

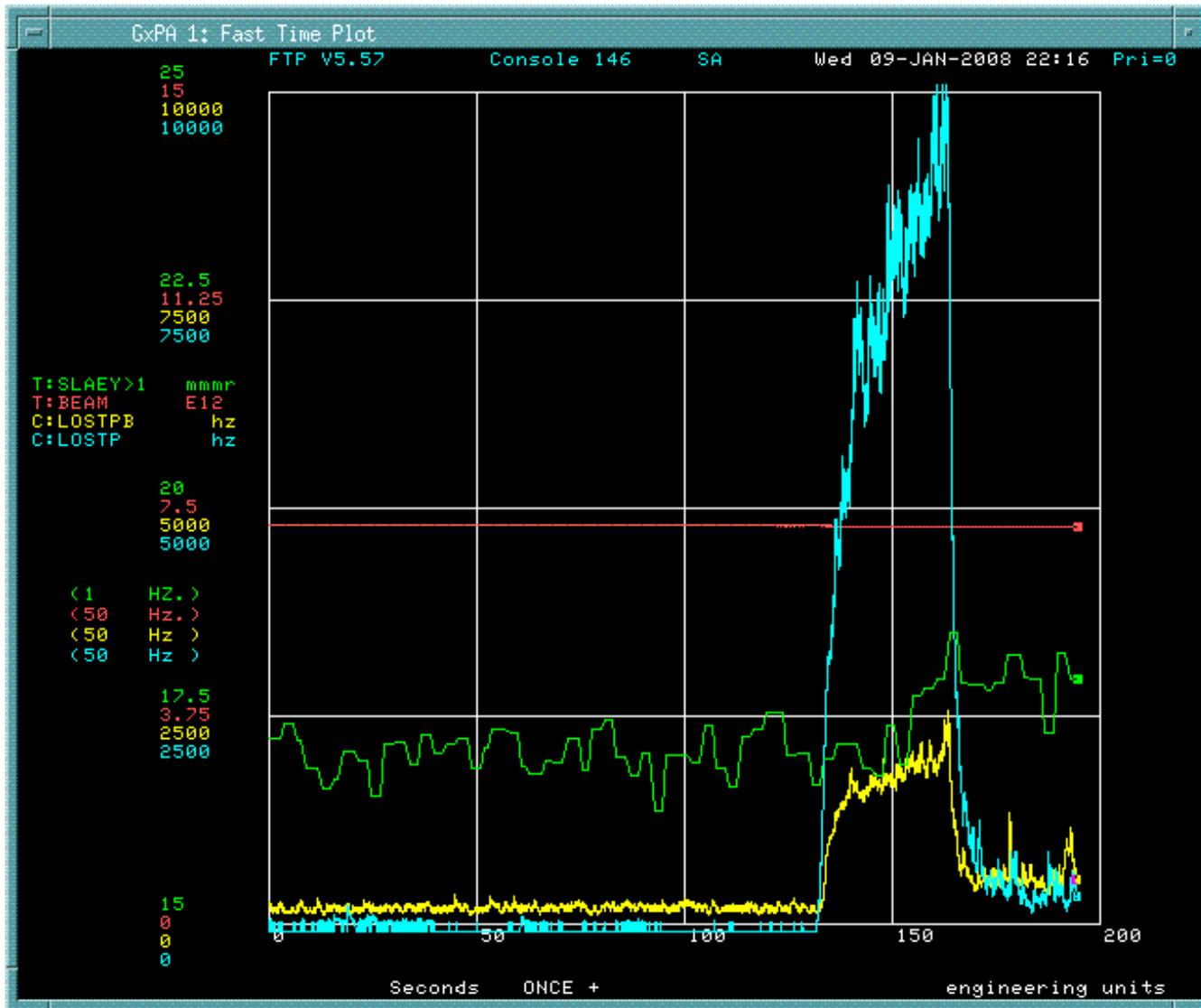
Blowing up Pbars

C.Y. Tan
J. Steimel
11 Jan 2008

Goal

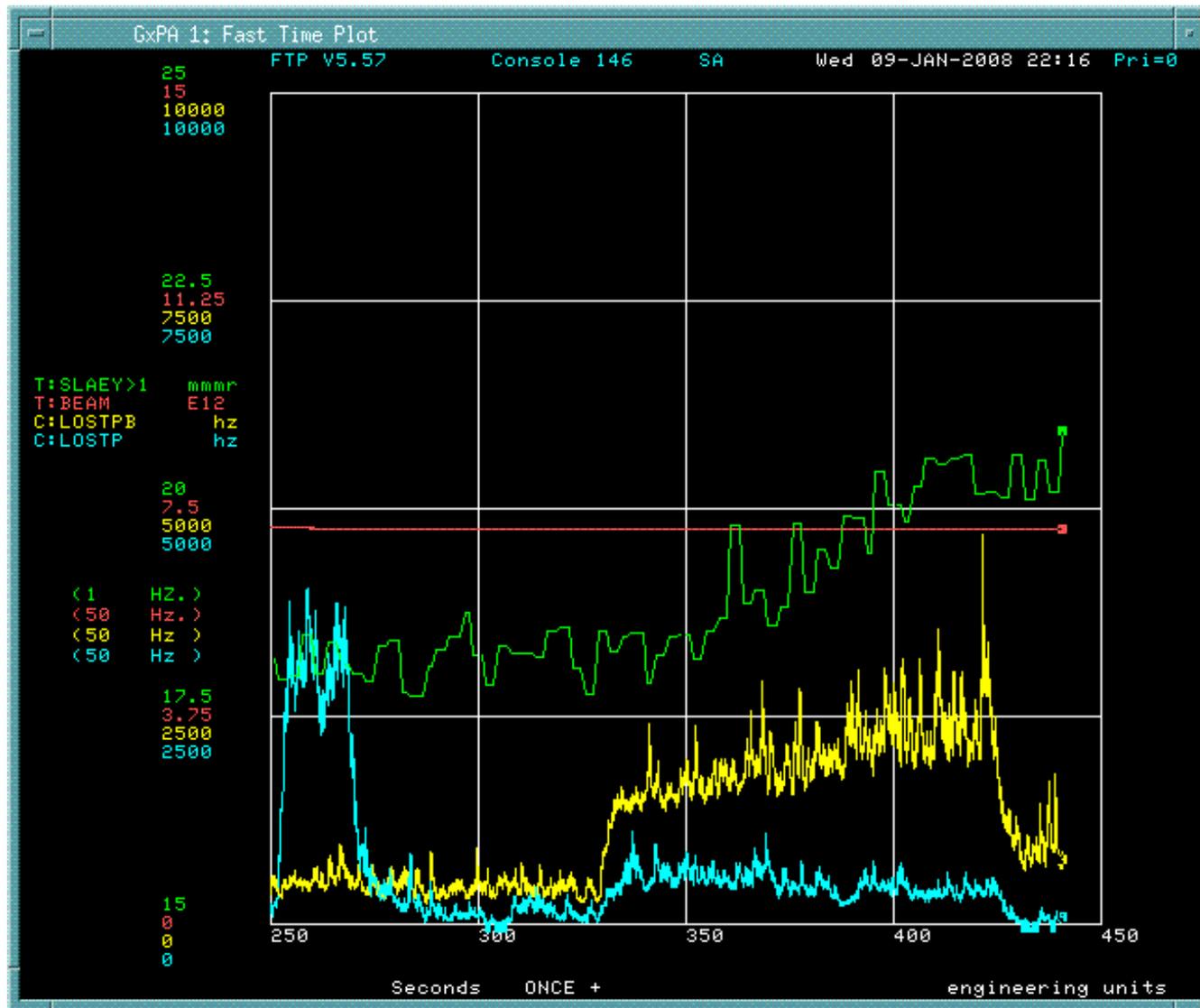
- See if increased power (factor of 3) would blow up pbars faster.
- Leave collimators in to see if losses would be OK.

