

CDF/D0/AD Luminosity meeting

August 31 2004
Vaia Papadimitriou

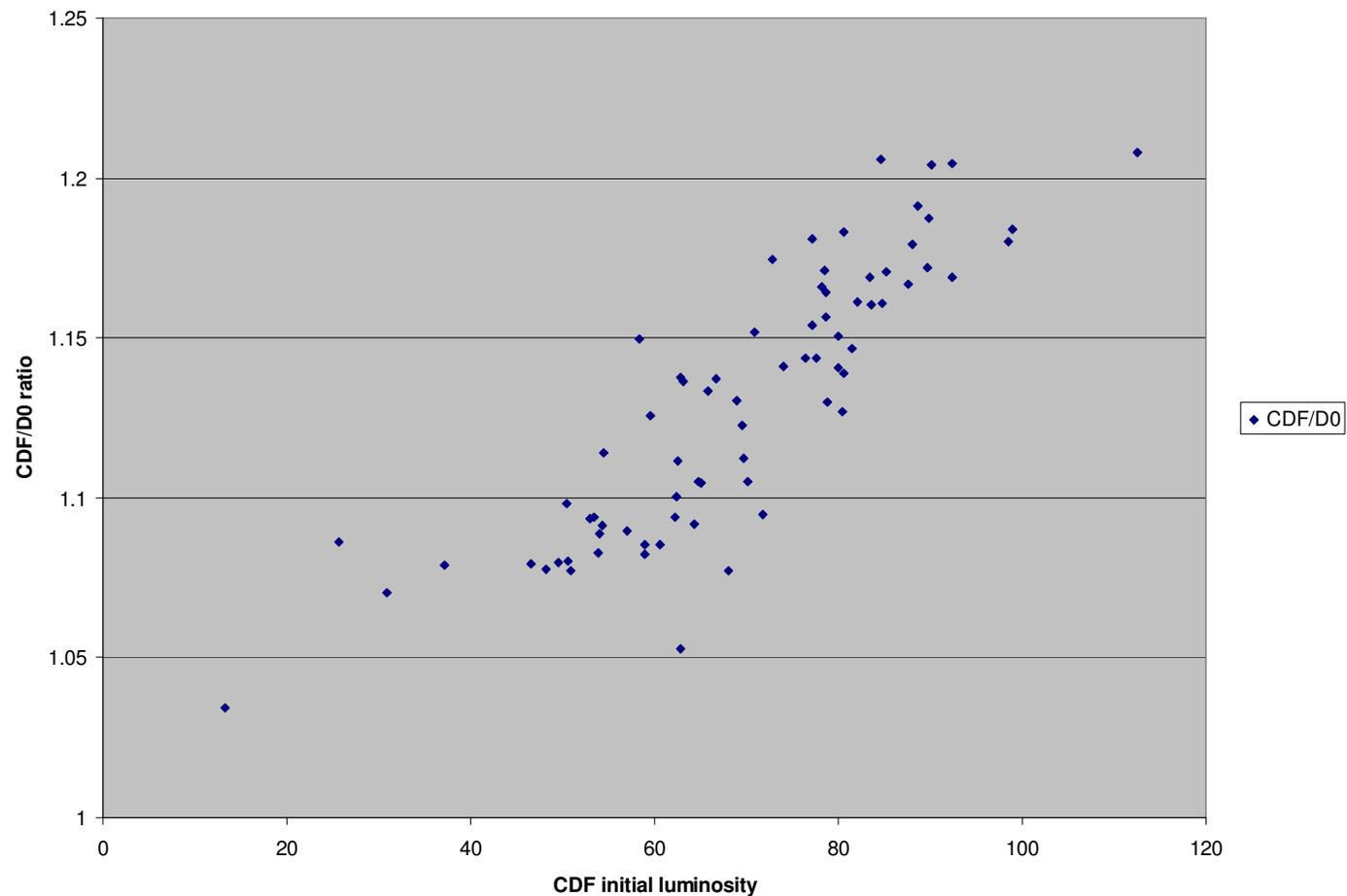
New low beta optics

- ❖ New low beta optics were introduced in store 3487, May 12 2004
- ❖ Optics corrections were completed by introducing alpha bumps in store 3534, May 26 2004
- ❖ As a result luminosities increased at both IPs

CDF/D0 ratio vs luminosity

The ratio appears to depend on (and increase) with the luminosity

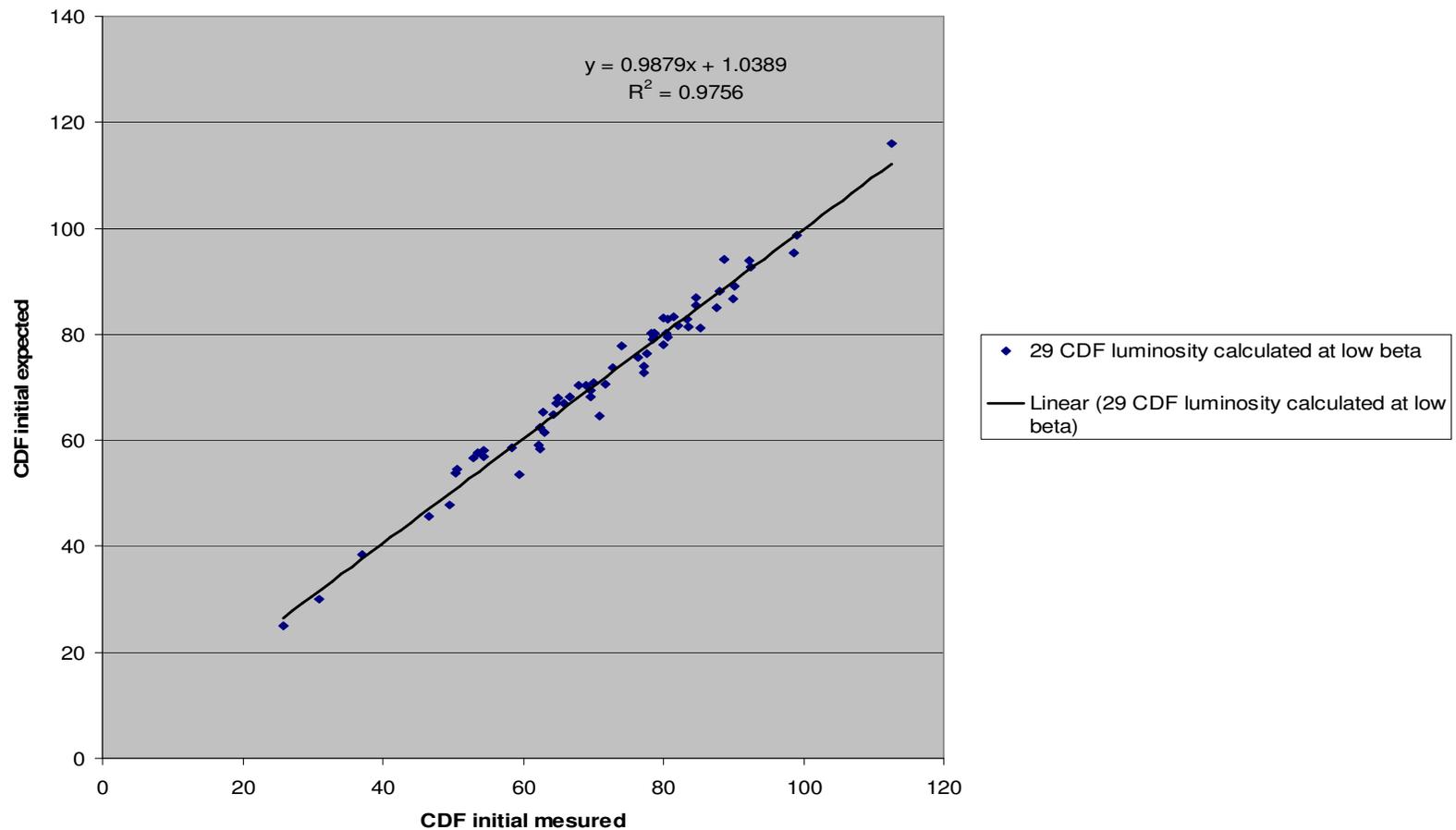
CDF/D0 ratio vs CDF initial luminosity Apr. 27-Aug. 23 2004



