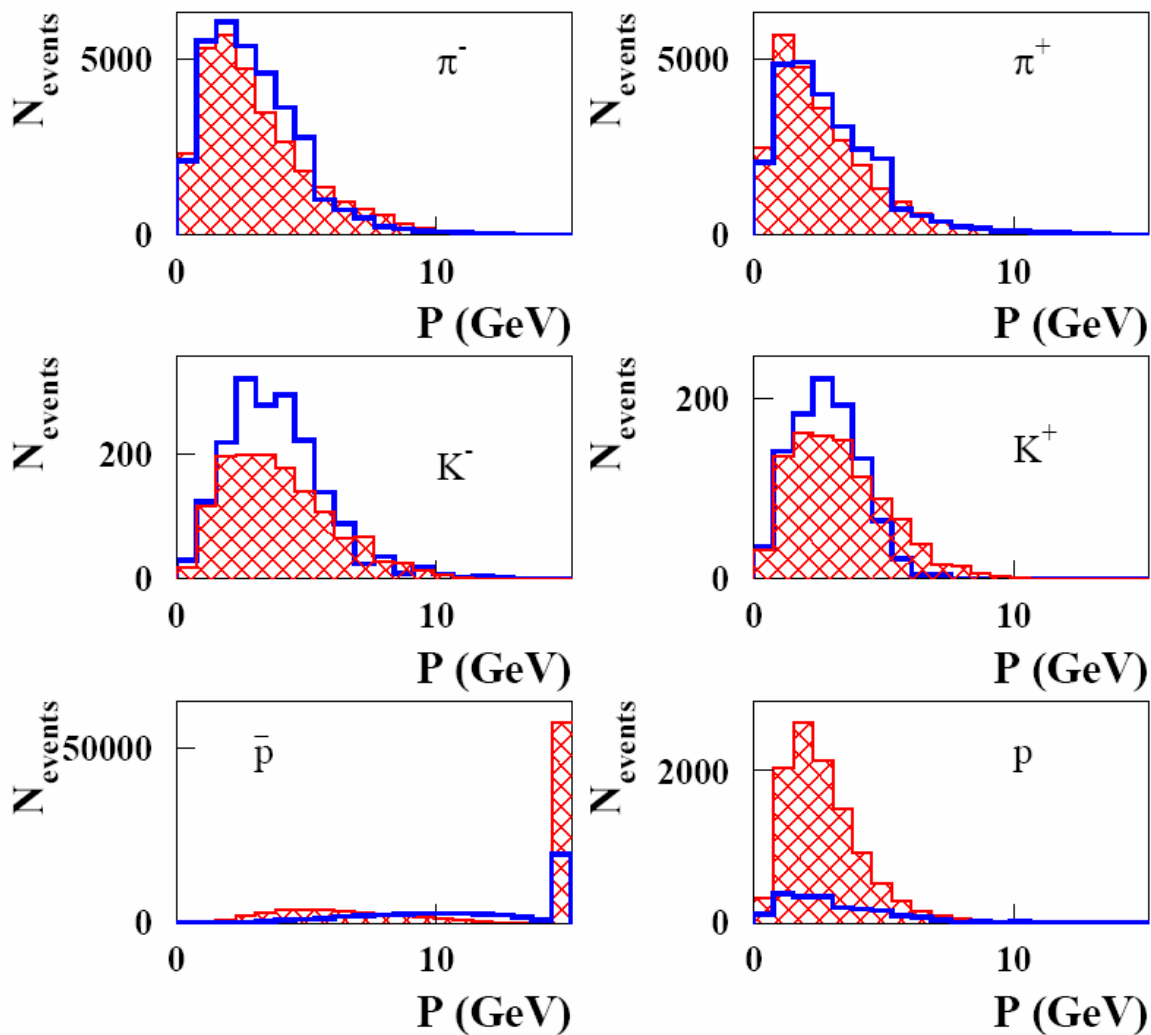


Forward TOF

charged rates

$P_{\text{bar}} P$ at 15 GeV/c, generator comparison



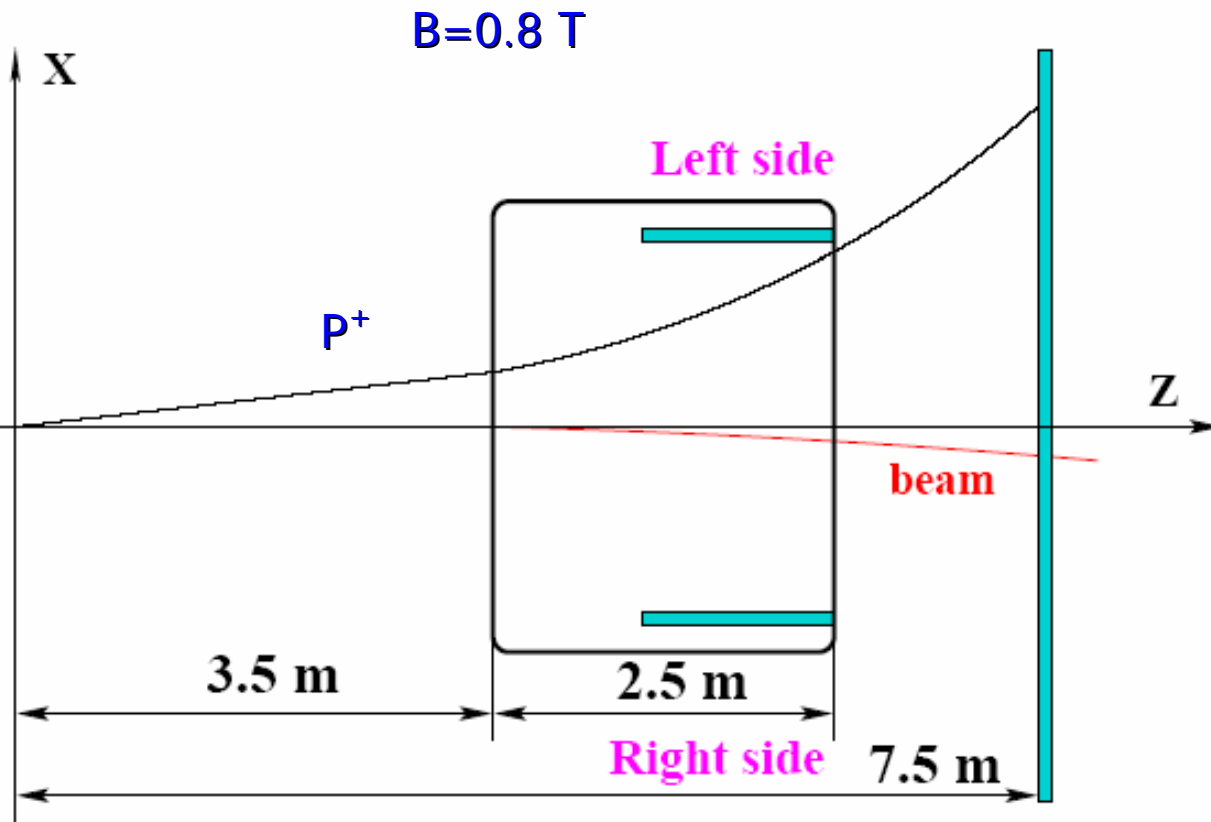
10^5 events in 4p

Acceptance: $|\theta_{xz}| < 10^\circ$
 $|\theta_{yz}| < 5^\circ$

PYTHIA

DPM - generator

Forward TOF detector geometry



Tof Wall

20 central part strip
 $140 \cdot 5 \cdot 1.5\text{ cm}^3$