Do not fly while stupid (or drunk :-)



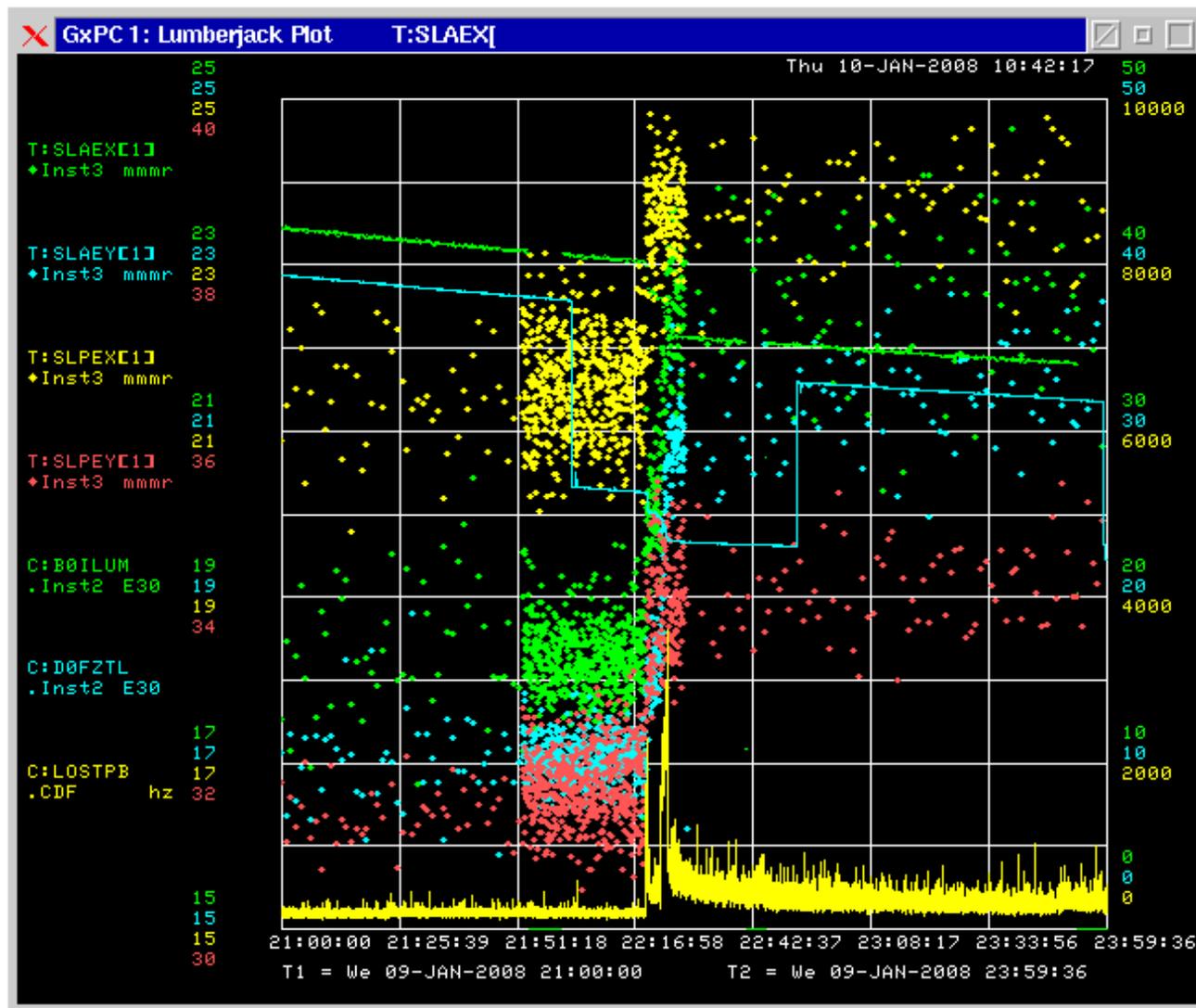
Kicked protons instead! Note that pbar emittance got bigger.