CDF calculated vs initial luminosity after the beam optics change and till August 23

Stores 3528,3663, 3671, 3678 removed

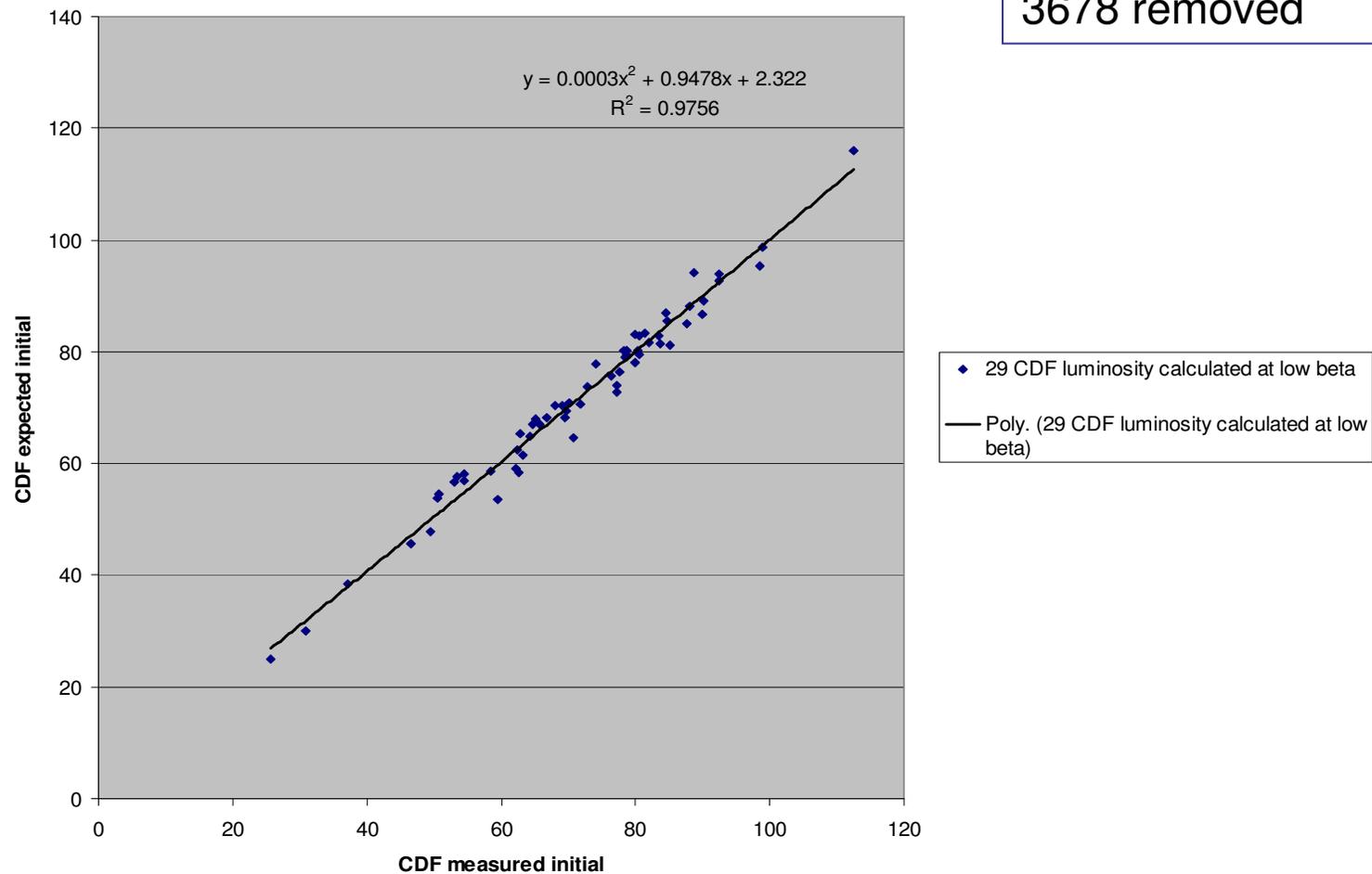
29 CDF luminosity calculated vs measured-initial



CDF calculated vs initial luminosity after the beam optics change and till August 23

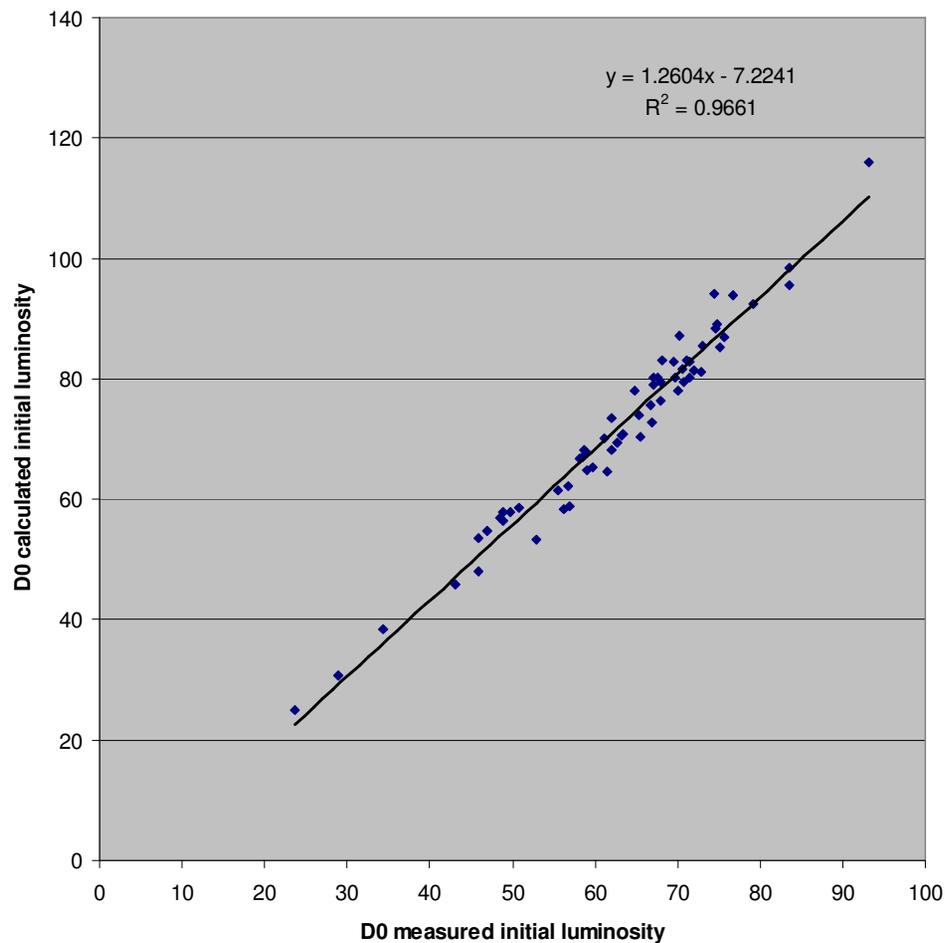
29 CDF luminosity calculated at low beta vs measured

Stores 3528, 3663, 3671, 3678 removed



D0 calculated vs initial luminosity after the beam optics change and till August 23