46 vertical strip
 $140 \cdot 10 \cdot 1.5\text{ cm}^3$

Side detectors

14 vertical strip
 $100 \cdot 10 \cdot 1.5\text{ cm}^3$

Background

background particles could be produced:

➡ on the different detector components

➡ on the air

➡ on the beam pipes

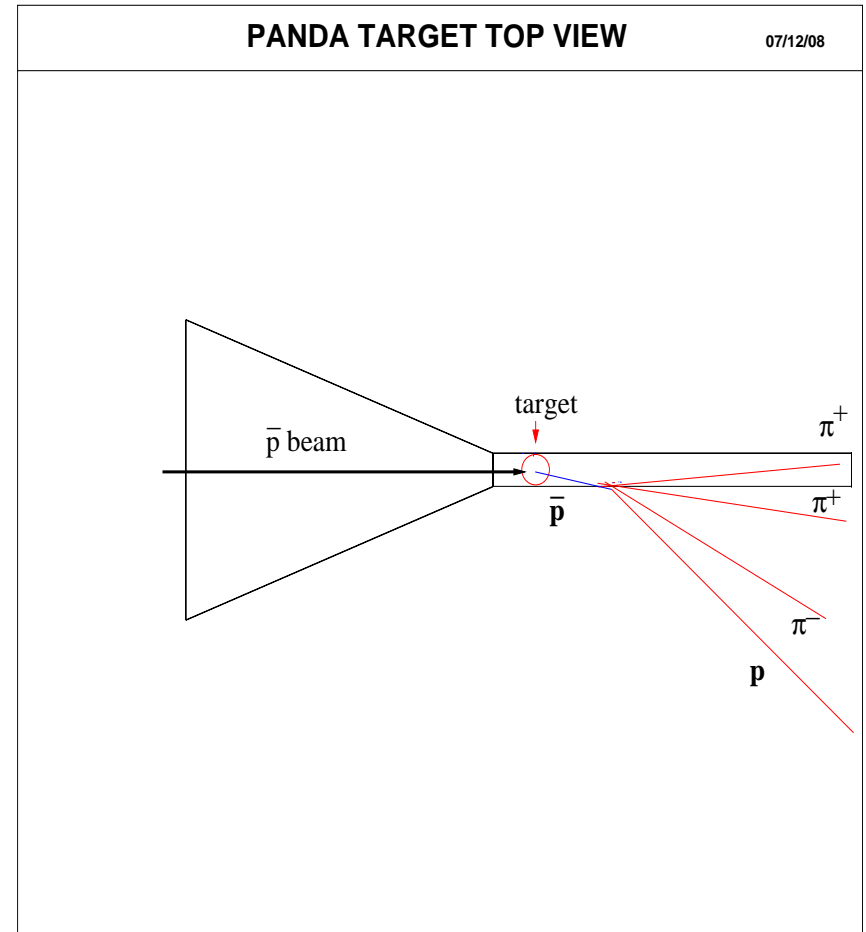
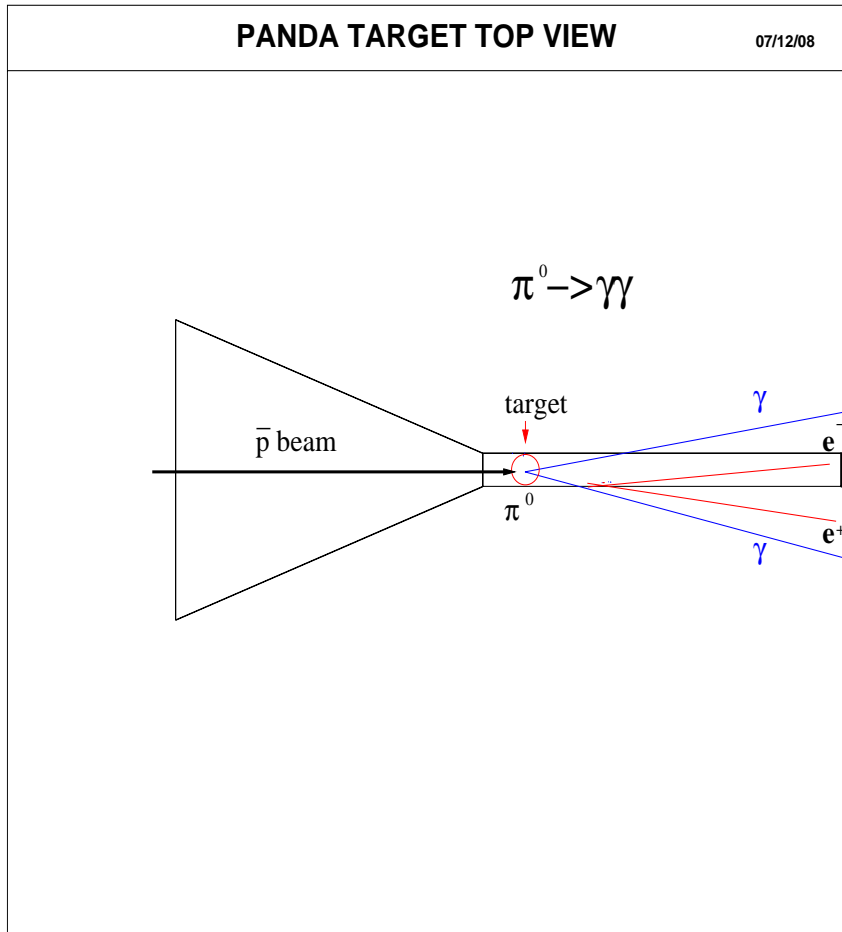
- beam halo