Finally got the right species



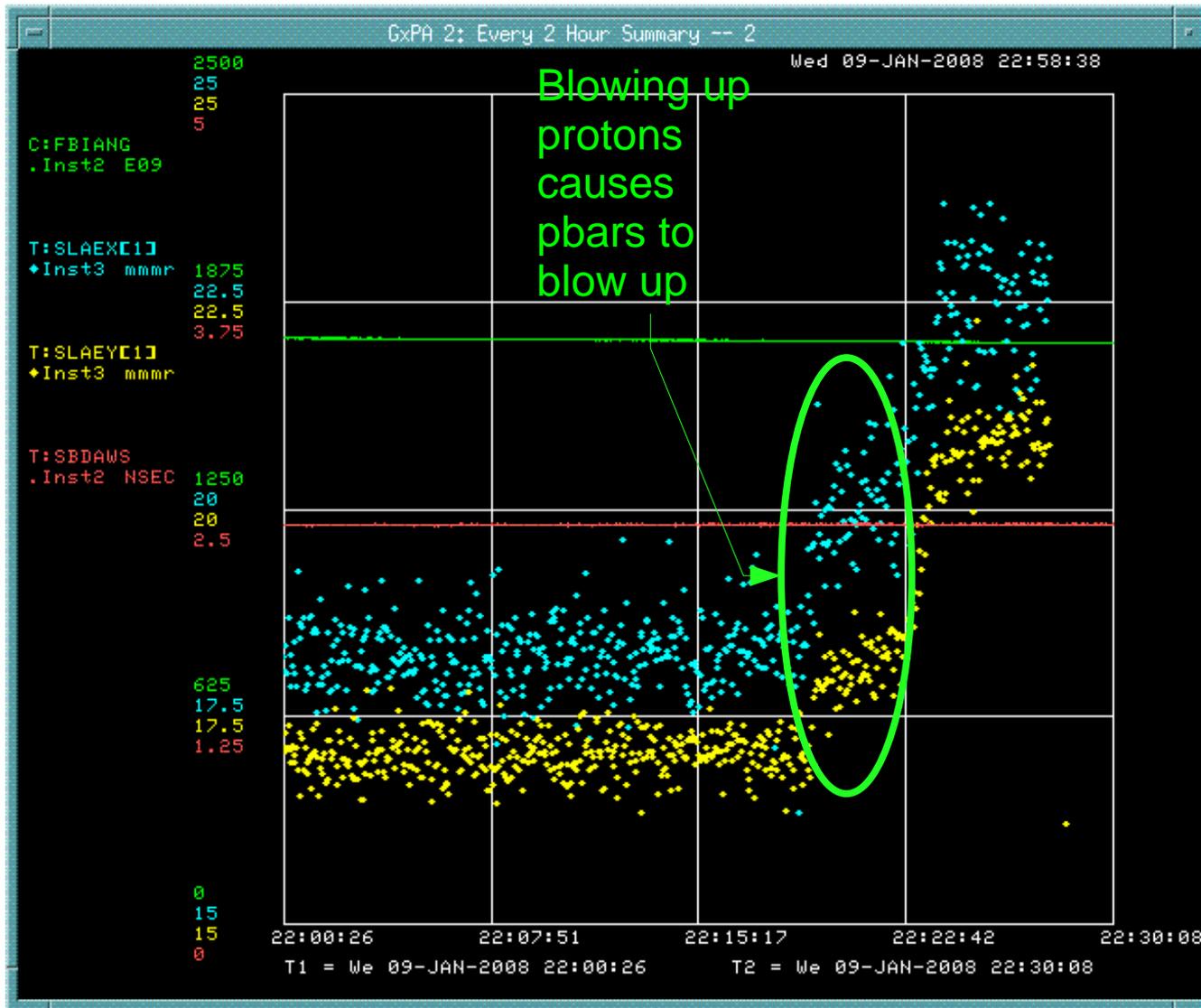
Note LOSTPB did get up to 2.5 kHz. Should still be OK.

LOSTPB did not get back to original small value



Lostpb is higher and spikier after blowup. Tails!!!!