138 D0 luminosity calculated at low beta vs measured

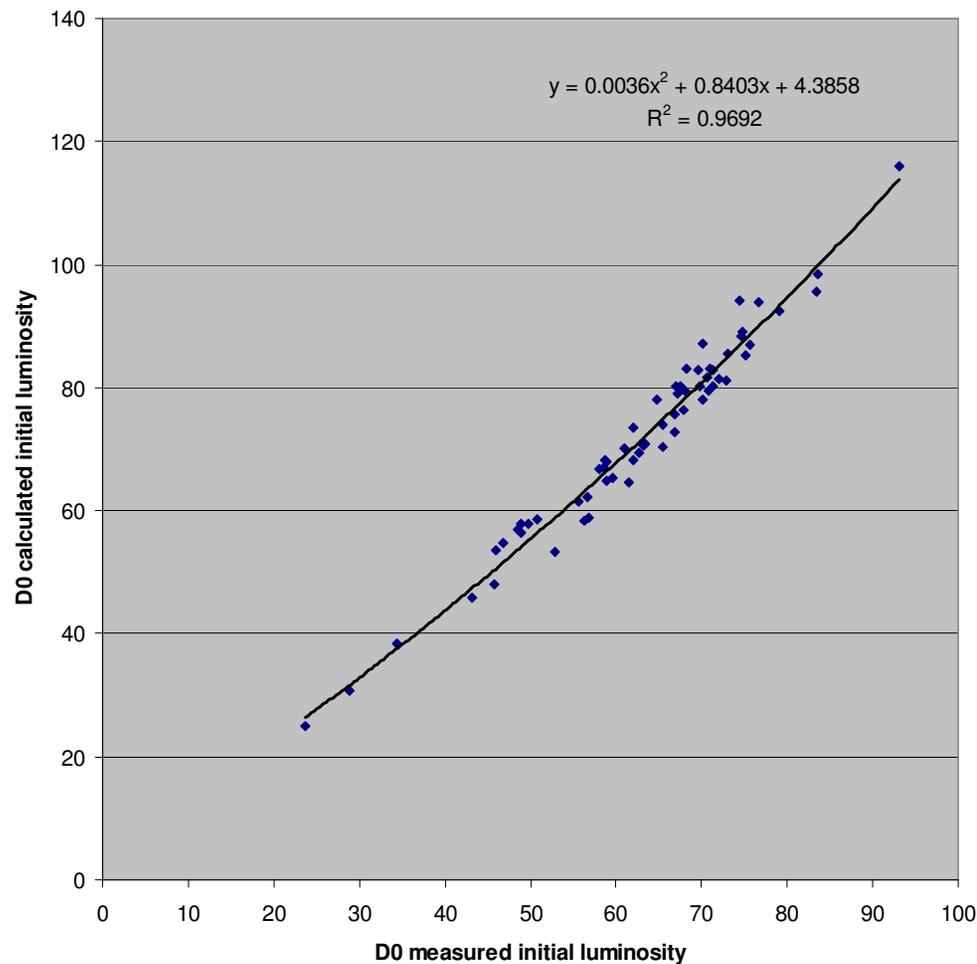


Stores 3528, 3663, 3671, 3678 removed

- ◆ 138 D0 luminosity calculated at low beta
- Linear (138 D0 luminosity calculated at low beta)

D0 calculated vs initial luminosity after the beam optics change and till August 23

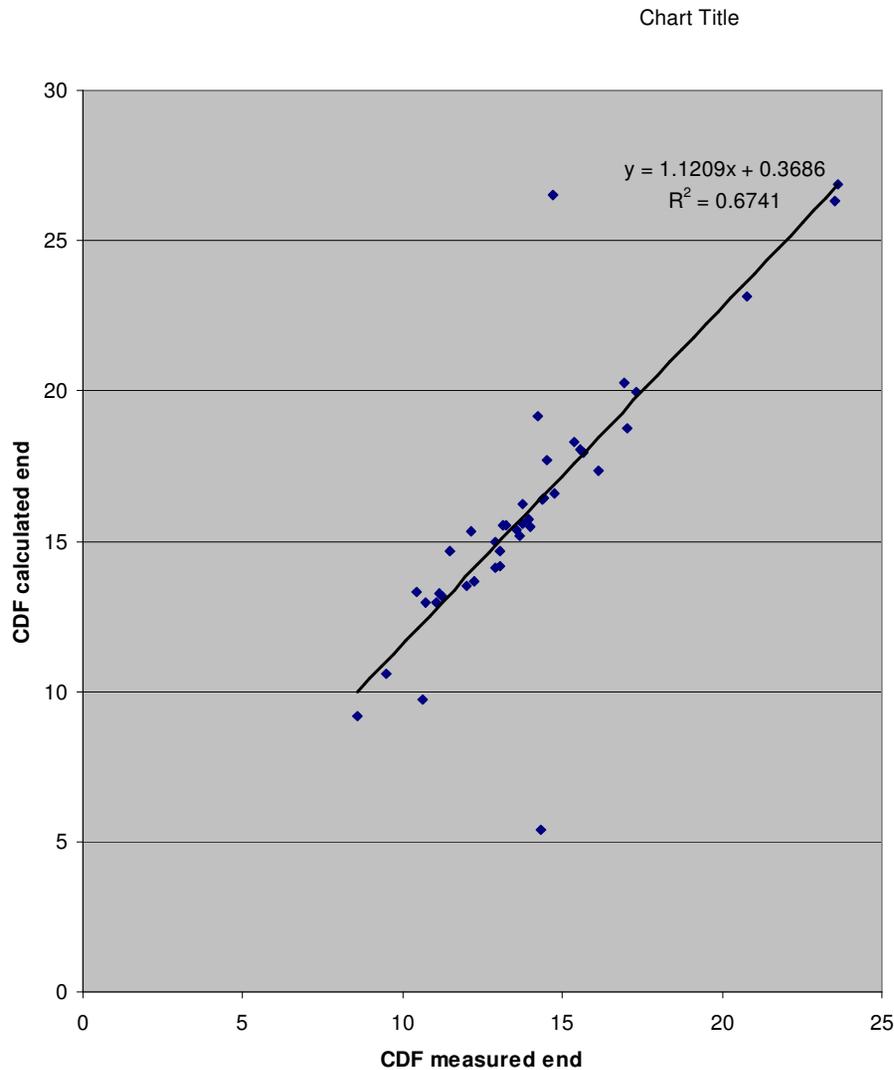
138 D0 luminosity calculated at low beta vs measured



Stores 3528, 3663, 3671, 3678 removed

◆ 138 D0 luminosity calculated at low beta
— Poly. (138 D0 luminosity calculated at low beta)

CDF calculated vs end of store luminosity after the beam optics change and till Aug. 23