- from the charges particles crossed the beam pipes

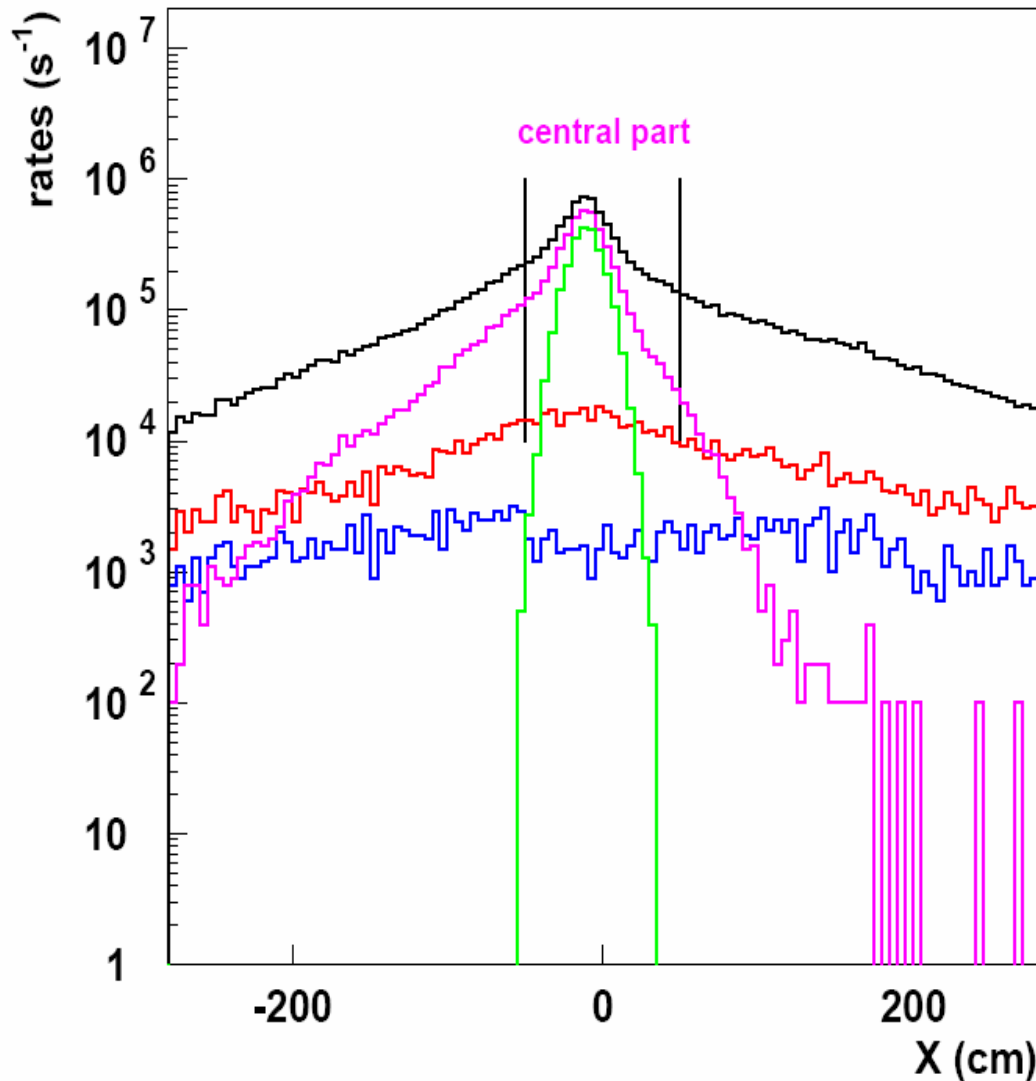
- e^+e^- pairs from γ 's ($\pi^0 \rightarrow \gamma\gamma$)

