Chlebana
Sept 7 2001

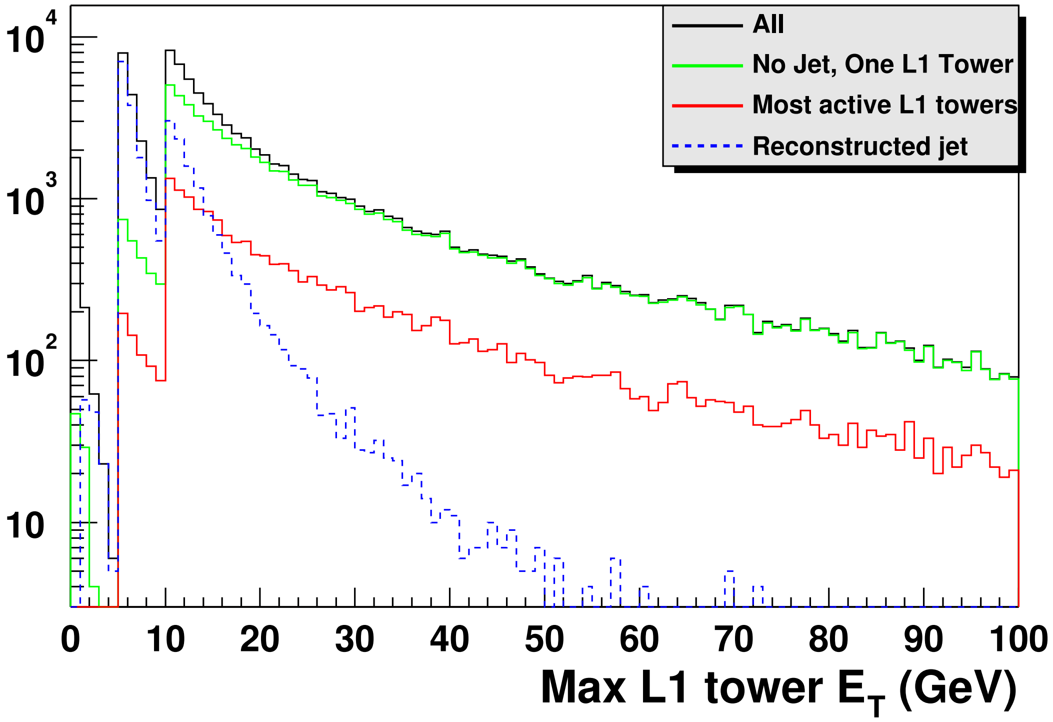
## Quest for Physics Quality Data

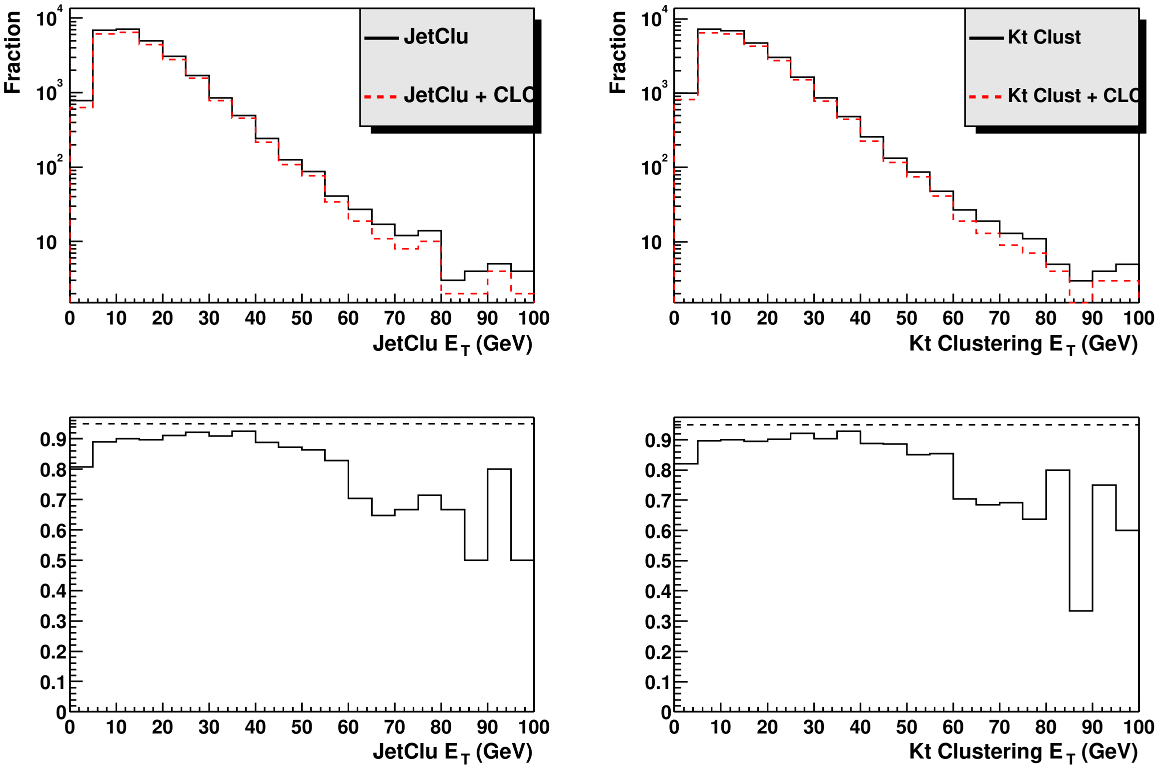
It was found that the online luminosity measurement is too high by about 20%. This was due to an inaccurate simulation of the dead material in front of the CLC.

