

CDF/D0/AD Luminosity Task Force meeting

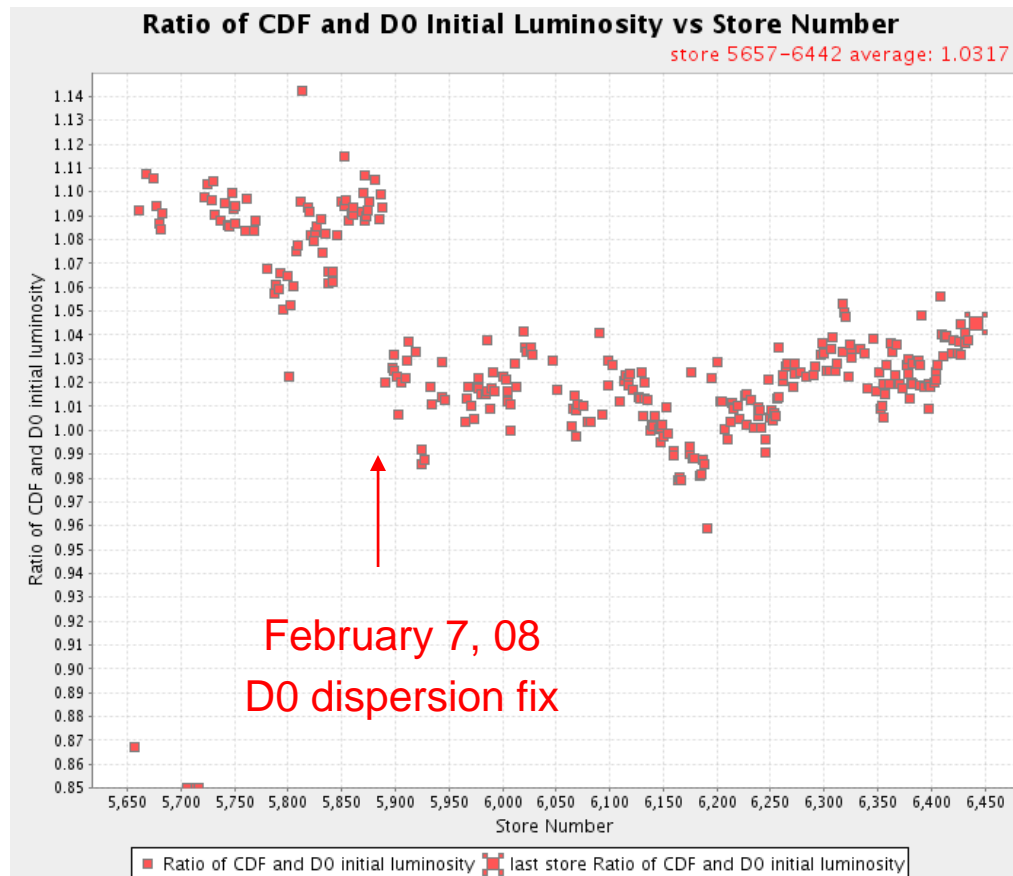
Vaia Papadimitriou

CDF/D0 luminosity ratio and
measured vs expected
luminosities

September 24, 2008

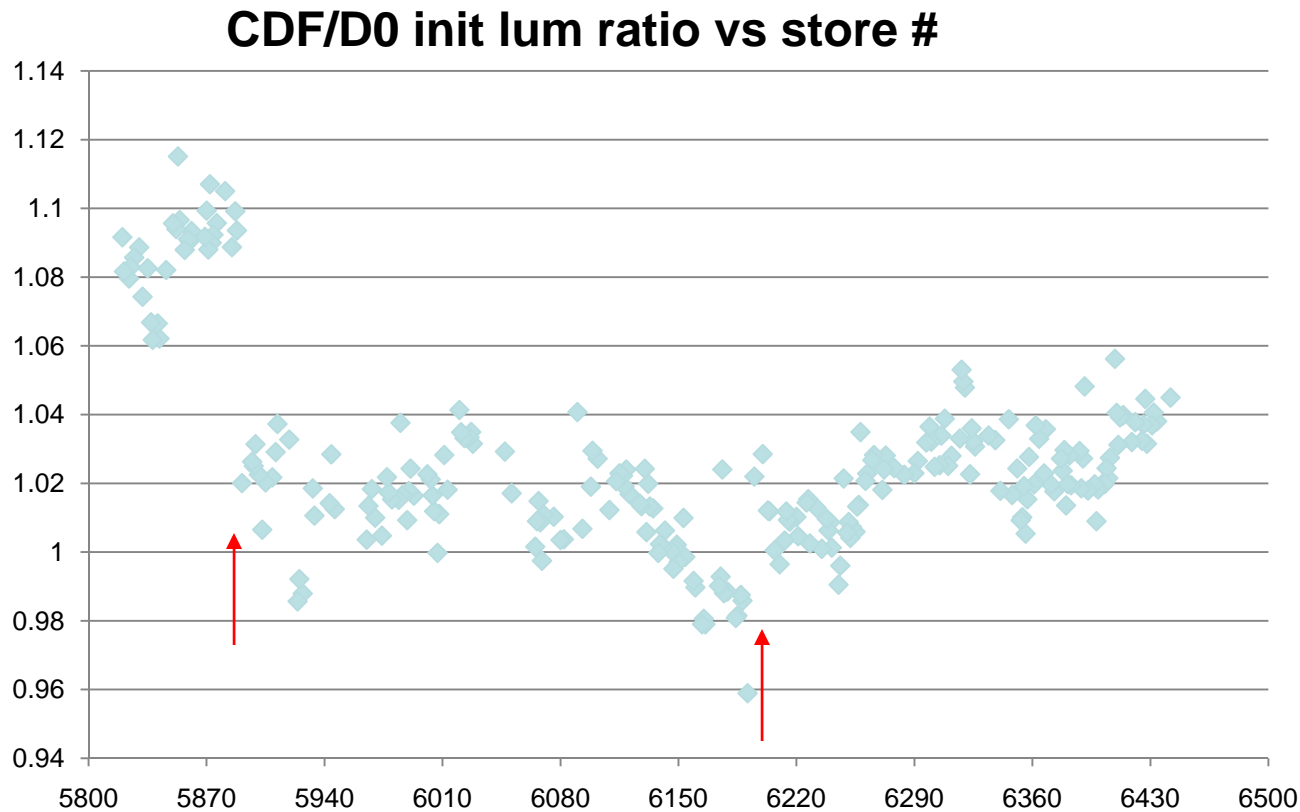
CDF/D0 initial luminosity ratio

