

Response to Tom L's Requests
May 10, 2011
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Tom Loughran made a list of tasks in priority order that should be done to improve the CMS e-Lab. These are”

1. Get the dimuon data into calibration in 3 runs;
2. Implement the muon quality plot (or come up with some better illustration of the power of making cuts);
3. Create scaffolding for the cutting tool with an illustration of how it can be useful (current inadequate version linked above);
4. Add the export-import relation to the histogram and the single event display tools (draft spec attached.)

We discussed his proposal and here is our list of what we should do:

1. Fix all the bugs in the exploration histogram tool.
2. Clone Exploration to make a new Calibration with the web pages to choose data and plots like the current Calibration.
3. Throw out the Monte Carlo data in Calibration.
4. Get dimuon data into Calibration in runs. Use the runs that are available in the 3D event display. Is this possible? If not, can we divide the current dimuon data in Exploration into runs or get new data? Tom L. wants to have multiple runs.
5. Add the choice of muon quality (selecting GG, GT, TT) to the histogram interface or the plot selection. (e.g., Could we have a choice of GG, GT, and TT as a submenu for +-dimuons on the plot selection. BTW: Is the term muon quality correct?)
6. Add an activity to allow students to explore muon quality by looking at 20 events. The software can do the rest of the muon quality calculation from the GG, GT, TT. Students can compare their values with what the tool would give. We don't want the students to have to go through 1000 events. Then students can go on to using the histogram tool that will get it from the data rather than using the muon quality that students assign using the 3D event display .
7. Provide an explanation of the two kinds of "cuts". Is selecting the different types of di-muons (GG, GT, TG, TT) considered a cut by physicists?
8. Make a screencast on how to do cuts.
9. Add functionality to allow picking an event in the histogram and looking at it in the 3D event display.

Tom L. says he wants to show the "power of doing cuts". Is he referring to cuts made with the drag tool only?

Is there a better illustration of the power of making cuts than what Tom has suggested with the current data?

We think that using the drag tool with a histogram of muon quality is not the best way to select muon quality. It should either be done on the histogram page or on the plot selection

page. Each plot on the histogram page could have a pull-down or radio buttons to select the quality (GG, GT, and TT).

We should be doing the export/import options later. MasterClass can wait.

Do we tweak Exploration or do we try to make more radical changes to the interface for the workshops?