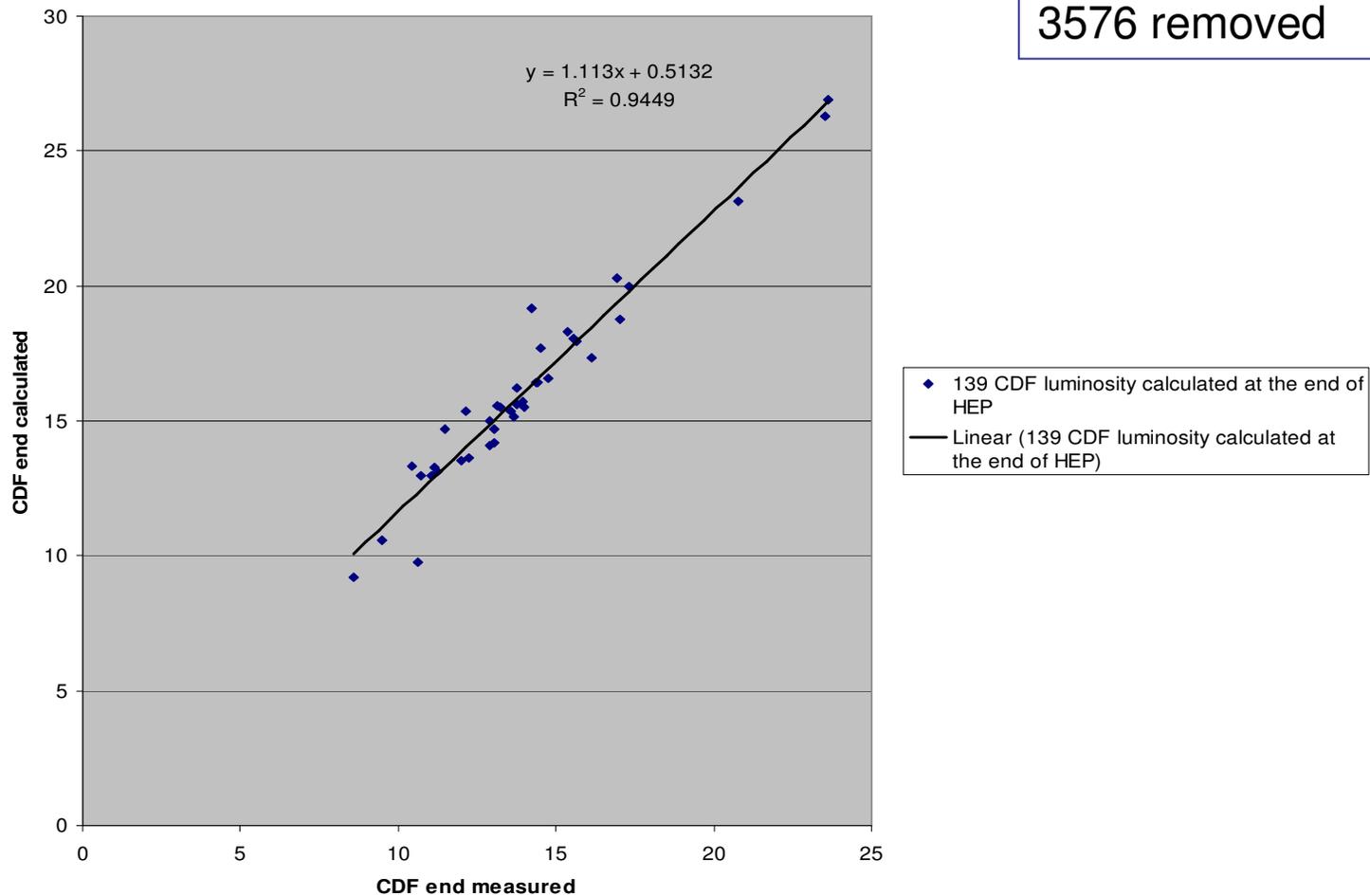
Stores 3528, 3663, 3671
3576 removed

◆ 139 CDF luminosity calculated at the end of HEP
— Linear (139 CDF luminosity calculated at the end of HEP)

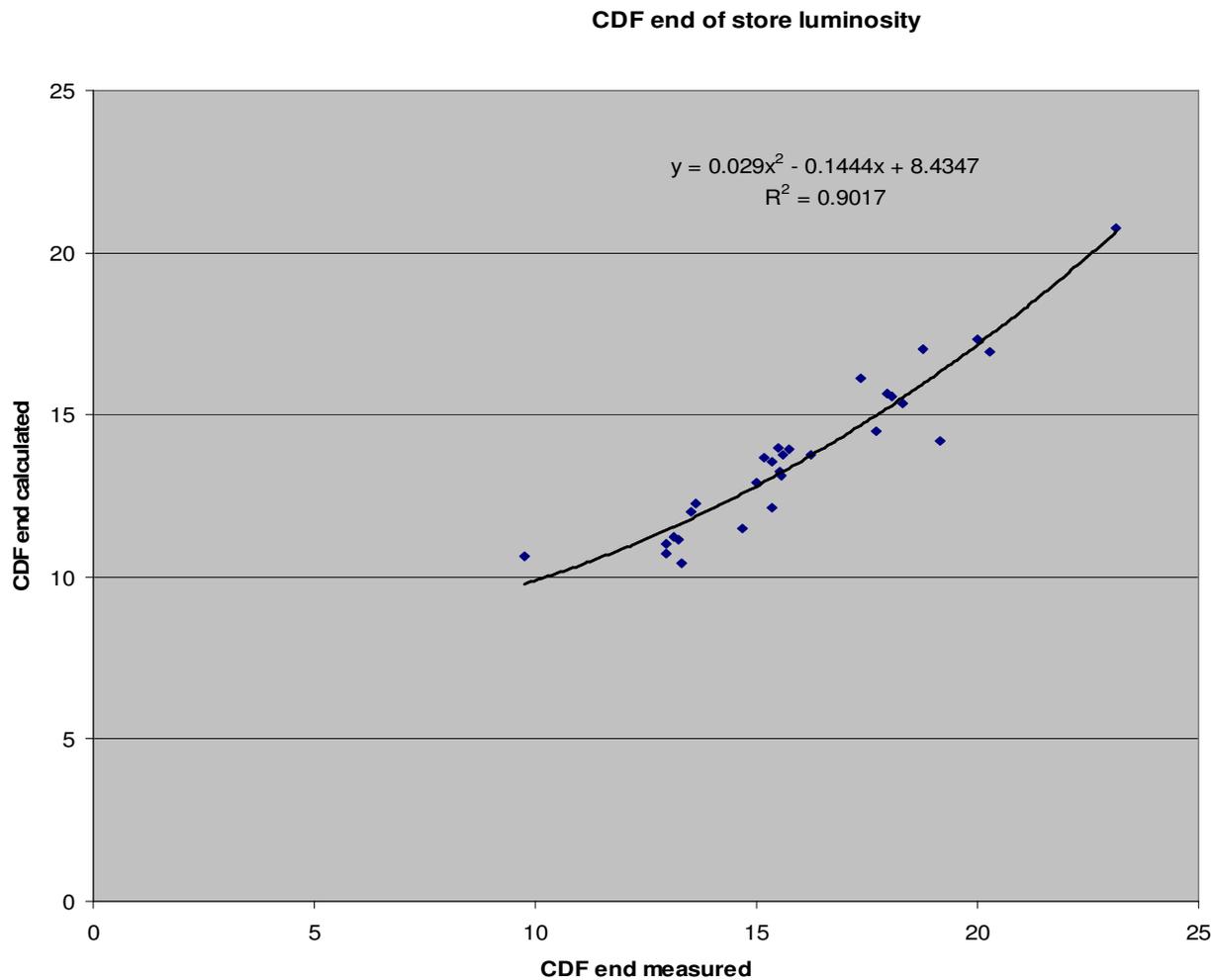
CDF calculated vs end of store luminosity after the beam optics change and till Aug. 23

139 CDF luminosity calculated at the end of HEP vs measured

Stores 3528, 3663, 3671
3576 removed

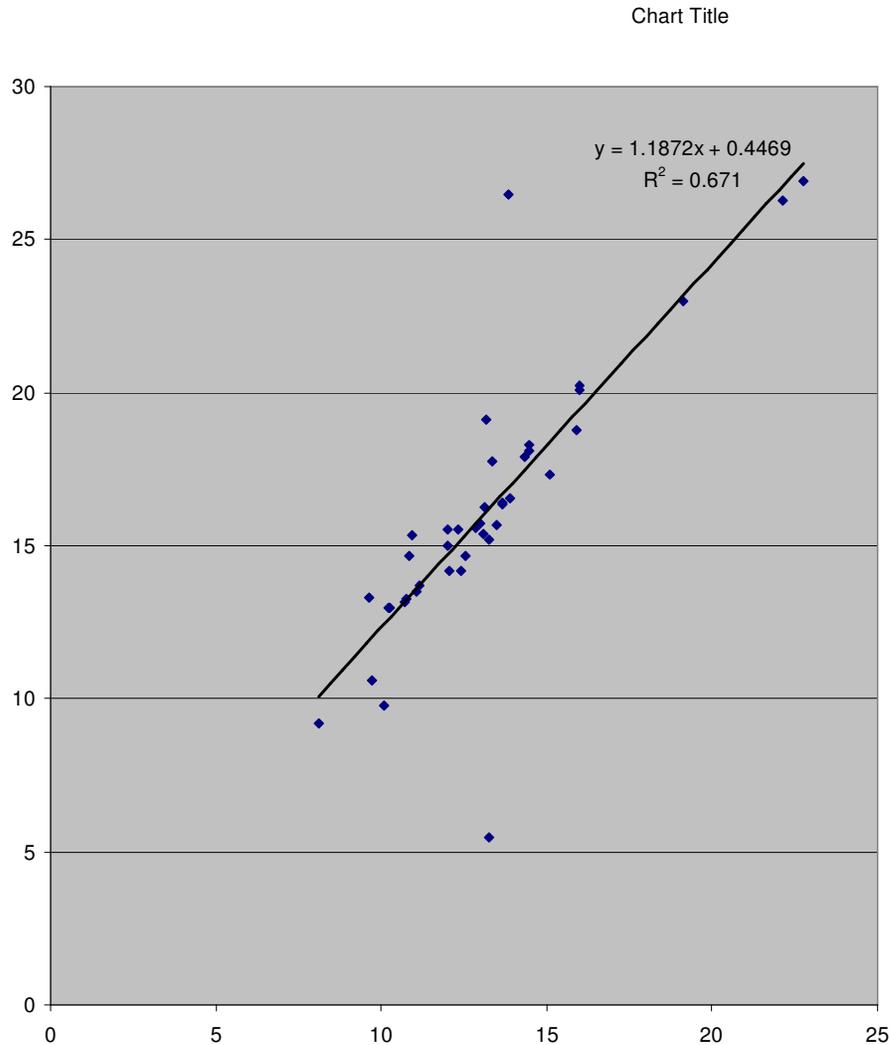


CDF calculated vs end of store luminosity after the beam optics change and till Aug. 23