October 1, 2007 - September 23 2008



CDF/D0 initial luminosity ratio

January 1, 2008 - September 23 2008

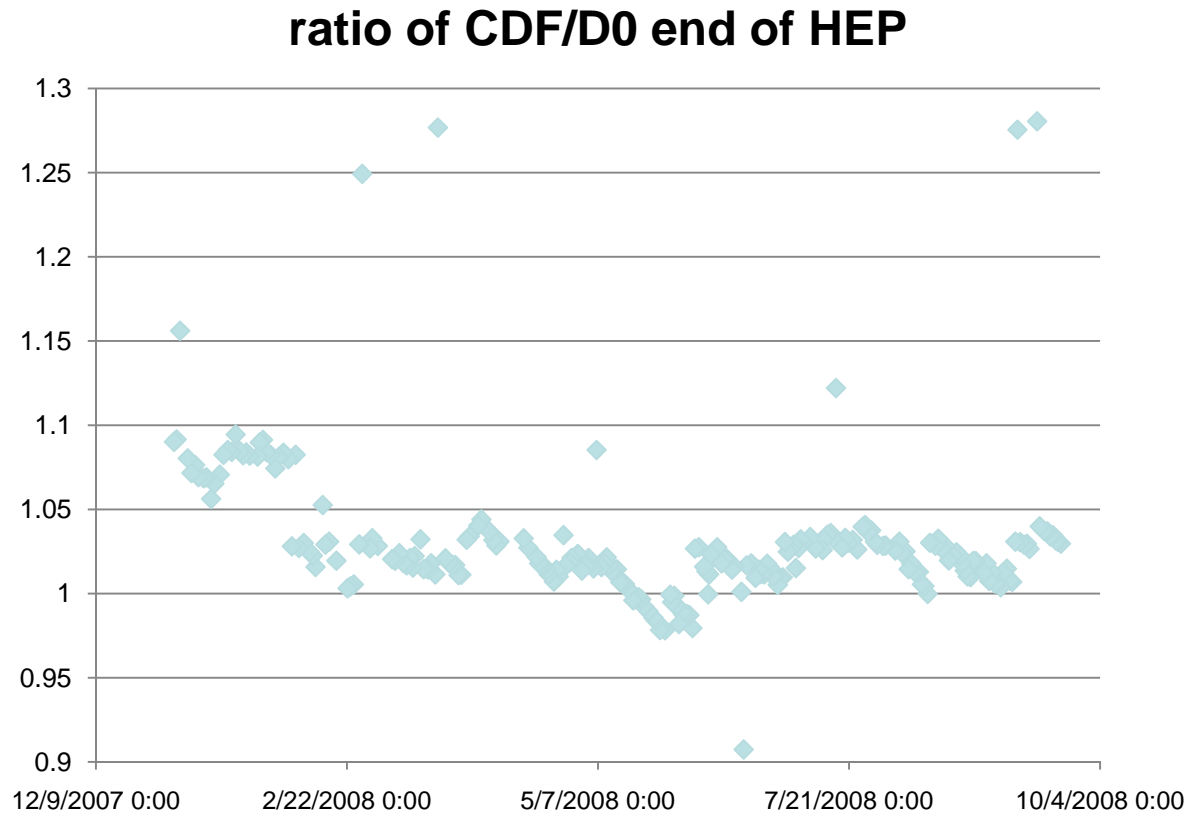


CDF lum
Change:
Feb 28
March 24
June 4/6
July 1
Aug 1
Sep 8

February 7, 08
D0 dispersion fix

June 4, 08
CDF change