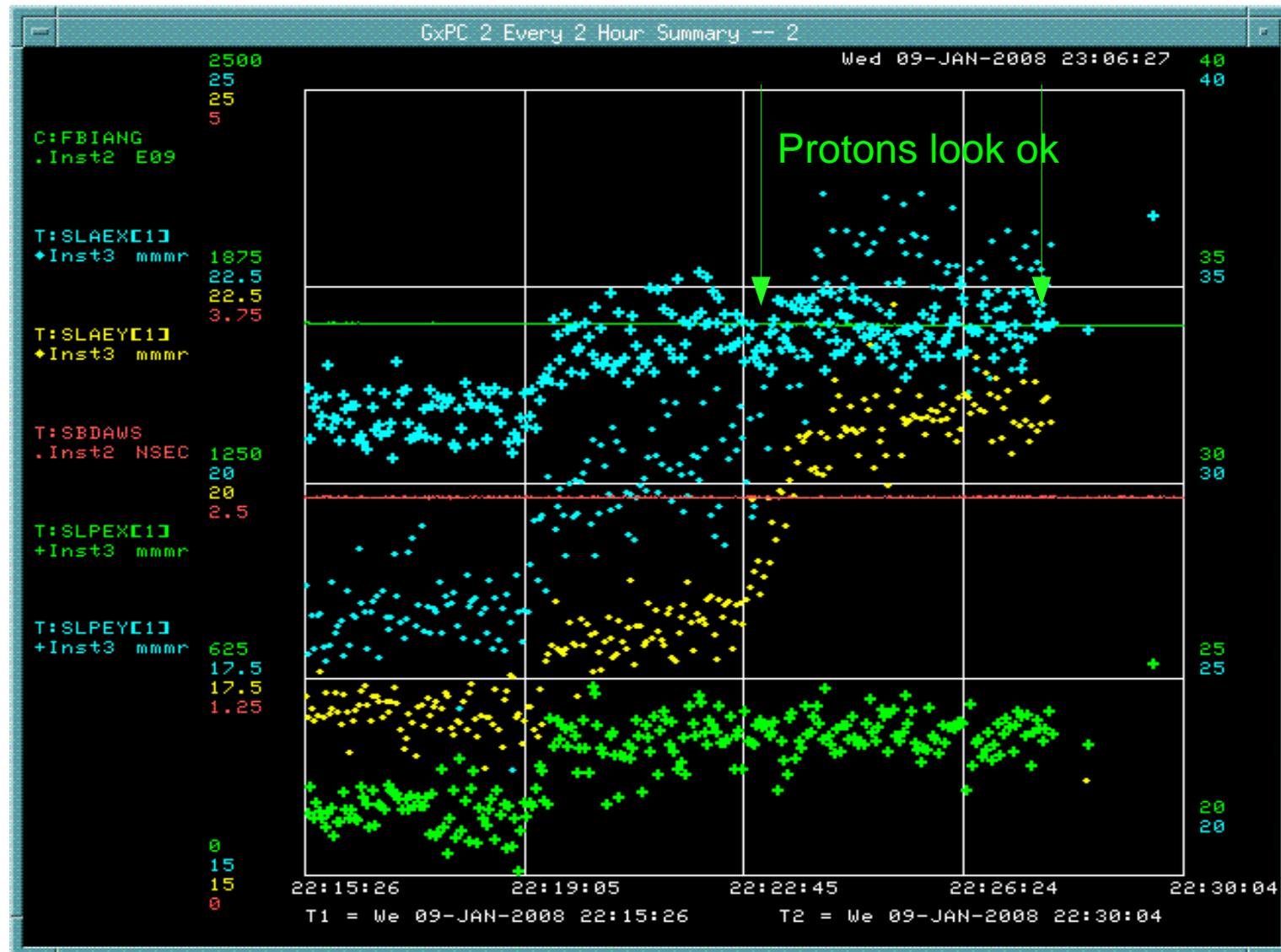
From data logger



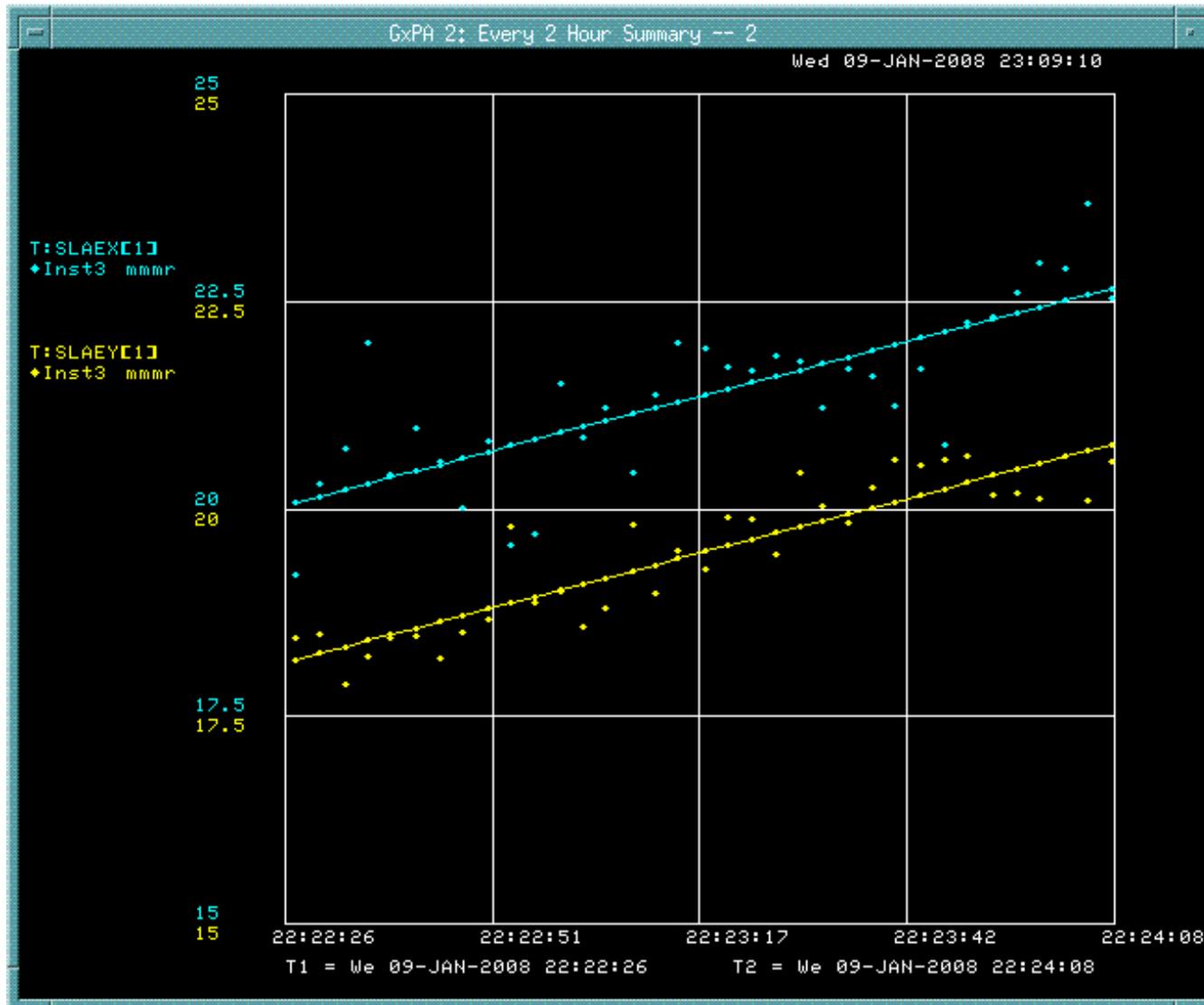
Total blow up about 5 pi.

Blowup of pbars after mistake about 3 pi.