Stores 3528, 3663, 3671
3576 removed

D0 calculated vs end of store luminosity after the beam optics change and till Aug. 23

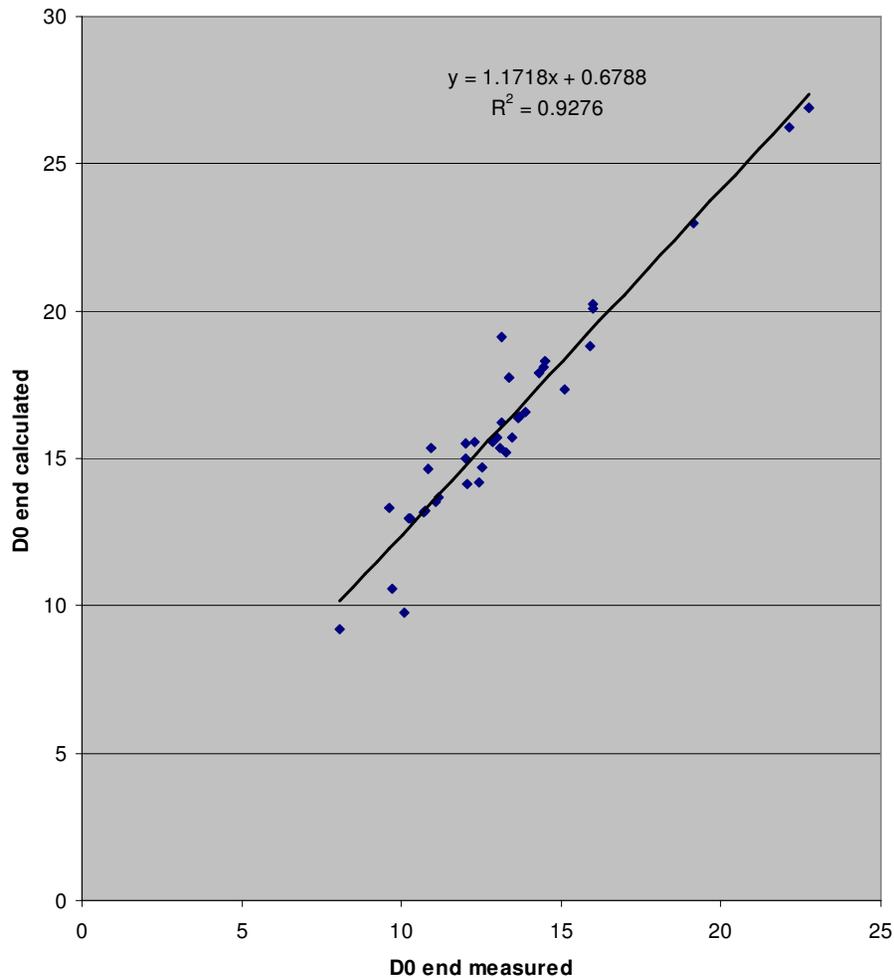


Stores 3528, 3663, 3671
3576 removed

◆ 140 D0 luminosity calculated at the end of HEP
— Linear (140 D0 luminosity calculated at the end of HEP)

D0 calculated vs end of store luminosity after the beam optics change and till Aug. 23

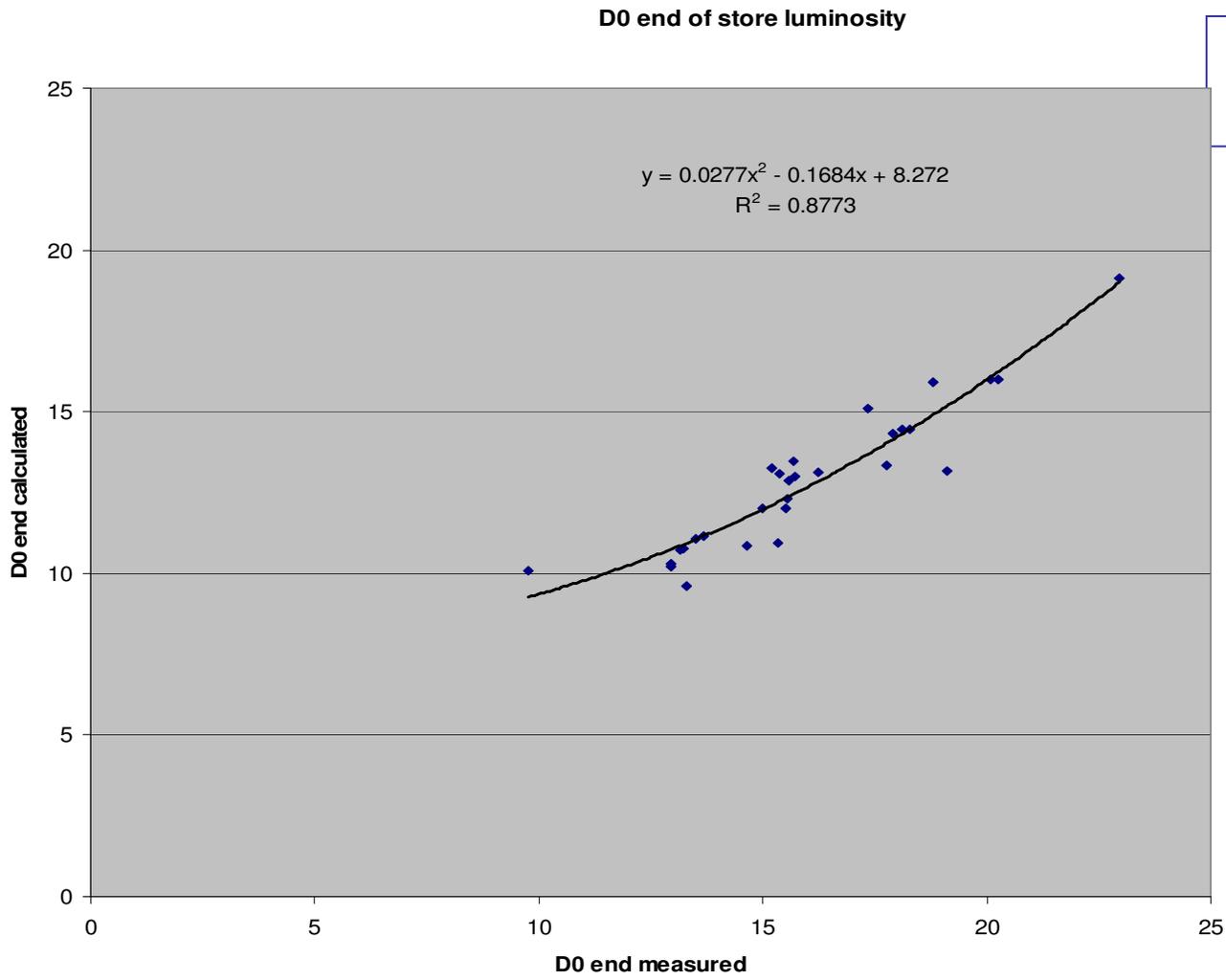
140 D0 luminosity calculated at the end of HEP vs measured



Stores 3528, 3663, 3671
3576 removed

- ◆ 140 D0 luminosity calculated at the end of HEP
- Linear (140 D0 luminosity calculated at the end of HEP)