CDF/D0 end of store luminosity ratio January 1, 2008 – September 24, 2008

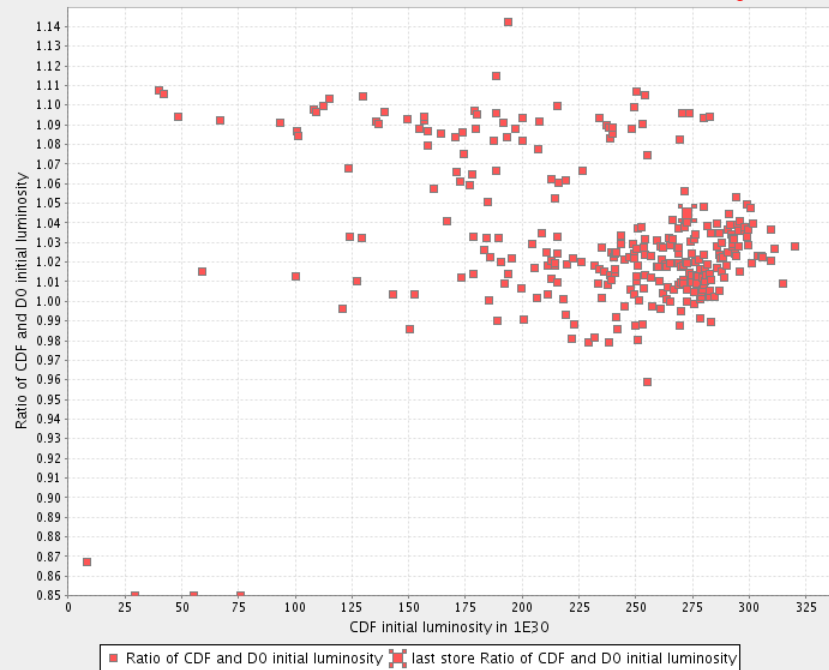


CDF/D0 initial luminosity ratio vs CDF initial luminosity

October 1, 2007 - September 23, 2008

Ratio of CDF and D0 Initial Luminosity vs CDF Initial Luminosity

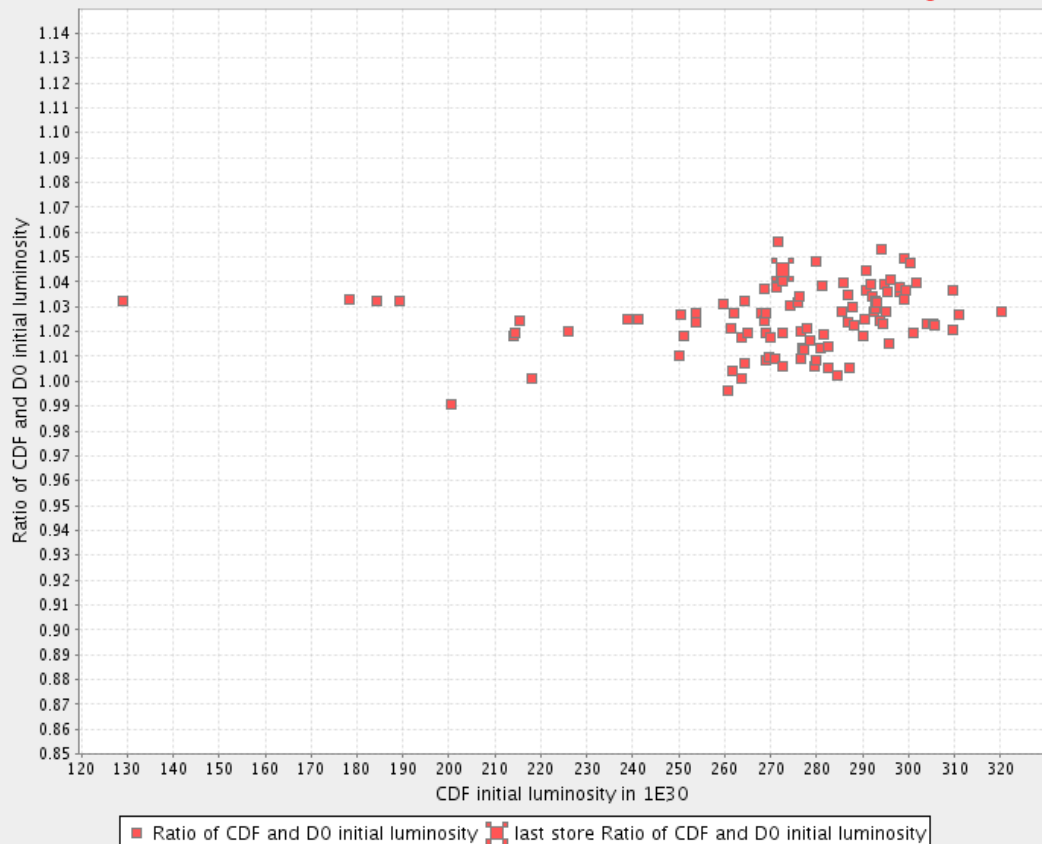
