

Vertical Beam Size Measurements at J5

J. Herrera

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Collider Accelerator Department
Brookhaven National Laboratory

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Vertical Beam Size Measurements (data 4/25/73)

Measurements of the vertical beam size were made for the entire acceleration cycle.

Conditions

- 1) Vertical targets at 5-5 (β_V min)
- 2) Beam Intensity $4.0 - 4.9 \times 10^{12}$ p/p
- 3) Size for 95% of beam
- 4) Vacuum $\sim (5 \times 10^{-7} \text{ Torr})$

Comments

- 1) During measurements machine ran well: intensity variation pulse to pulse were small.
- 2) Size at high energy is larger than before the conversion by about 1.4/1.
- 3) Size at injection is smaller by a ratio of $\frac{1.2}{2.2} \times 1.4 = 0.75$.
- 4) There is no sign of a change in vertical size in the vicinity of transition energy.

J. H. Evans
4/27/73

VERTICAL SIZE (INCHES)

VERTICAL BEAM SIZE (90%)
VS
TIME IN ACCELERATION CYCLE

SPINNING BEAM

INITIAL

TRANSITION

KNOWN

TIME AFTER 10 (MICROSECONDS)

- 1) VERTICAL INCREASING AT 2.5 (PER MIN)
- 2) BEAM INTENSITY 4.0-4.9 x 10¹² p/p
- 3) VERTICALS ~ 5 x 10⁻¹ Torr
- 4) SIZE FOR 95% OF BEAM
- 5) DATA ON 4/15/73

100

100

200

100

200

300

400

500

600

700

800

900