Protons did not blow up when pbars kicked

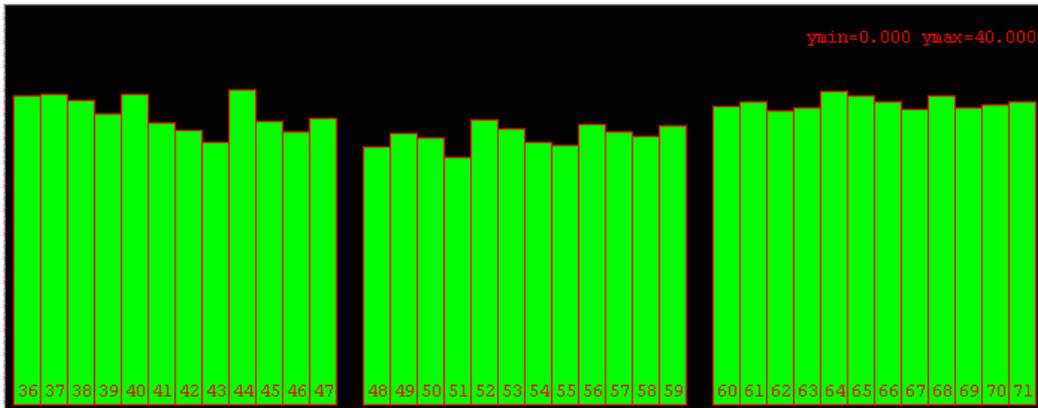


Growth Rate

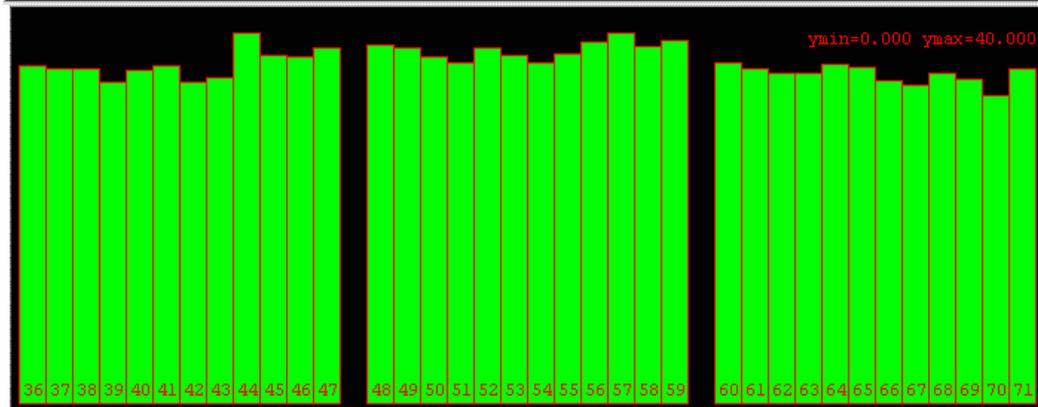


Both planes
about 1.5 pi
mm.mrad/min
(or about 2x
faster than
previous expt., I
had expected
about 3x)

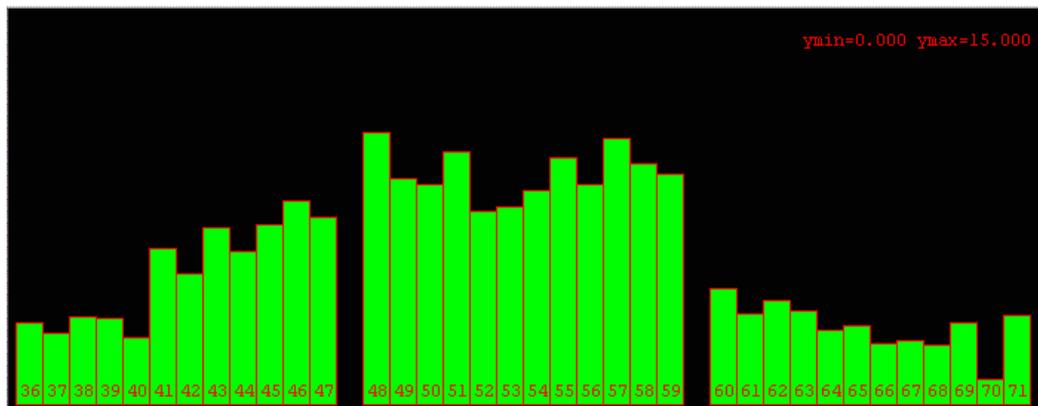
Weird Flying Wire Data (pbars vert)



Before (0 to 40)

