1. Do you mind if I post to the Indico page the additional material you provided in response to our questions?

Please feel free to post them on the Indico page if it will be helpful.

1. Can you comment on the readiness of your reconstruction software?  Has it been extended to include the new features present for the 2013 running?   How has it been tested?

Our analysis and reconstruction software can be split into two parts. The first part is essentially unpacking of the data, including such things as assigning spatial coordinates to the hit element id’s (such as where the struck hodoscope or wire is located, changing the time information on a wire into a drift radius, *etc.).* This happens in near real time and the data is then stored in a MySQL database. The majority of this operation is unchanged from the previous run. The major change that will occur is the implementation of the new TDC data format. While not a trivial change, this format is much simplified over the previous format. In my presentation, testing of this through the decoder was actually part of the TDC/DAQ integration in the Gantt chart on slide 15 that takes place in March. These plans are still in place. Features that have been changed include integrating the new St. 3- drift chamber geometry. The new geometry for St. 3- will be implemented by the end of March and no problems are foreseen. Similarly, the new geometry for St. 1 is will be implemented prior to its arrival this summer with no problems foreseen. A final upgrade that is occurring this week is to move the MySQL server to a dedicated computing platform. Since the ongoing analysis depends on the correct functioning of this platform, it will be thoroughly tested prior to the run.

The second part of our event reconstruction takes the hits, stored in the MySQL database, and outputs tracks, kinematics, *etc.* This is independent of the first part and independent of the new TDCs and spectrometer elements (almost). We have two tracking codes working, albeit, each with its own inefficiencies. One of these codes was used to produce the mass plot shown in my presentation. The effectiveness of either of these codes depends on the relative number of “splat” hits in the data. For the commissioning run, these codes have been tested on samples of very clean events, chosen based on the number of hits per tracking plane, with the “splat block” functioning. Now that these codes are functioning, we are (1) looking at ways to produce realistic noise by mixing real tracks with either noisy events or with Monte Carlo-generated noise and (2) investigating the effects of loosening the cuts used to choose the clean events. These are ongoing studies.