Background from the beam pipes

PYTHIA+Geant3



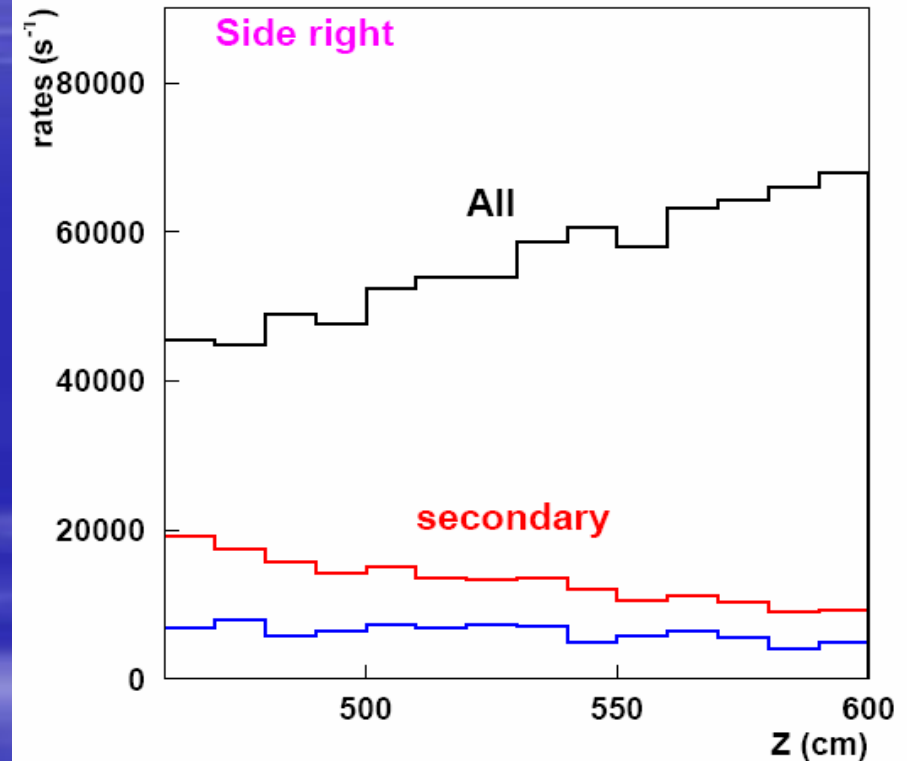
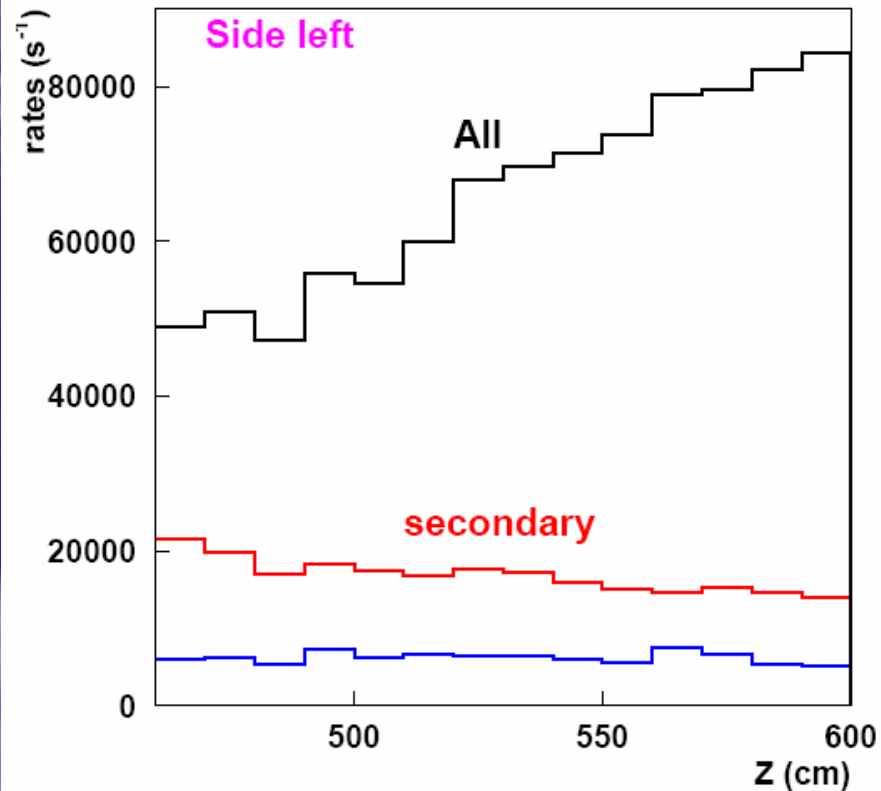
ToF Wall rates at 15 GeV/c $P_{\text{bar}} P$