store 5657-6442 average: 1.0317



Last 100 stores

Ratio of CDF and D0 Initial Luminosity vs CDF Initial Luminosity

store 6228-6442 average: 1.0249

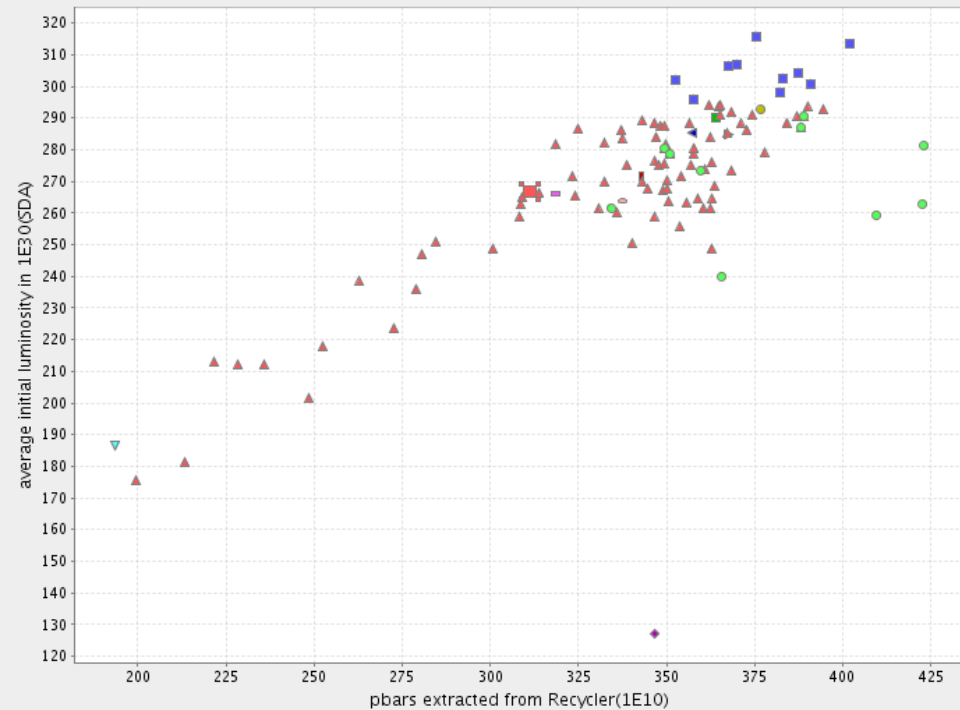


Initial luminosity vs pbar and proton intensities

Last 100 stores

