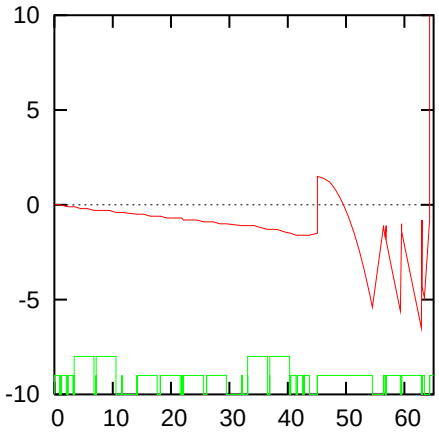
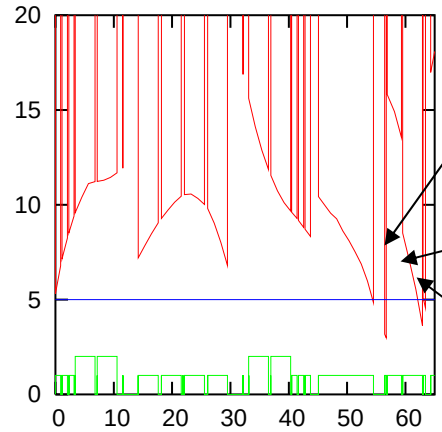
Aperture and miskick in front of D2 in IR2 (&IR8) (preliminary)

B.Jeanneret LOC 23oct06

x[mm]=f(s)



n1=f(s)



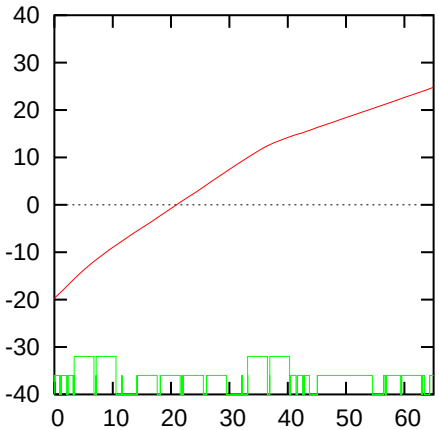
BPMWB

ZDC

Y-chamber

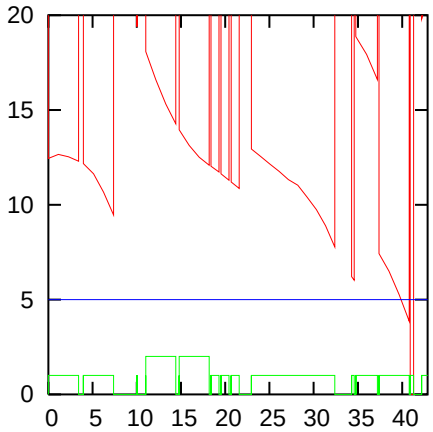
Radius 28 mm
(here elliptic)

y[mm]=f(s)