*Rates normalized on
 10^7 Interaction/s in the target*

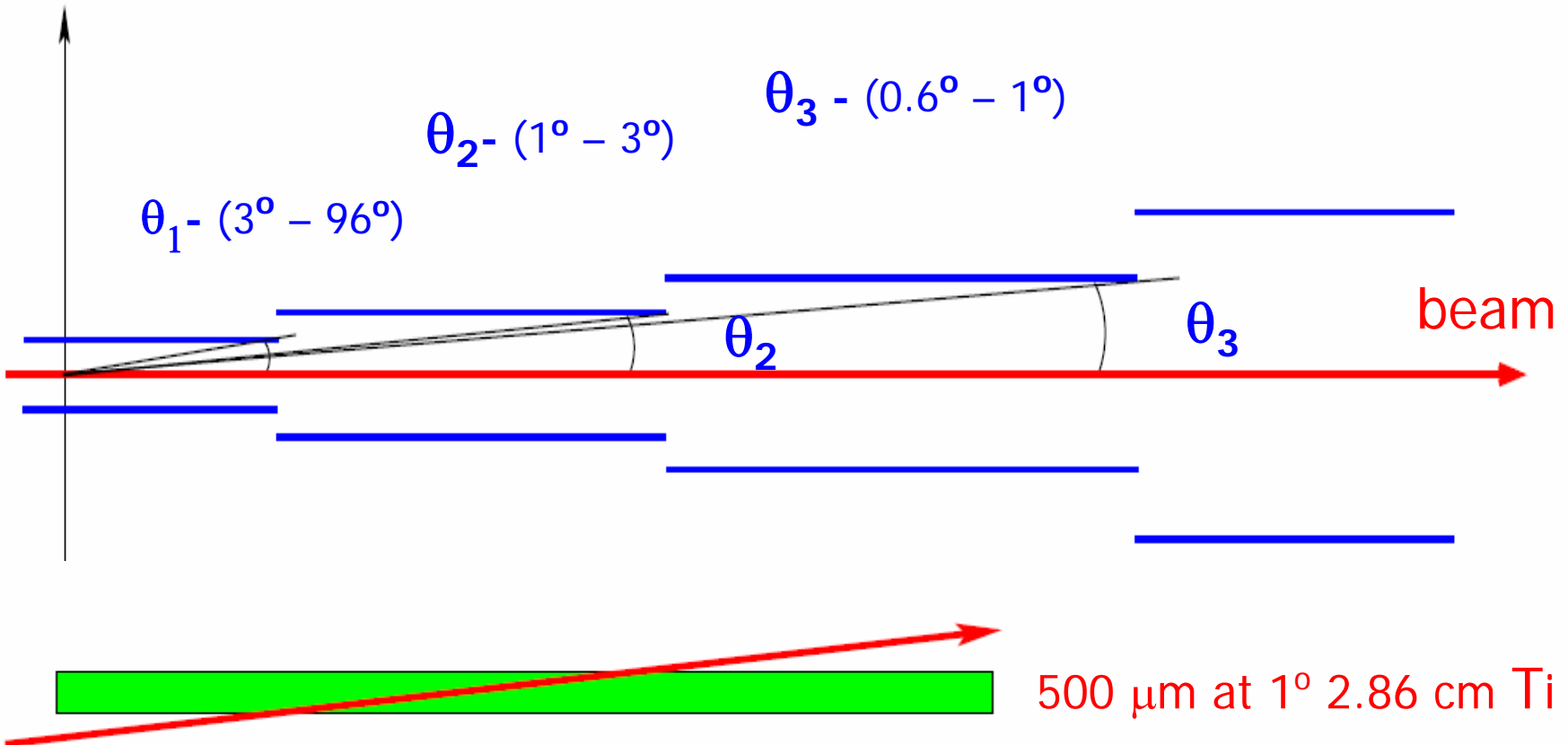
- All charged particles
- P_{bar} elastic and inelastic
- P_{bar} elastic
- Secondary particles
- all charged from beam pipes
- e^+e^- pairs from γ 's ($\pi^0 \rightarrow \gamma\gamma$) on beam pipes
- bin = 5 cm - taken equal to central strip width