Average Initial Luminosity vs Pbar Extracted from Recycler

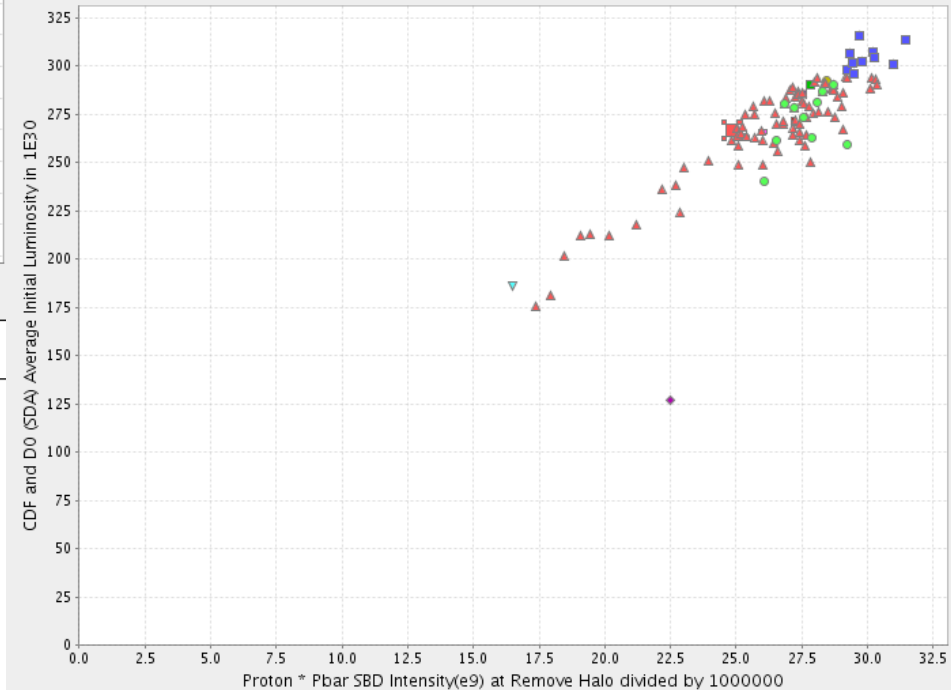
store 6228-6442



■ Top 10 Initial ● Top 10 Delivered ▲ initial luminosity ■ Last Store initial luminosity ◆ 6419 ■ 6421 ▼ 6425
● 6426 ► 6427 ■ 6428 ◄ 6431 ■ 6432 ● 6434