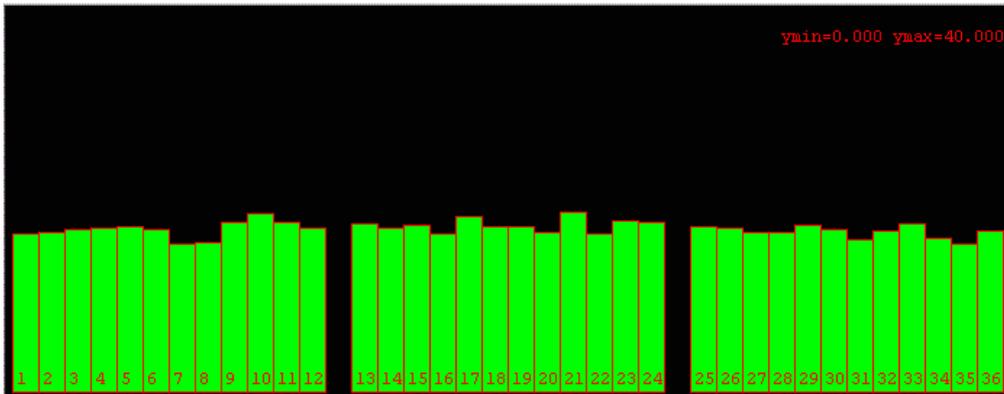


After (0 to 40)

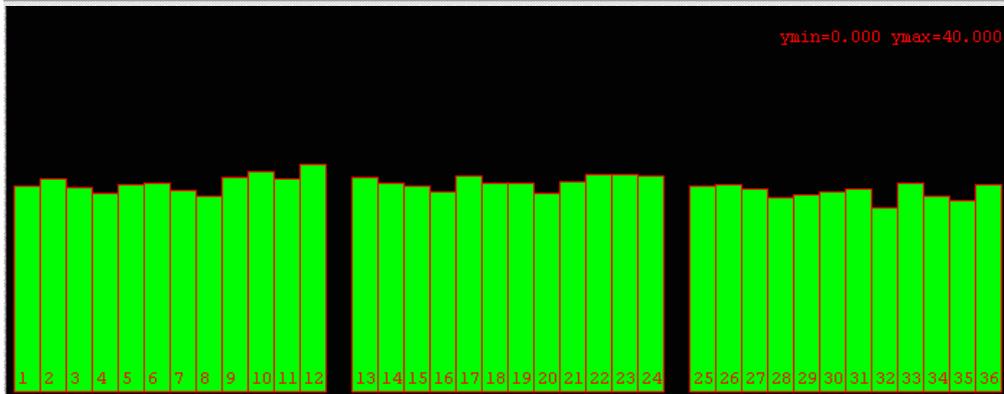


Diff 0 to 15

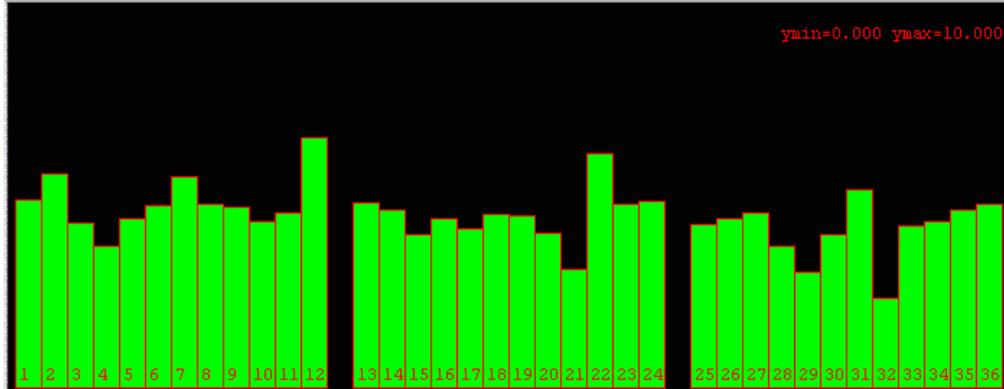
Synch light (pbar vert)



Before (0 to 40)



After (0 to 40)



Diff (0 to 10)

To do

- Don't blow up protons the next time!
- Get remote control done. Will probably require no beam for testing.
- Make sure we are kicking at maximum – need to change phase.
- Do it closer to beginning of store to see if luminosity lifetime improves. If IPM is available that will be good.