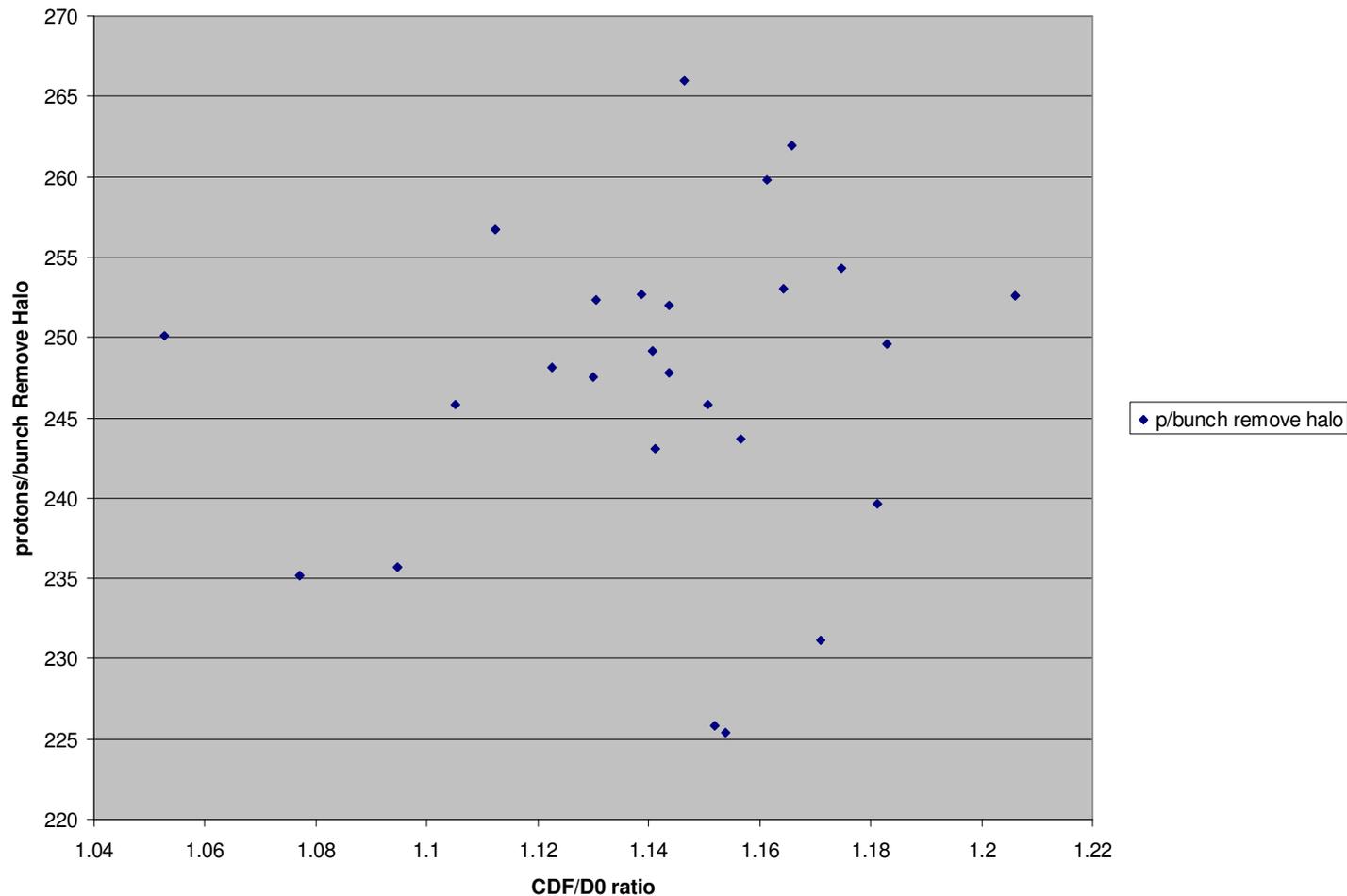
D0 calculated vs end of store luminosity after the beam optics change and till Aug. 23



Stores 3528, 3663, 3671
3576 removed

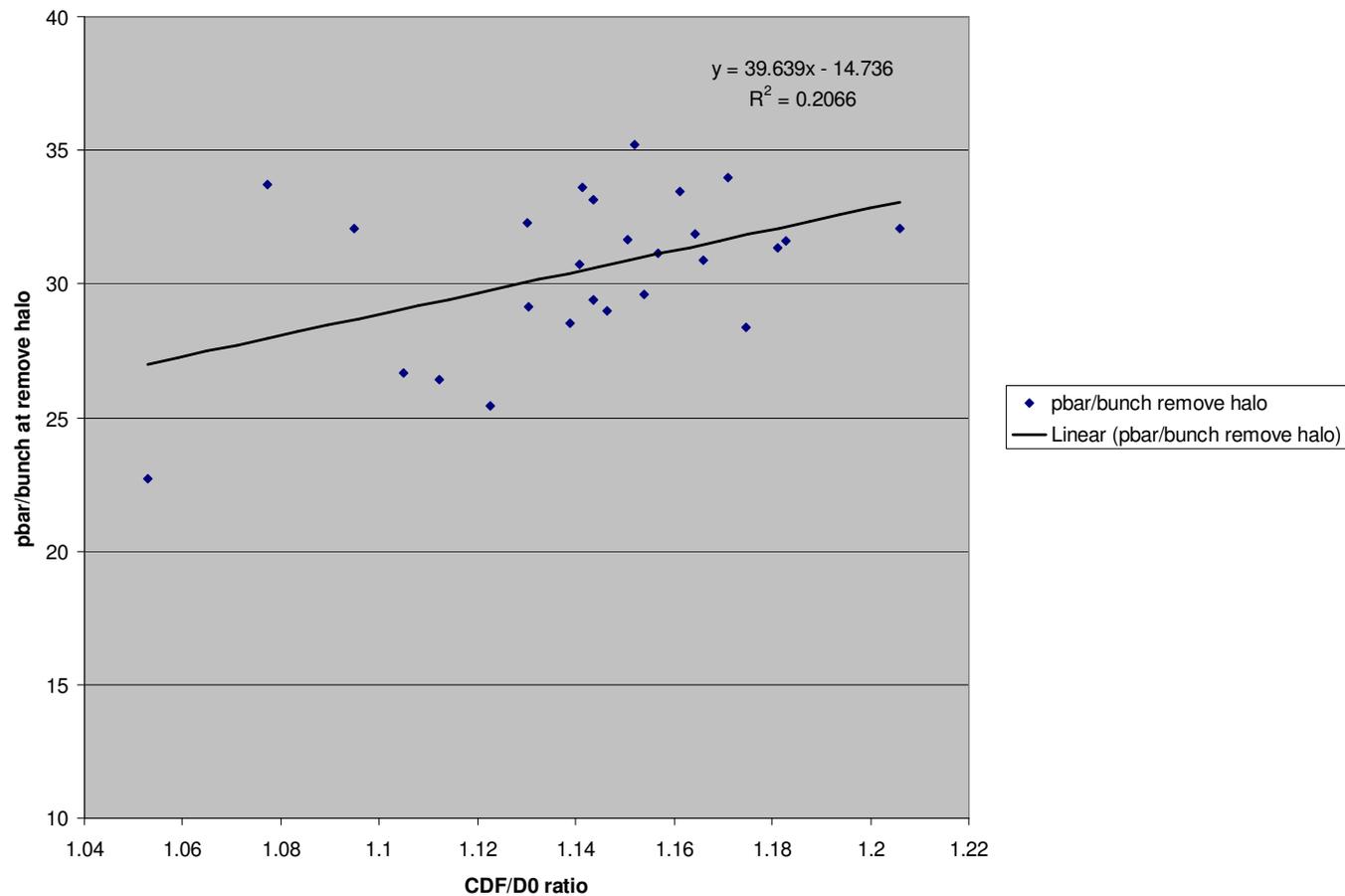
Protons per bunch at Remove Halo vs CDF/D0 ratio after the beam optics change and till Aug. 23, D0 lum 6-7E31

