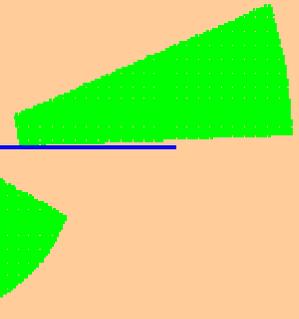


BRAHMS



The BRAHMS Beam-Beam Counters

Yury Blyakhman

New York University, Physics Department

Burton Budick (NYU);

Dana Beavis, Chellis Chasman, Ramiro Debbe,
Flemming Videbaek (BNL); BRAHMS Collaboration

March '99

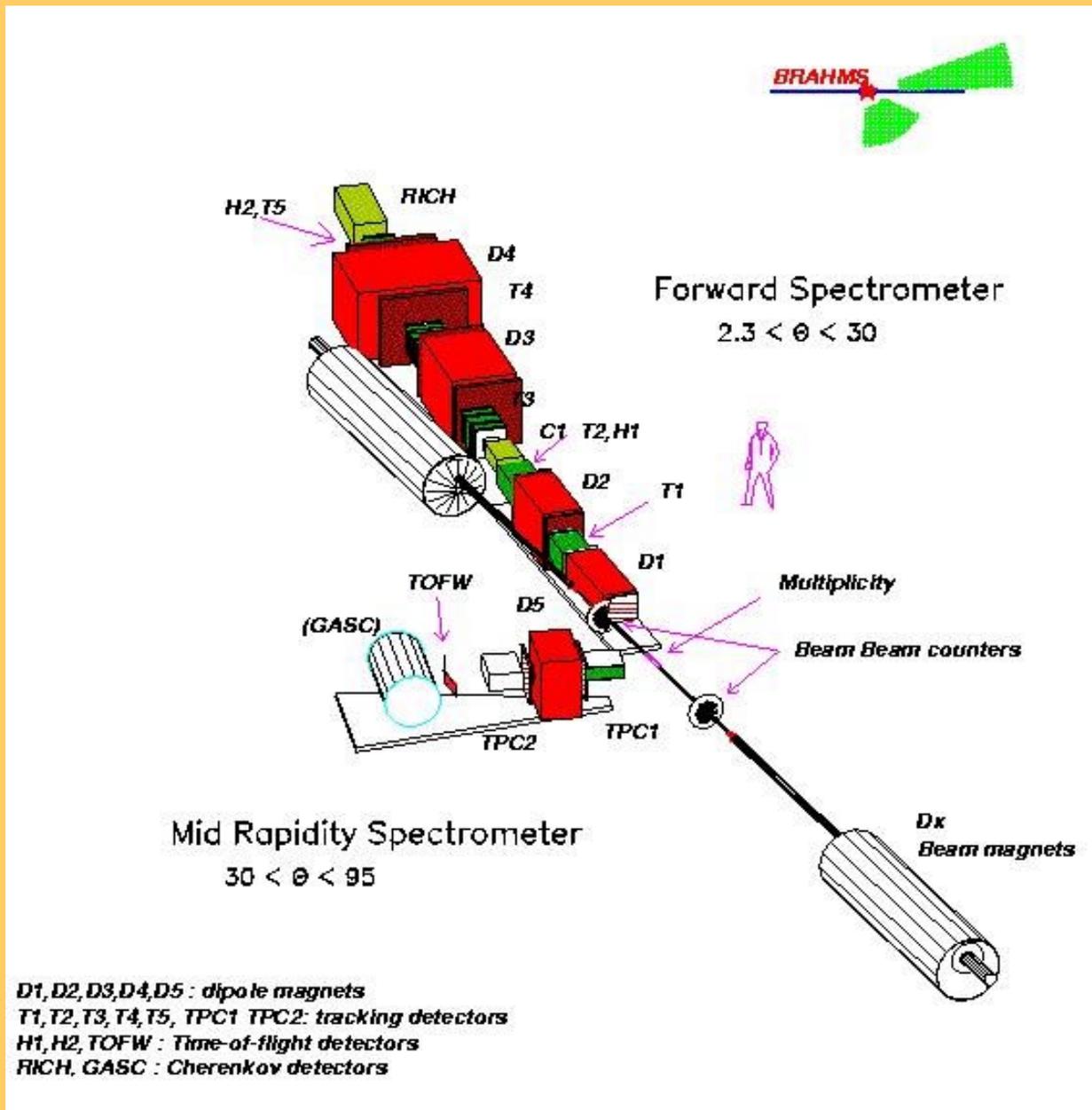
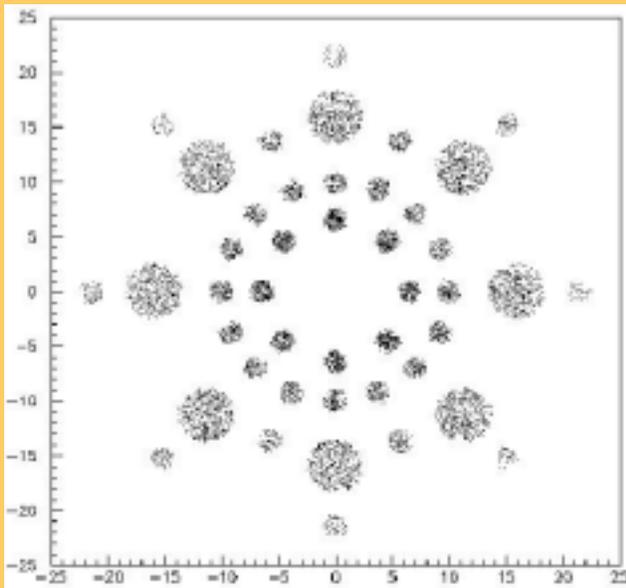
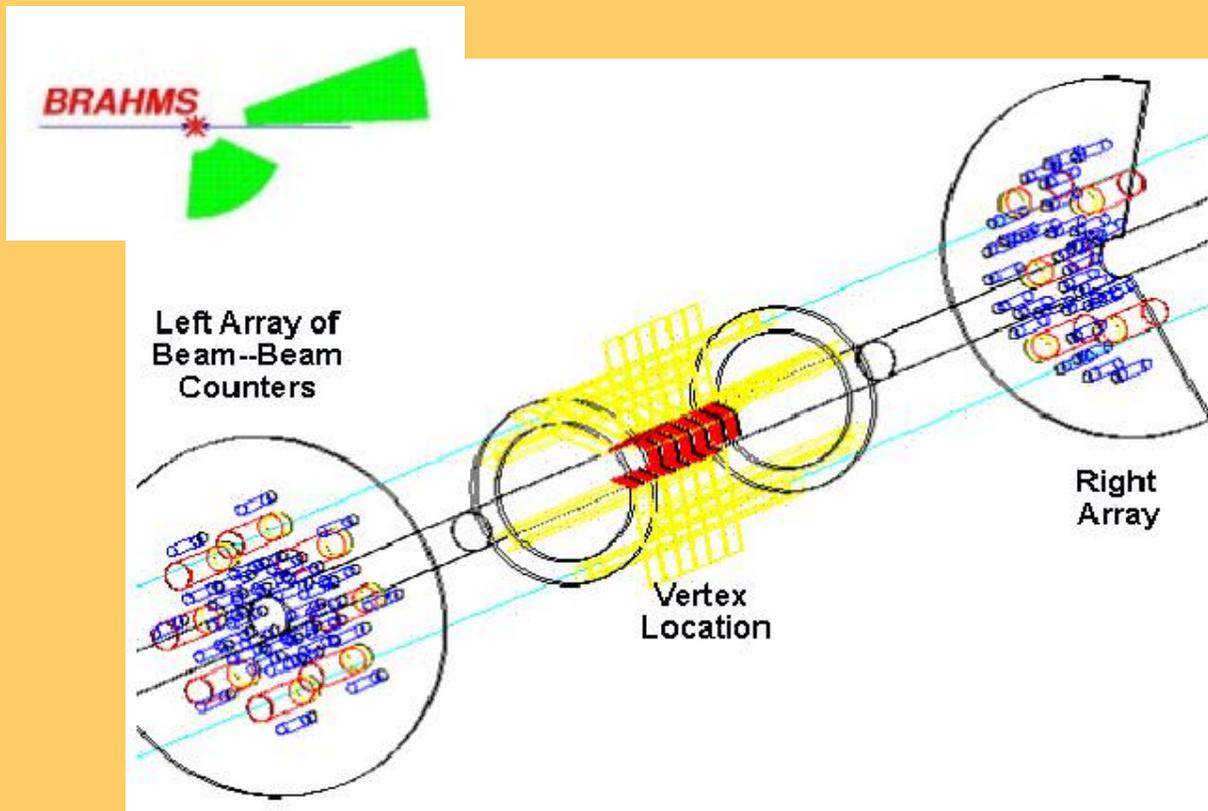
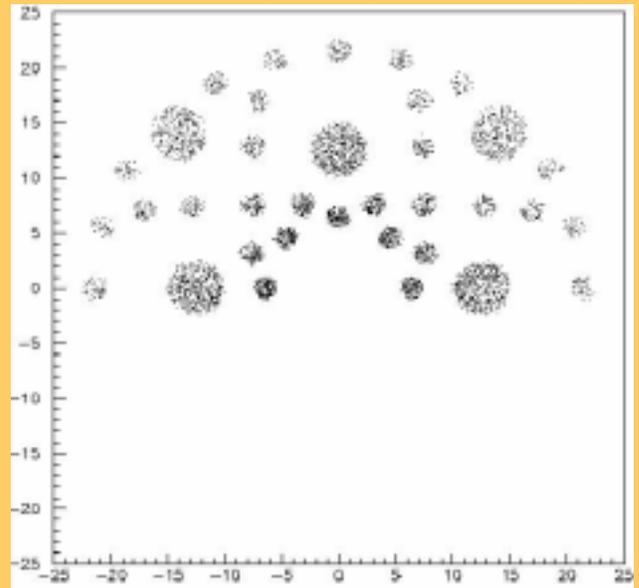