They also reported seeing a change in the gain.

Replaced the coincident trigger board $\rightarrow$ 10% reduction in the acceptance.

Several special runs taken with trigger table JET_CLCTEST[1,165] which has no clc requirement on the L1 jet triggers. Runs 123419, 123574, 124139, 124140.






Updated plots at:

`http://ncdf76.fnal.gov/qcd/lookAtData/clc/`

We are able to run with a L1 rate of 350 Hz with little dead time.

| | 122733 (L=5.142 E30) | 1250287 (L=7.734 E30) |
|---|---|---|
| JET5 [1] | 1,516 Hz | 2,294 Hz |
| PS 20 -> | 76 Hz | 114 Hz |
| JET10 [1] | 174 Hz | 254 Hz |
| | | |
| L1_JET10_&_CLC_PS1 [1] | 99 Hz | 161 Hz |
| L1_JET5_&_CLC_PS20 [1] | 66 Hz | 102 Hz |

May be able to have a low luminosity table for which the CLC requirement is dropped from the L1 jet triggers.

## Secondary Datasets

There is now a joint physics meeting on Thursday morning.

The topic that was being discussed was secondary datasets.

Need to find a person who will take charge of generating the secondary datasets we require.

## Data Stripping

Want to organize data stripping based on data streams.

→ We have been using the Jet triggers and the single tower triggers for jet corrections.

→ The tracking triggers are used for trigger efficiency studies and MC tuning.

```
Stream G
  ST5, ST10, J20, J50, J70, J100
  MinBias, ZeroBias
  MET

Stream B
  TrackTriggers
```

Easy to redirect different trigger paths to different files. Configured via a tcl file... can drop banks, run reconstruction...

Scripts available to automatically submit jobs to the batch queue based on the run number.

Some of the L3 streams do not have all the reconstruction modules run i.e. Jets have no tracking, zeroBias has no calorimetry...

Can run the missing modules during the stripping step...

There are special runs taken (MinBias) that have a much more concentrated sample of events. If someone has already run over it then it will already be on disk.

## Event Sizes

The events coming out of L3 are about 300 KB. After processing the event size increases to about 400-500 KB.

Since run 123432 (LERs properly loaded) we collected 1.5 $pb^{-1}$ (runs with more than 3 $nb^{-1}$).

| Trigger | 44.7 nb-1 | 1.5 pb-1 | 15 pb-1 |
|---|---|---|---|
| J20 | 54,702 | 1835 K | 18.3 M |
| J50 | 743 | 24 K | 0.2 M |
| J70 | 2,624 | 88 K | 0.9 M |
| J100 | 380 | 12 K | 0.1 M |
| ST5 | 62,265 | 2089 K | (20.8 M) |
| ST10 | 19,298 | 647 K | (6.4 M) |

20 M events $\times$ 400 KB $\rightarrow$ 8 TB.
4 M events $\times$ 400 KB $\rightarrow$ 1.6 TB.
4 M events $\times$ 20 KB $\rightarrow$ 80 GB.

For the dijet balancing studies will need about 4M J20 triggers in order to reduce the statistical error to about 1%.

In order to be able to fit the data on disk we have removed the information that is not needed for the studies.

For the Jet samples we are keeping:

Trigger information
CalData
Vertex information
Hadron timing information

$\rightarrow$ event size is about 20 KB.

For the track trigger samples we also keeping track information.

$\rightarrow$ this increases the event size to about 60 KB.

Can rerun over the stripped data to apply the hadronic energy scale correction and use vertex information when determining jet $E_T$.

## MC Issues

We demonstrated that we are able to generate large data sets on the farms.

The problem is that we have no where to put them after being generated.

We will get disk space for about 500000 generated events.

We can then cycle through the disk until we have the capability of writing the data to tape.

Would like to run 100000 HERWIG events with $p_T > 16GeV$
100000 HERWIG events with $p_T > 60GeV$

If there are any other request please forward them to the QCD MC coordinator (R. Field).

## Collaboration Meeting

```
Friday Sept 21
         9:00 - 11.00 Joint Physics Session
        11:00 - 12:15 Exotics
        Lunch
         1:00 -  2:15 Top/ElectroWeak
         2:30 -  3:45 B
         3:34 -  5.00 QCD
```

## MC Production

## DataSets

## QCD Overview

Current status of Run I analyses

Organization

→ Trigger representatives (Joey Huston, Rob Snihur)
→ MC QCD representative (Rick Field)
→ Data Sets representative (?)

Analysis Plans/Prospects

What can we do with a data set of 200 $pb^{-1}$ expected by the summer of 2002.

What tools do we need and what time scale do we expect to have them?

## Trigger Status

Status of QCD triggers
What has been defined in the TDSWG note and what is missing

Performance of triggers, rates, efficiencies...

Status of L2

## Jet Corrections

## Jet Reconstruction

Effect of ratcheting

## Jet Resolutions