p/bunch vs CDF/D0 ratio, 6-7E31 at D0



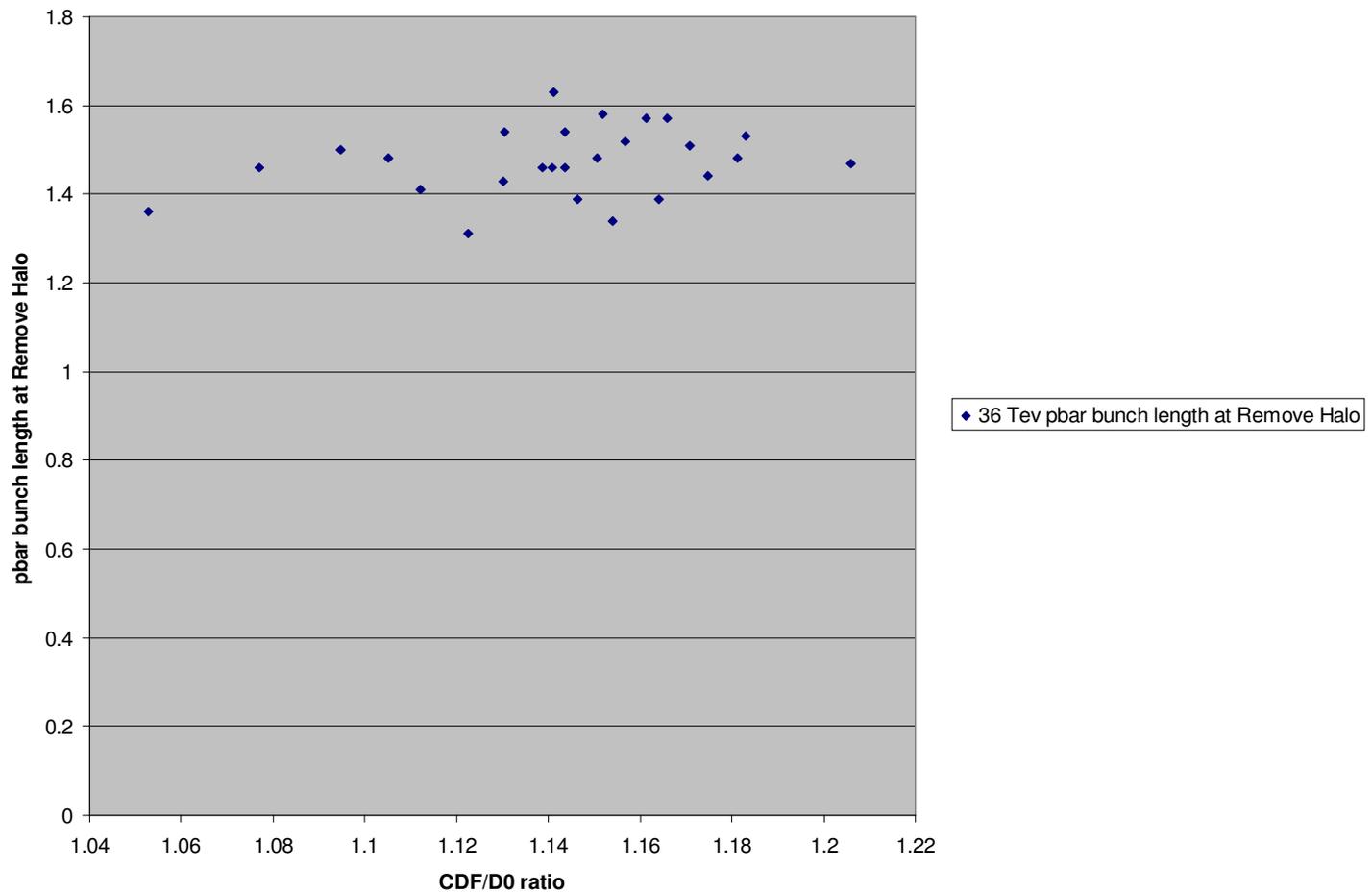
Pbars per bunch at Remove Halo vs CDF/D0 ratio after the beam optics change and till Aug. 23, D0 lum 6-7E31

pbar/bunch vs CDF/D0 ratio, D0 6-7E31



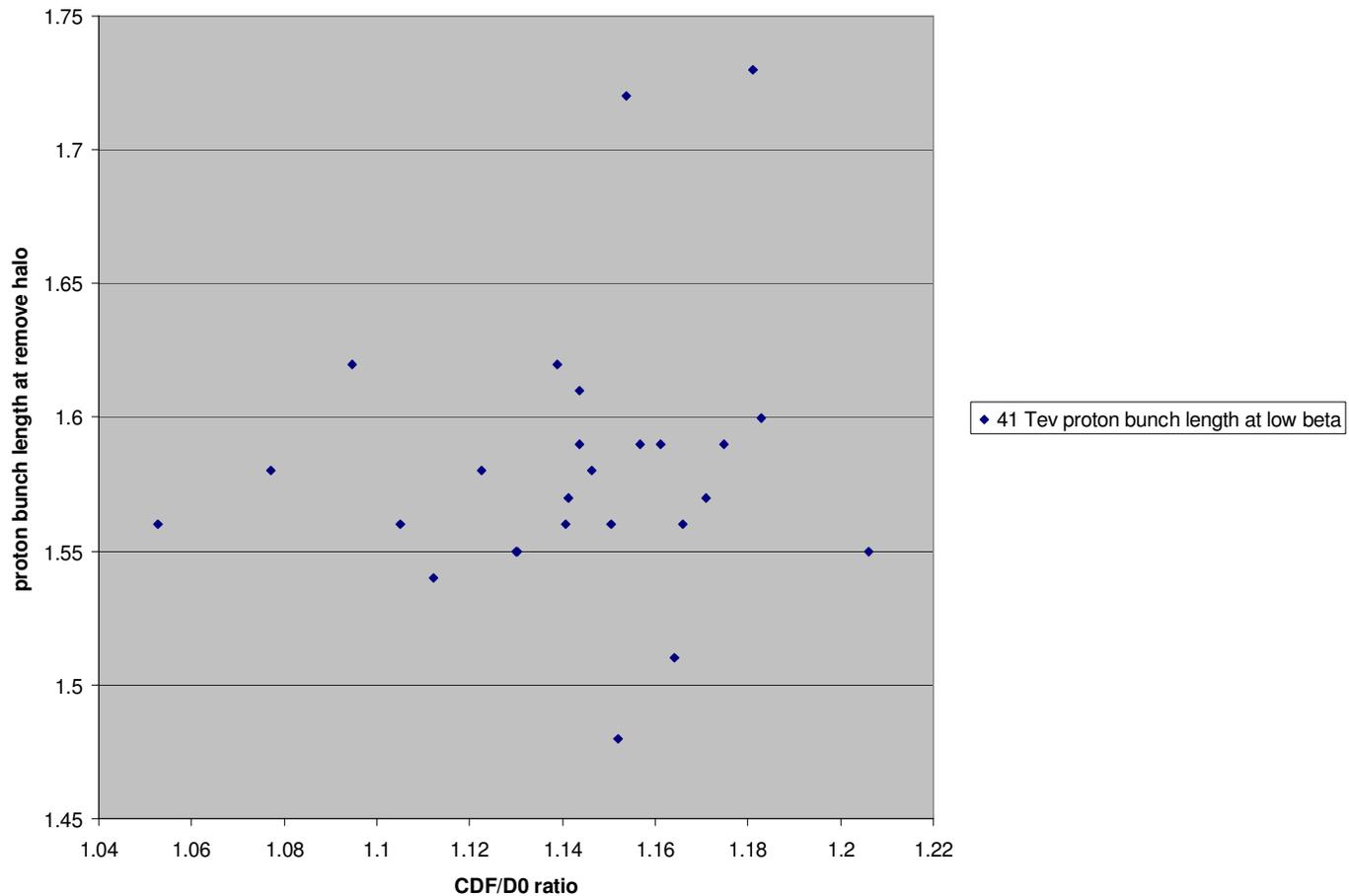
Pbar bunch length at Remove Halo vs CDF/D0 ratio after the beam optics change and till Aug. 23, D0 lum 6-7E31

