

CDF/D0/AD Luminosity meeting

Action Items

September 28 2004

All

All

Action Items

- ❖ The preliminary correction of the D0 measured luminosity is a linear correction. The correction still has a relatively big uncertainty which is expected to be reduced when we get high luminosity data after the end of the shutdown. A new and better correction will not be available till ~ January 2005. Brendan will provide the correction formula. In the mean time Vaia is discussing with the SDA group and Controls possible ways of fixing the luminosity information. The options are:
 - fix the Supertable information only (a few columns) and leave the D44 and SDA data on D0 luminosity intact
 - if we fix the data as well, we should create a new device that contains the corrected luminosity but still preserve the old data

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- we are discussing as well if we should do this correction both now and when we have a better correction formula later in the year or if we should this correction only once, when we have the better formula.
- ❖ Since the current D0 luminosity correction will not affect the “DC” difference between CDF and D0 luminosity but only address the luminosity dependent difference, we need to think carefully about how to address the DC component. As a first step we need to quantify this DC difference as a function of time. Vaia will look into this by using stores of low initial luminosity or by looking at the end of store luminosity information when the measured values are between $1-2E31$. Then we need to study possible correlations of this difference with Beam parameters.

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- ❖ We should check again for both experiments the consistency between measured luminosities and calculated luminosities where we use as β^* the one measured at each IP by CDF and D0. The emittances derived by the β^* fits can be also compared with the measured ones by the Flying Wire system.
- ❖ Vladimir asked if the online beam width measurements provided by CDF during the store could include as well the z position for each of the 6 bins, and if possible the β^*_x , β^*_y , emitt_x , emitt_y derived from the fit as well.
- ❖ During the first few weeks of data taking after the end of the shutdown, we would like to compare again the β^* measurements of CDF and D0. Since the online measurement is provided by only one of the experiments

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we would like to make sure that we will be able to make these comparisons in a speedy way with the offline method.

- ❖ Valeri et al. is studying store 3678, trying to model in detail several beam effects and compare to data. This will improve our understanding of what really matters for the luminosity measurement.
- ❖ We plan to meet again during the first week of November.