

Conclusions - Action items

ALL

**CDF/D0/AD luminosity meeting
of September 20, 2006**

Conclusions - Action Items

- The CDF/D0 initial luminosity ratio stabilizes at lower values after the spring 2006 shutdown.
- The CDF/D0 initial lum ratio had started exhibiting increasing luminosity dependence, but the problem seems to have been fixed after D0 adjustments during the month of September.

Conclusions - Action Items

- Since the Recycler changed working point and started delivering smaller emittance pbar beam, non-luminous losses dominate the proton lifetime. With 5π pbar emittance (measured with horizontal flying wires) the non-luminous proton lifetime has been less than 50 hours, while at 8π the non-luminous lifetime had been greater than 100 hours. At this point there is no significant impact on the normalized luminosity integral.

Conclusions - Action Items

- **Adaptive feed-forward correction which is expected to reduce significantly pbar bunch intensity variation was demonstrated successfully by the Recycler group on July 12. Hardware integration is 100% done and software integration more than 80% done. Testing with beam is expected by mid October and the final implementation is expected within a month from now (waiting for spares).**
- **We are looking forward to D0 finalizing their absolute luminosity scales for Run IIa and Run IIb. Work is progressing well and the Run IIb scale is expected to be implemented online on October 1st, 2006.**

Conclusions – Action items

- The halo rates in Run IIb are significantly higher than Run IIa at D0 and therefore the halo event definition was updated. All firmware/algorithm changes are correctly implemented since September 7, 2006, store 4942.
- Both CDF and D0 presented preliminary measurements of their luminous regions (beam positions and beam widths) using data after the shutdown and comparing them with similar measurements before the shutdown. D0's β_x^* is

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approximately equal to 31 cm while their β_y^* is approximately equal to 35 cm with post-shutdown data. (The change between the ~ 60 cm observed earlier and the ~ 35 cm observed now is due to multiple iterations on the correction to impact parameter vs phi). More work on progress. For CDF, β_x^* is measured online to be ~ 50 cm and β_y^* ~ 33 cm with post-shutdown data using the online measurement method. Online and offline methods were compared but more statistics is needed offline to reach definite conclusions. More work is in progress to understand the online results.

Conclusions – Action items

- The next joint luminosity meeting is scheduled for Wednesday, October 4, 2006, at 12:45 pm. At that meeting we will discuss in detail changes in the D0 luminosity scale. There will be a follow up joint meeting in the first half of November where we will focus on beta* measurements.