36 Tev pbar bunch length vs CDF/D0 ratio



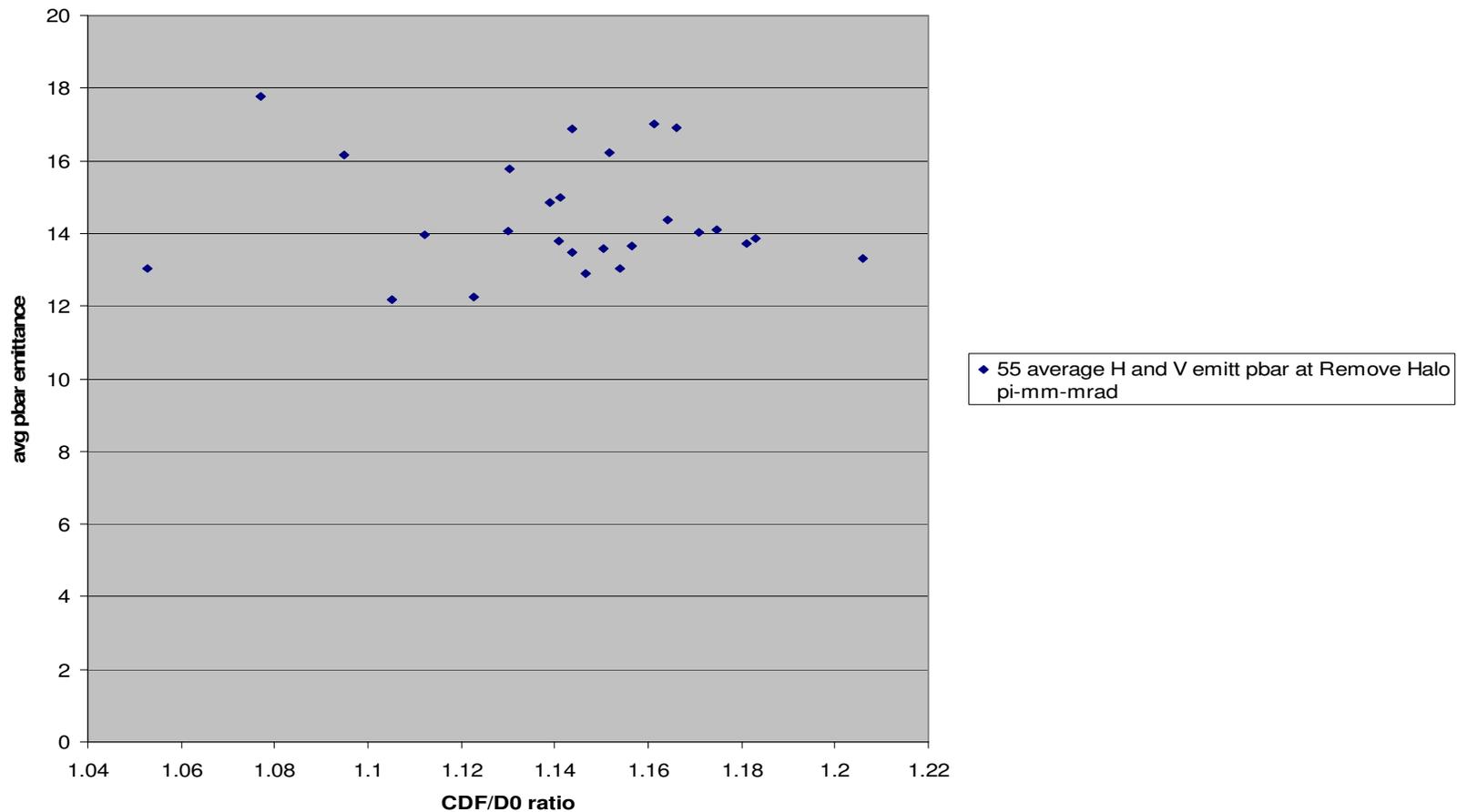
Proton bunch length at Remove Halo vs CDF/D0 ratio after the beam optics change and till Aug. 23, D0 lum 6-7E31

41 Tev proton bunch length vs CDF/D0 ratio



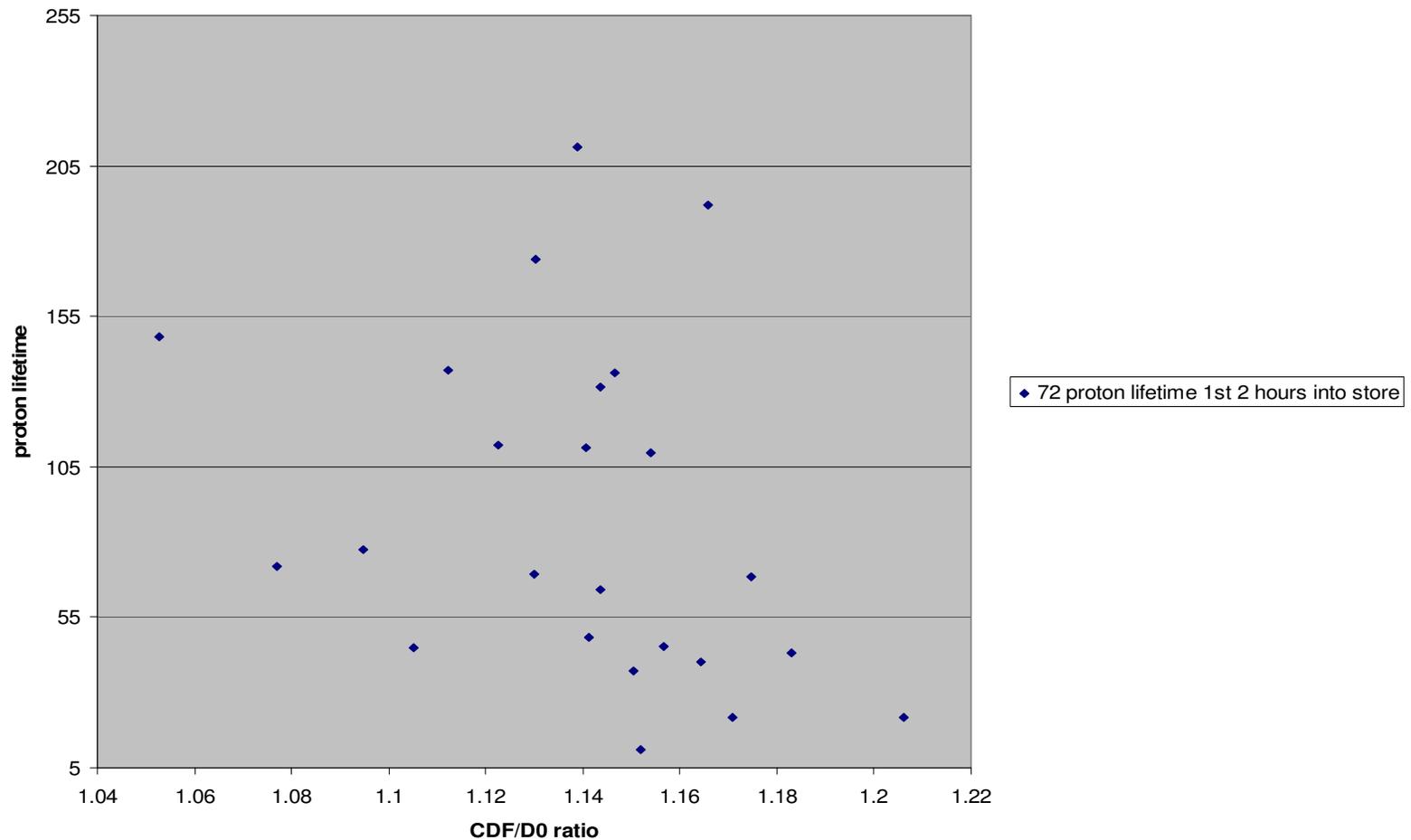
Pbar emittance at Remove Halo vs CDF/D0 ratio after the beam optics change and till Aug. 23, D0 lum 6-7E31

55 average H and V emitt pbar at Remove Halo pi-mm-mrad vs CDF/D0 ratio



Proton lifetime at Remove Halo vs CDF/D0 ratio after the beam optics change and till Aug. 23, D0 lum 6-7E31

72 proton lifetime 1st 2 hours vs CDF/D0 ratio



Pbar lifetime at Remove Halo vs CDF/D0 ratio after the beam optics change and till Aug. 23, D0 lum 6-7E31

73 pbar lifetime 1st 2 hours vs CDF/D0 ratio