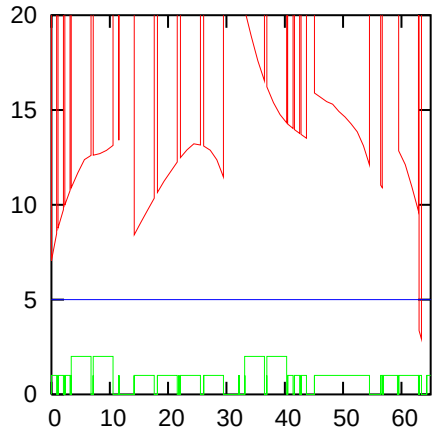


IP2
BEAM:1
k_MKI=+0.8mrad
bb_cross=-1
CO=4mm

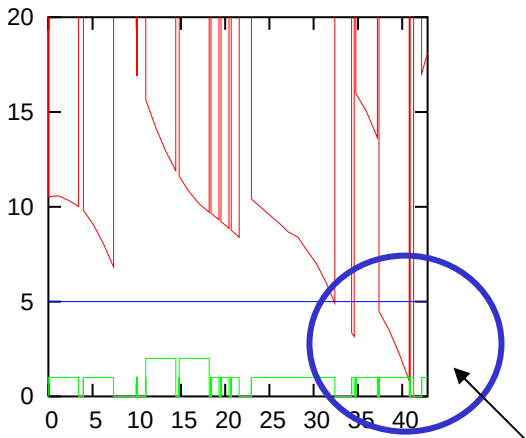
n1(s)/k-/xcr+/C0=2



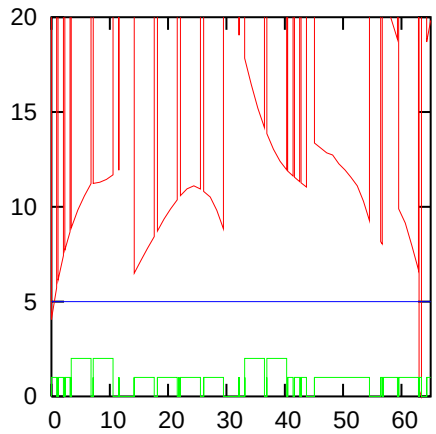
n1(s)/k+/xcr+/C0=2



n1(s)/k-/xcr+/C0=4



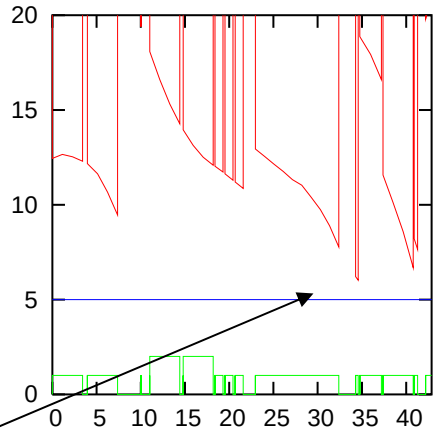
n1(s)/k+/xcr+/C0=4



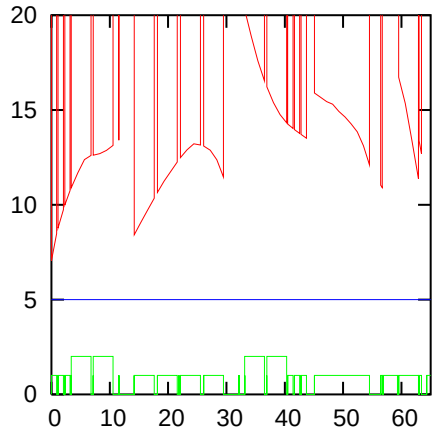
Both ZDC & Y-ch problematic

BPM :
need dicussion

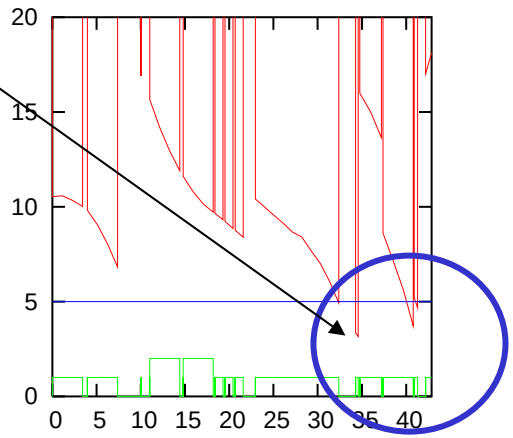
n1(s)/k-/xcr+/C0=2



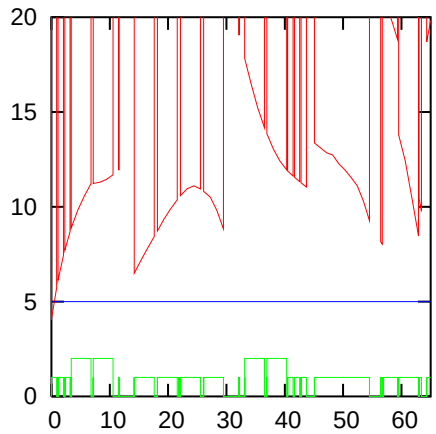
n1(s)/k+/xcr+/C0=2



n1(s)/k-/xcr+/C0=4

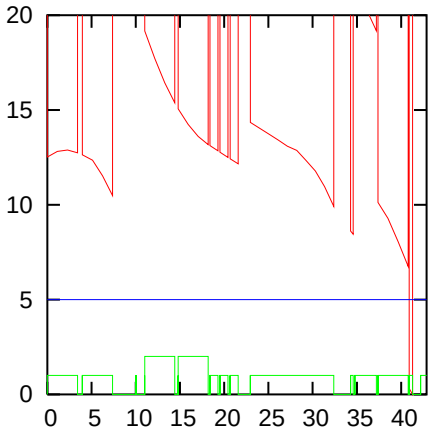


n1(s)/k+/xcr+/C0=4

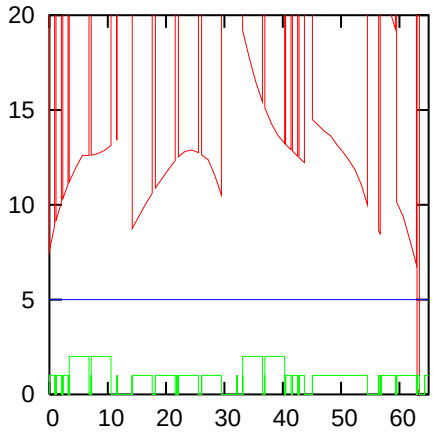


Elliptical chamber : better (still need be tuned, see VAC, etc)

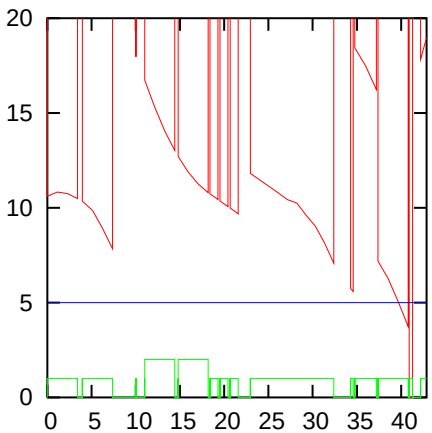
n1(s)/k-/xcr0/C0=2



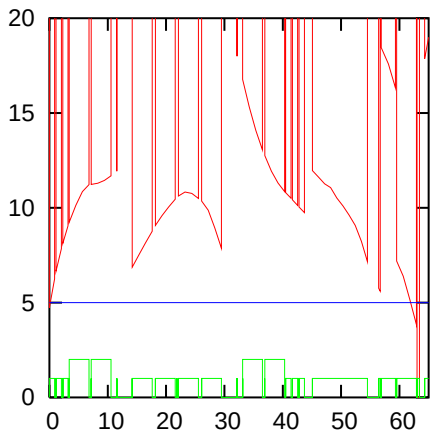
n1(s)/k+/xcr0/C0=2



n1(s)/k-/xcr0/C0=4



n1(s)/k+/xcr0/C0=4



450 GEV run in fall 2007: No crossing scheme

→

Only Y-chamber
To see beam
And :
4 bunches 4×10^{10}
or maybe
16 bunches 10^{11}
critical (UTS) :
>20 bunches
in massive steel
(here grazing)

Historic

- Many parameters fixed in old days:
  - No MCBY for bb-crossing scheme
  - Shorter ZDC
  - No TCT
  - No LUM-monitor

  → Y-chamber moved a lot towards IP
- As of today : yet no drawing
- IR8 : TCT installed but no drawing (transverse position ?)

Further work

- Re-work IR8
- Finalize proposal for ZDC & Y-chamber
- Submit to VAC and TS-LEA
- Check for chamber along TCT (Christian Rathjen cannot presently house it with bake-out, etc)
- Check new Y-chamber vs. Collective effects
- Formal steps : VAC / LTC? / MARIC?
- Define a group reponsible for coordination of front-D2 in all IRs (nominally : TS-LEA)