Figure 1: A perspective view of BRAHMS detector system.



Left Array



Right Array

Figure 2: Schematic view of the two Beam-Beam Counters arrays.

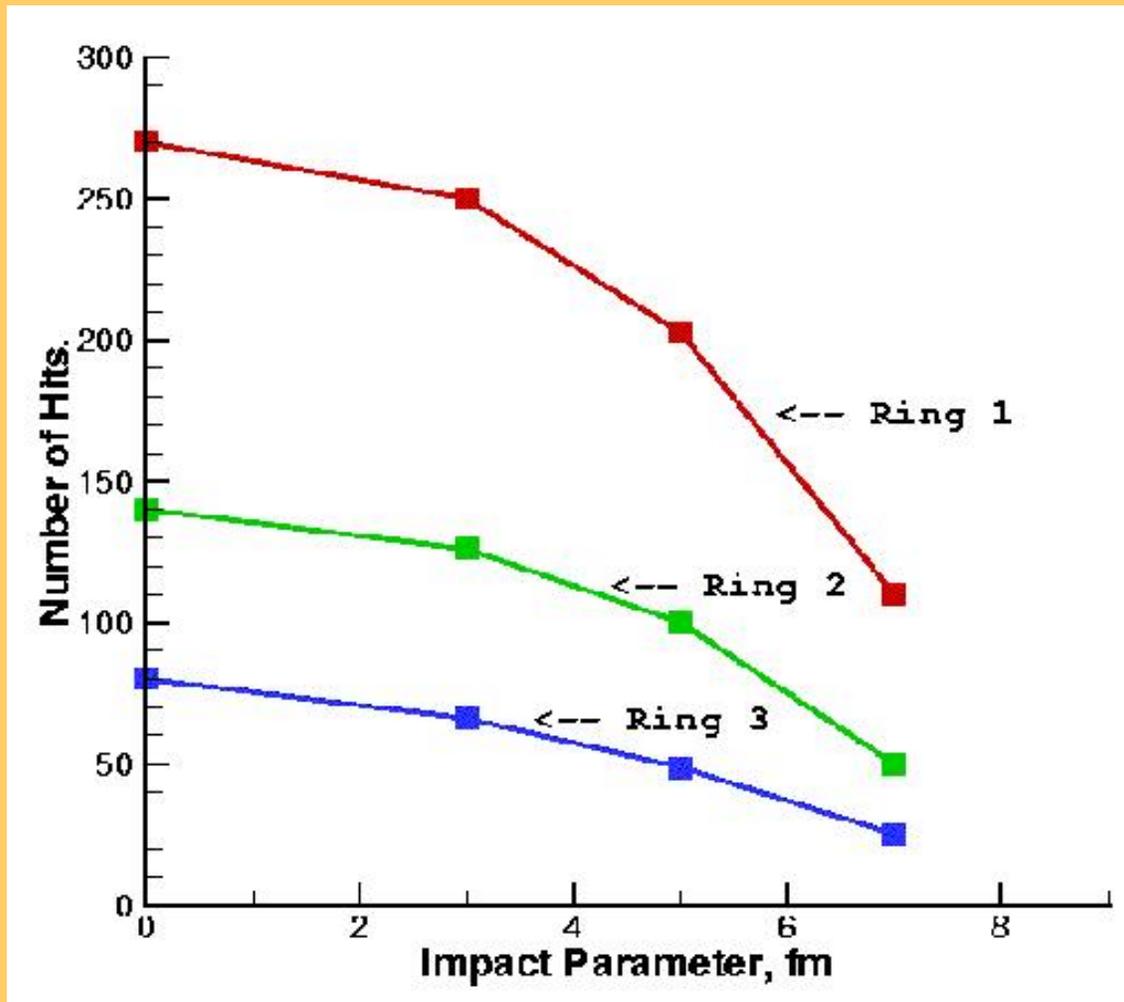
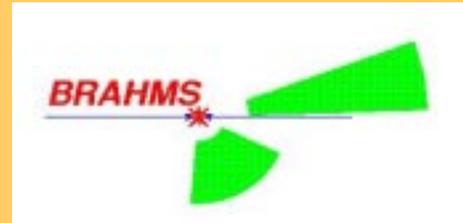
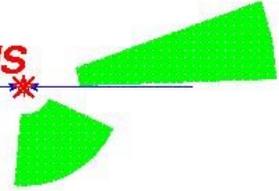
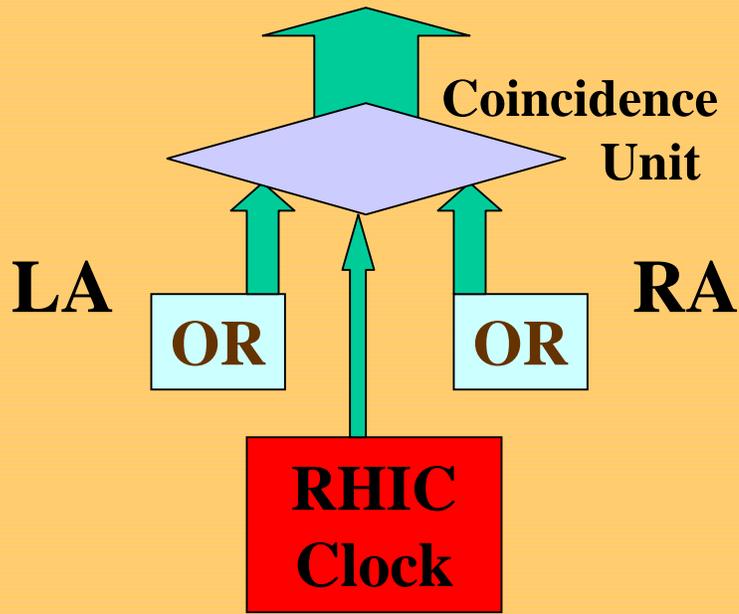


Figure 3: Occupancy as a function of the impact parameter for three different detector's locations (30 events were generated).



Logic



Conditions:

- $\beta=1$ particles;
- 30 psec arrival time
- 50 psec tube resolution

Will provide:

- Vertex location up to ± 2 cm;
- a zero-level trigger;
- the start time for time-of-flight measurements

Figure 4 : Logic and Outline.

