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VRVS, 29th August 2007

# MERIT BEAM STATUS

#### Test beams

In collaboration with operations group and beam diagnostics

22<sup>nd</sup> Aug. 2007, 16:00 – 17:45

- Beam parameters
  - 14 GeV/c
  - 2\*10<sup>11</sup> protons/bunch, 1-2 bunches/pulse
  - 0 pulses extracted to MERIT beam branch (magnet interlocked)

23rd August the magnet interlock was resolved (short access)

24<sup>th</sup> Aug. 2007, 16:00 – 17:45

- Beam parameters
  - 14 GeV/c
  - 2\*10<sup>11</sup> protons/bunch, 1 bunch/pulse
  - 8 pulses extracted to MERIT beam branch

# Longitudinal characteristics

Time base: 10.0 nS/DIV

multi shot : waiting for the next acquisition

Two bunches File View Help bsn MDPS \*\*\* Aug 22 12:18:40 2007 out of Time Base Adjustment Train C consecutive 768  $160^{\circ}$ 708ns buckets counter Train C: 768 Manuel DO fitting Nb = 4.21e+12 p Dt: 263.2 nS B:6666.76 Bdot:-0.001786T/ A:1 Q:1 E0:9.38e+08eV Yrf: 202.8KV h = Al : 33,42 eVs/u 7.16E-3 Fs0 : 307.18 Hz 1.47 eVs/u dp/p(2s) = 1.68E-3Selection Channel 1 = Vertical Scale 3.61e-07 7.61e-07 Vert. Scale : 20.000V/D 20 Volts/DIV = base: 40.0 nS/DIV

multi shot : waiting for the next acquisition

Specialist Button

### Beam spot

**MTV484** 

Position:

Z=-4 m

Focus:

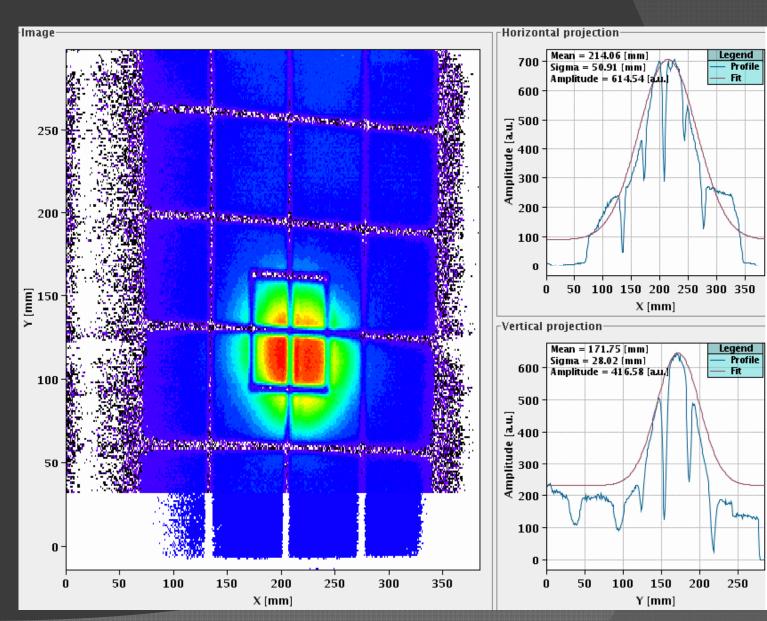
Z = -5.5 m

Grid 1 cm

Calibration "wrong":
Not mm,
but pixel

 $\sim$ 140  $\mu$ m/px

 $\sigma$ =7/4 mm (h/v)

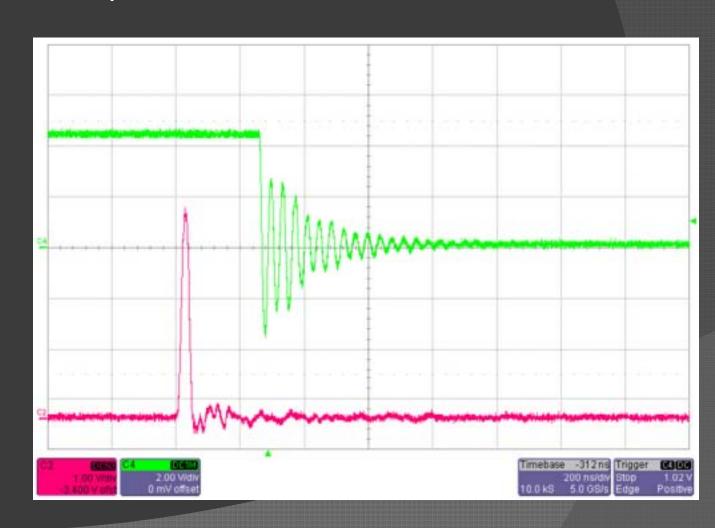


# Raw transformer signal

Recorded with oscilloscope

I=1.56\*10<sup>11</sup>ppp

Final DAQ soon to be installed

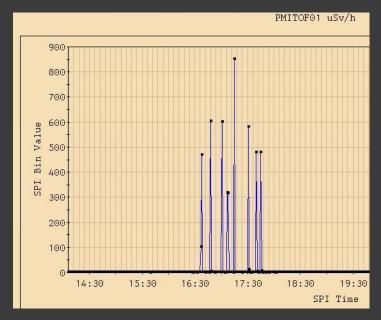


# Radiation/Activation

Radiation:

During beam operation the monitors read about 1 mSv/h

(peak)



Activation after 3 days of cool-down:

1.5 µSv/h peak at hot spots on contact (upstream window)

# Summary

Beam line is fully operational.

 Some minor faults (swapped signal cables) have been fixed during the last access.

 In the coming weeks some more test beam days should follow to verify optics at both momenta.