Side detector rates at 15 GeV/c



bin = 10 cm

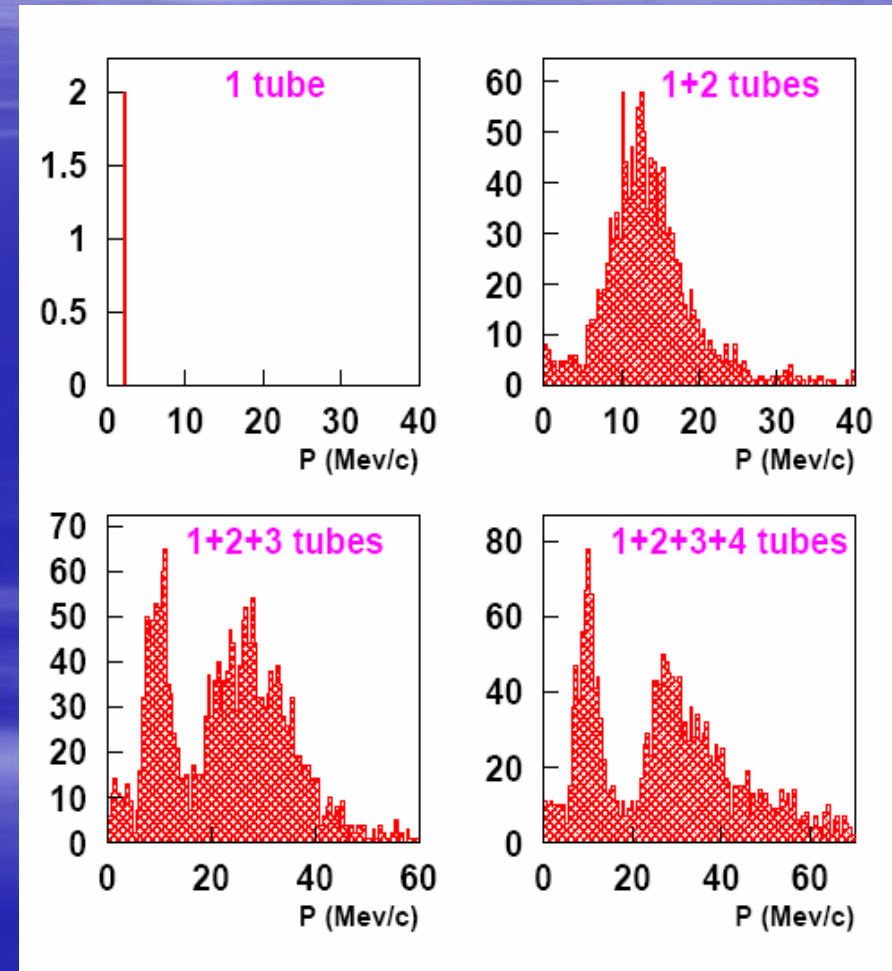
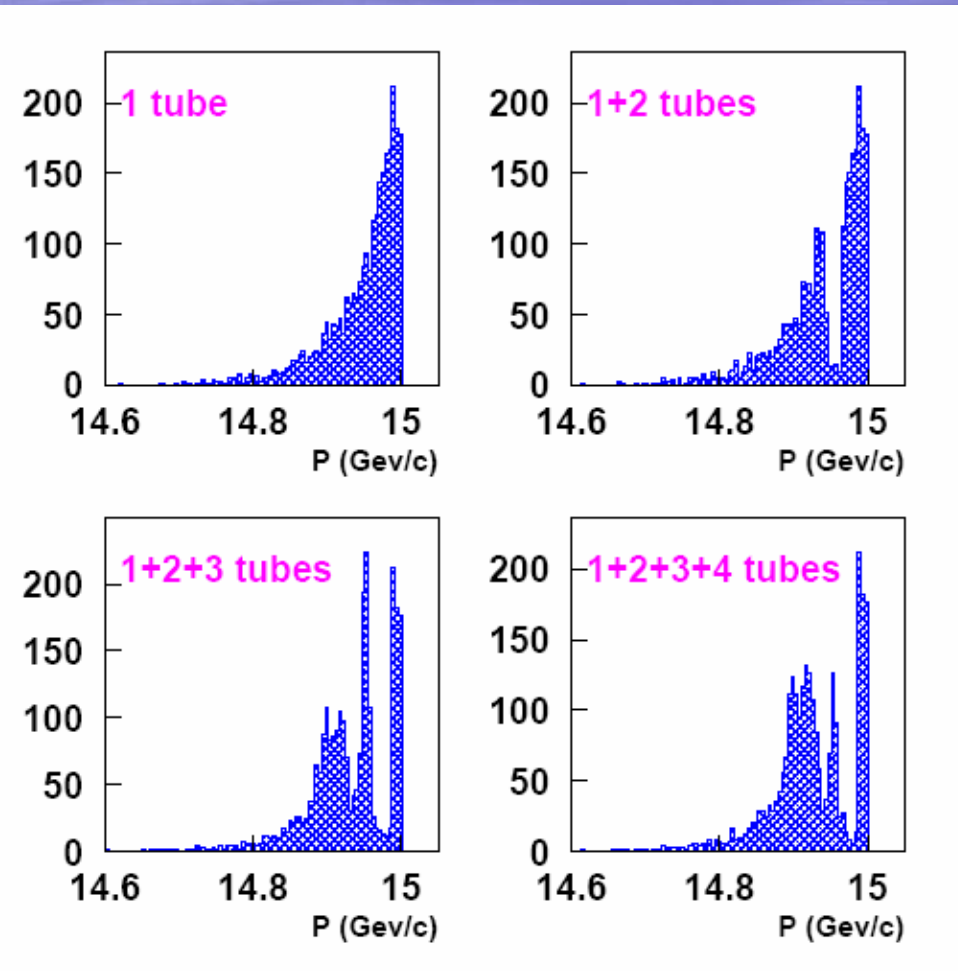
Beam pipes geometry



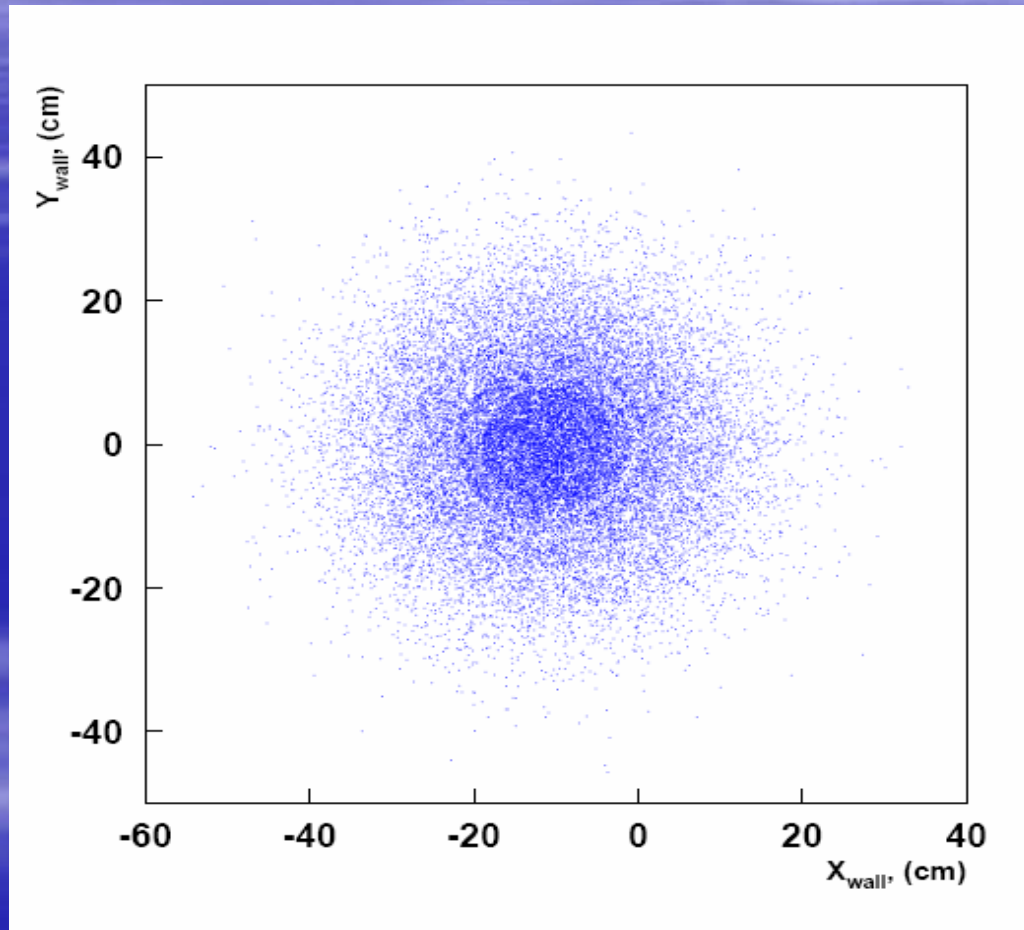
Beam pipes affect P_{bar} elastic momentum