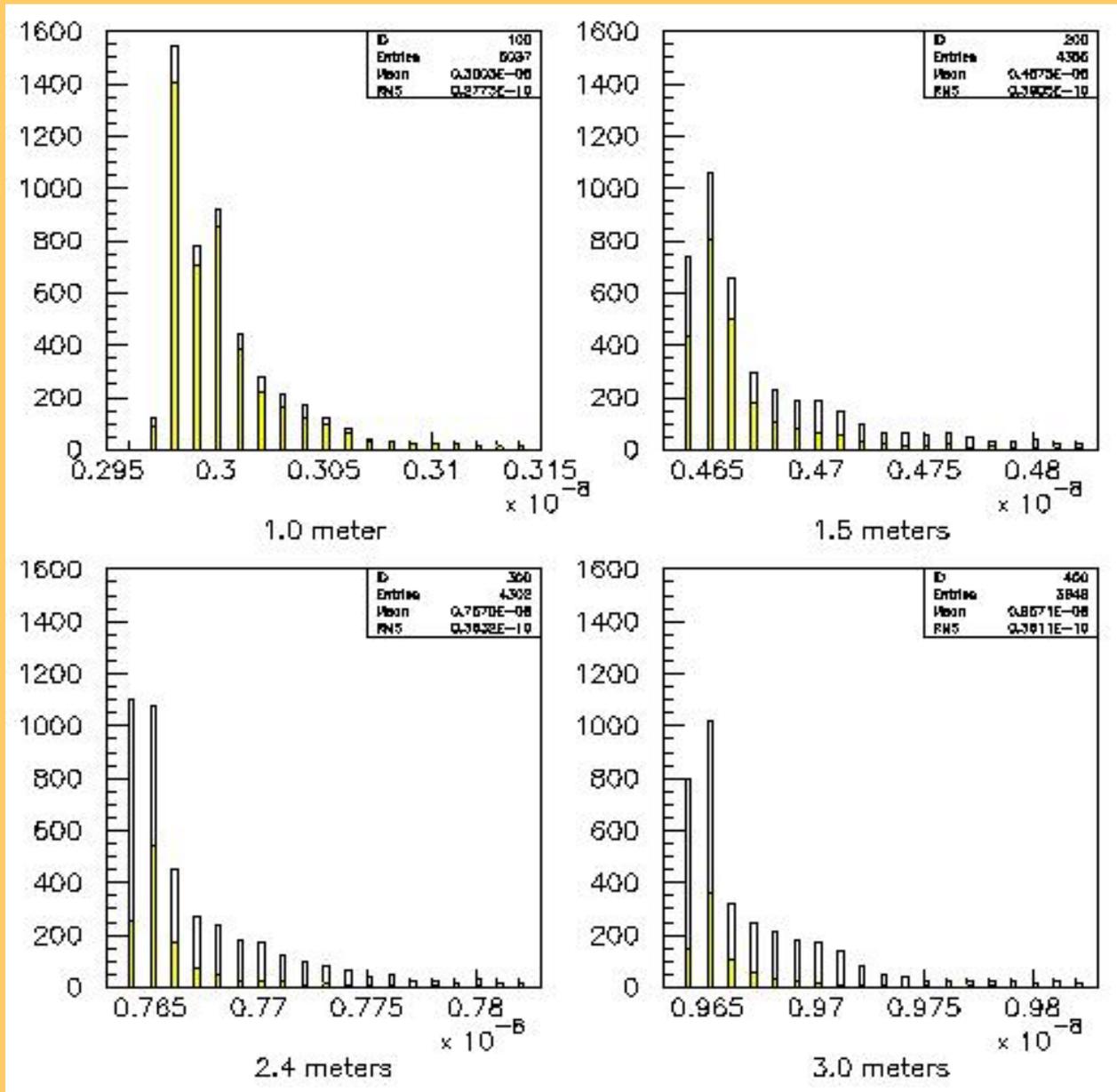
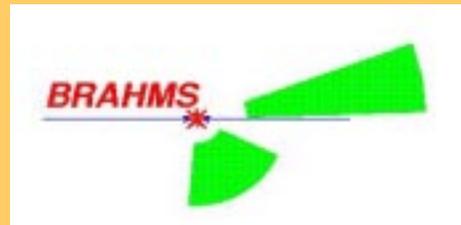
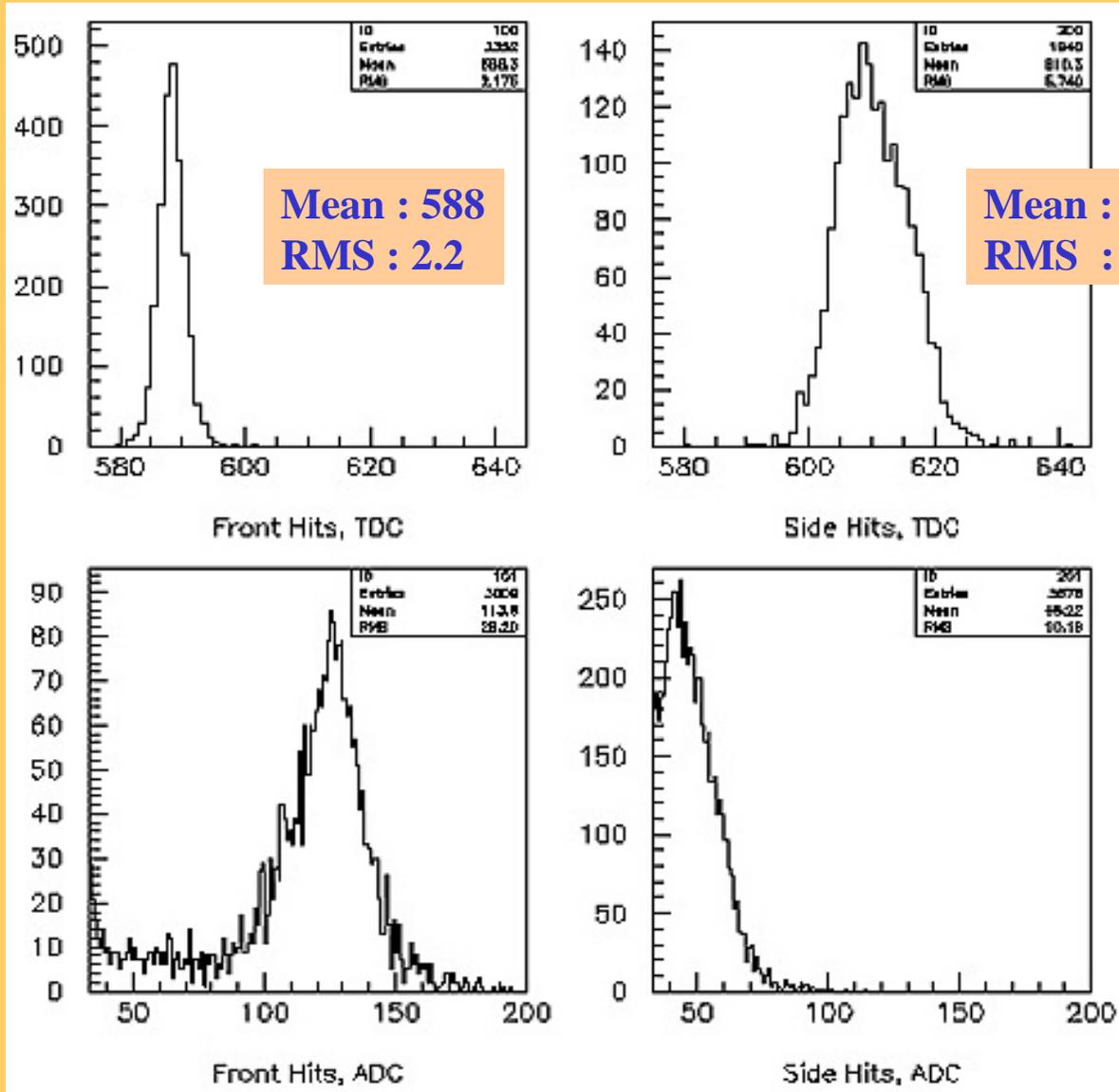


Figure 5: Time-of-Flight ratio of π^+ , π^0 and π^- hits with respect to the rest of the particles for 4 different array locations.



Test-Beam studies. Front and Side tubes locations.



TDC: - no walk correction
- 50 psec-per-channel time resolution

Figure 6: Test-Beam Studies.

BRAHMS



Status and Perspectives :

- **All tubes have been tested**
- **Wrapping and gluing is almost over**
- **Mechanical stand is being manufactured at BNL shops**
- **BBC are expected to be fully operational by the time of the Test-Beam in July.**