Average Initial Luminosity vs Proton * Pbar SBD Intensity at TeV 980 Gev

store 6228-6442

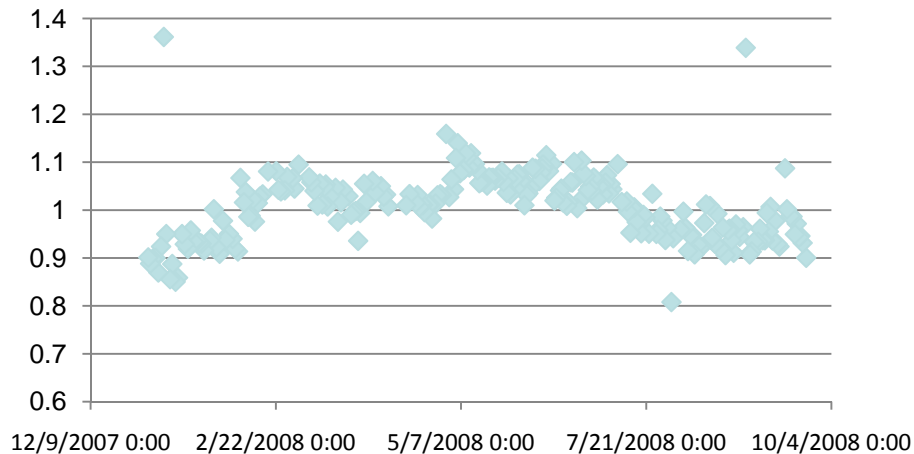


■ Top 10 Initial ● Top 10 Delivered ▲ initial luminosity ■ last store initial luminosity ◆ 6419 ■ 6421 ▼ 6425
● 6426 ► 6427 ■ 6428 ◄ 6431 ■ 6432 ● 6434

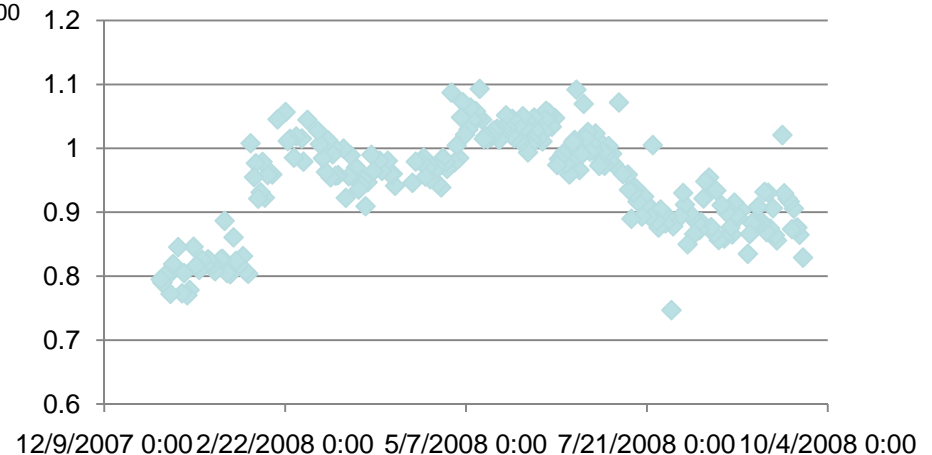
CDF and D0 measured over calculated initial luminosity ratio

May 1, 2007 - February 12, 2008

CDF measured/expected



D0 measured/expected



Lattice used is from
January 10 2008

Conclusions

After the February 7, 2008 corrections of D0 dispersion the CDF/D0 luminosity ratio has been ranging between 0.98 - 1.06, most of the time between 0.99 and 1.04.

End of store luminosities show a similar pattern.

Measured vs expected initial luminosities are within approximately $\pm 10\%$. We are also checking if we need to update the lattice in the database.