momentum

momentum loss

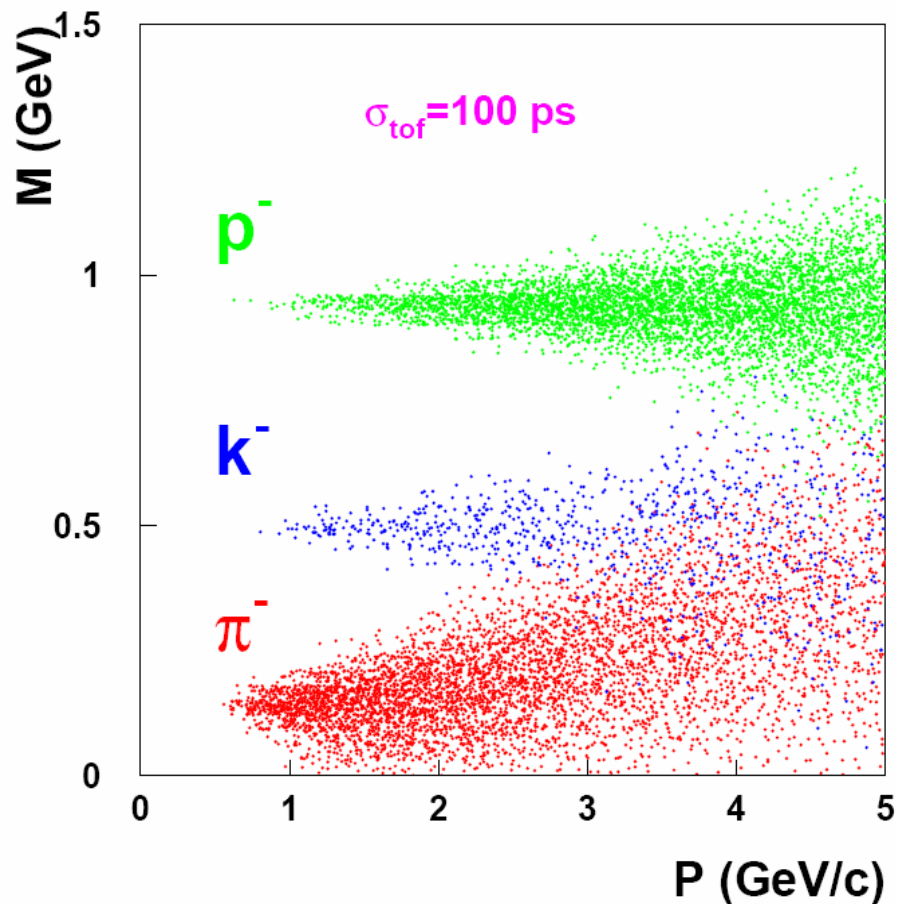


Pbar elastic. ToF Wall hits

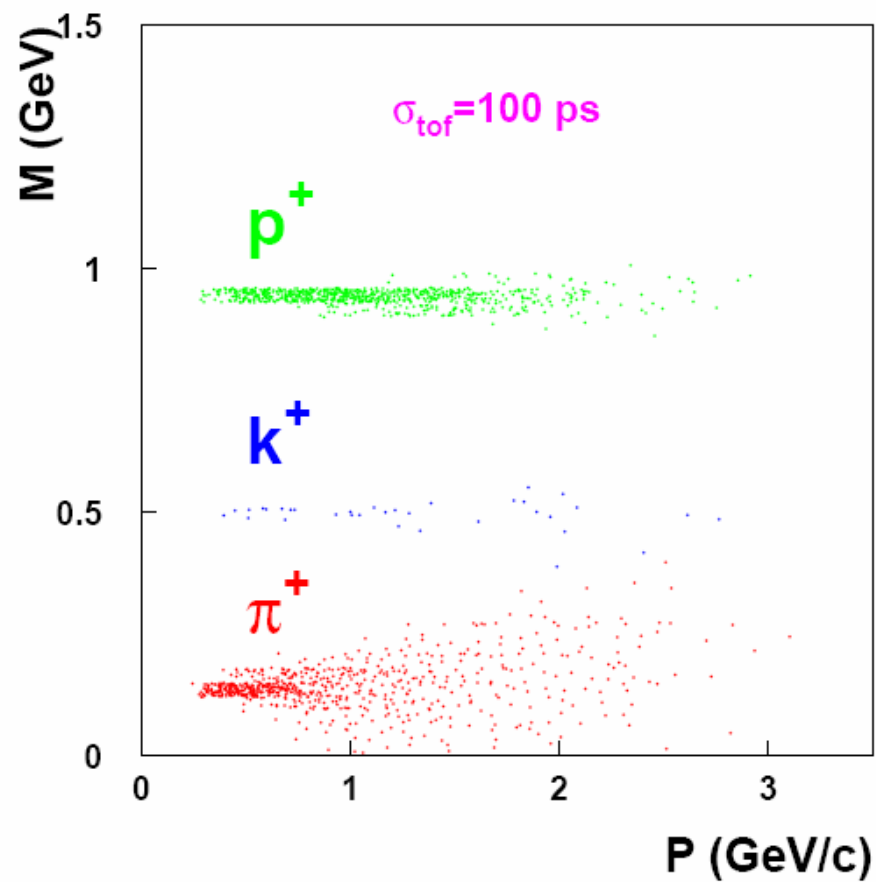


Mass reconstruction

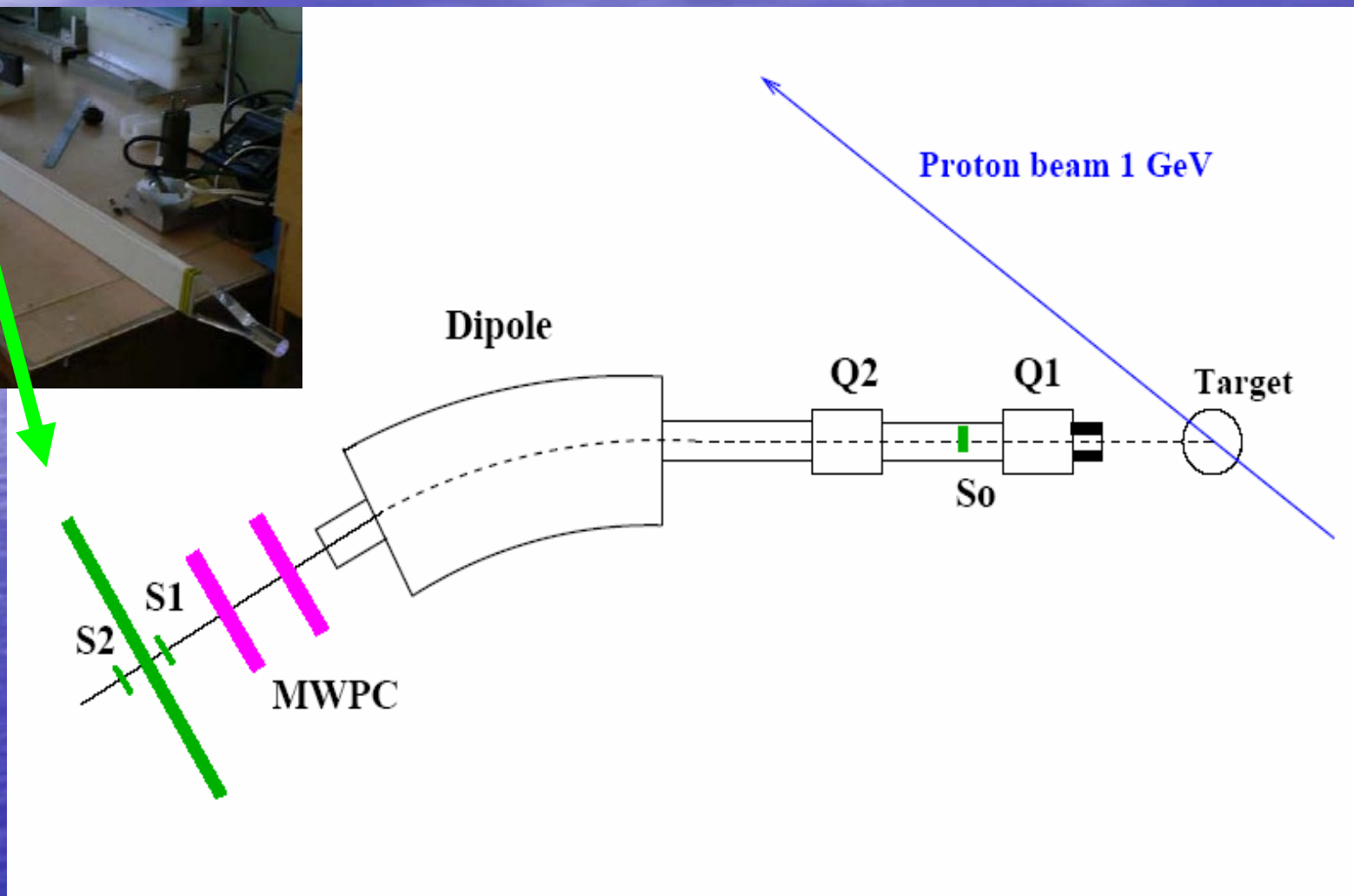
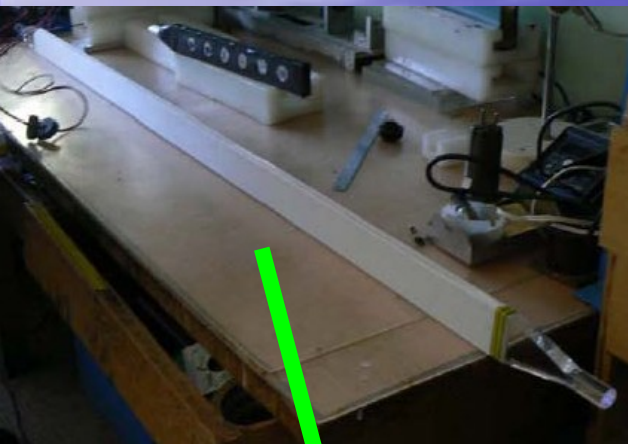
Tof Wall



Side left



Test beam in 2nd of April



Outlook

- ➡ Different P_{bar} beam momentum
- ➡ Add other materials (air, chambers...)
- ➡ PID without TOF start
- ➡ ΔE – momentum correlations
- ➡ test beam run for prototype $140 \times 5 \times 1.5 \text{ cm}^3$,
2nd of April and maybe in December 2009.
- ➡ TDR