISAJET.
- More J/Psi: hepg will be supplied. 1M events.
- Problem: Took two months to get the last sample. How long now?
- Mario Martinez-Perez (squark/gluino):
- Z+jets (z to $\nu\nu$) 500K: coming via top group, but worried about the generation timescale.
- QCD Background: dijet sample: current stats not enough, but has to come up with a filter for high MET. Timescale? numbers?
- SUSY Signal sample: 300K very soon (hepg through simulation)
~ 2 - 3 M events after validating the 300k.

- Oscar Gonzalez Lopez [oglez@fnal.gov]
- Higgs analysis: One or more official samples of $ZH \rightarrow b\bar{b}\nu\bar{\nu}$ + background samples (mainly QCD “since for MET we always need very inefficient generation, that other groups are not using”).
- Stop analysis: will need signal samples. Background: same as trilepton + some from the top group.
- Using official samples for blessing: Especially the stop and the Higgs will need to scan the parameter space (1 or 2 dimensions) so this will mean a lot of samples. Is it true that ALL of them have to be official? Then we will really need a lot of samples. If the signal could be "user-generated", I would still like to have a few official samples for the optimization points, but for the scan we may use our own samples.

- t' search: Conway, Erbacher, Lath: re-generating the t' samples in 5.3 (done at Rutgers farm previously). t' masses of 150, 175, 200, 225, 250, 300, 350, with 50k events each (350k total), recycle generator/cards
- Chris Hays: excited taus: Zgamma background with $Z \rightarrow$ leptons. The more the merrier (>200k)
- Ray: Studies: A large sample of events from a single particle gun (more like an assault weapon) for each type of particle
 - Say 200K events flat in η -3 to 3
 - flat in E_t 0 to 200GeV
 - e, mu, photon, π^0 , π^+ , π^- , K^+ , K^-

Ray:

- 1) each dataset should have very clear indication of what version of exe/scripts were used and links to tcl and an example log file.
- 2) mc builds should proceed by patch list and tags, like production farms do, I would like to see everything used be tagged very clearly.
- 3) better user-friendly logging of changes, for example "V 11.1 - fixed minbias (was set to 1) and leakage simulation in PEM" (see Ashutosh's 10/04/04 talk)

Longer term:

- 4) group should work towards the model that they produce all mc datasets, no matter how small. This will insure documentation and uniformity and remove the huge, wasteful burden of forcing all users to understand the procedures. Yes, you need to develop a small-job procedure - if more help is needed, then ask conveners/spokespeople for it.
- 5) offer to make a few, standard ntuples in the mc production process. It is always easier for a few experts to handle these jobs rather than push it back on inexperienced users.