Data Quality Management

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Goals

- Ensure that DQM histograms are being generated in a timely fashion.
- Make fiducial histograms (from good runs) easy for shift takers to find and access.
- Shifters must check to see that the online monitoring histograms that are generated look like the fiducial ones.
- create a script for summing over several all the DQM files from a single run and ensure that this script is executed soon after each run.
- Both aida and root versions of histograms will be generated. (This is not very difficult to do).
- Create a manual that describes what each of the 2324 histograms means.

Scripts We Will Need

- dqm_exists
  - This script should checks to make sure that for every pass0 recon file, there is a corresponding dqm file that is generated.
  - Prints a list of recon files that need to be dqm-ed.
- sumall
  - This script adds up the histograms for each of the files in a given run, and creates a file with the sum in there.
  - Basically, it will just determine which files to use as input to an existing java program I've written, org.hps.users.spaul.SumEverything
  - Option to do averages instead of sums?

Too Many Histograms?

In total, we generate 2324 histograms per file.
Some of them are filtered by trigger, particle type, module, etc.
SVT
Many of these histograms will never be seen by human eyes.
Solution?

- Subsystems experts should determine which histograms are most important for shift takers to look at (maybe about 10-20 histograms per subsystem?)
- If shift takers see something that doesn't look right in the monitoring app for one of those histograms (as compared to the fiducial plots), then they should contact the subsystem expert, who will look at the other histograms to determine what is wrong.

Histograms I Propose We Add:

Mollers are useful for determining beam tilt (tomorrow I will talk more about this).
I propose we add these in the V0Monitoring:

- Moller px/pz
- Moller py/pz
- Moller px/pz vs py/pz
- these same things with cuts on mass and/or pz?

DQM Manual

Why a manual?

- Makes it easier for shift takers to understand what they are looking at.
- Will include a copy of some of the fiducial plots.

Who will write it? I volunteer to do so.
Ecal Experts: I have a few questions for you in order to write this (your plot names are easy to understand).
SVT Experts: I have a lot of questions. (I have no idea what most of your plots mean).

Jeremy's Web Interface:

Jeremy has a web interface that displays the histograms from a given file.
Limitations:

- Requires histograms to be in AIDA (DataQualtityRecon.lcsim currently outputs in root only. quick fix is to have it output in both formats).
- No file-chooser in the interface.