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## Vertical Beam Size Measurements at J5

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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 ( $\beta_V$  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

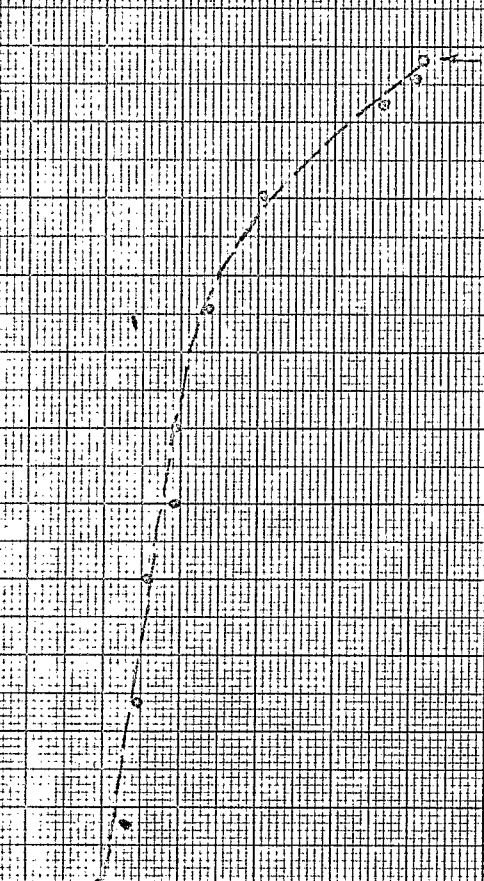
- 1) During measurements machine ran well: intensity variation pulse to pulse were small.
- 2) Size at high energy is larger than before the conversion by about 1.4/1.
- 3) Size at injection is smaller by a ratio of  $\frac{1.2}{2.2} \times 1.4 = 0.75$ .
- 4) There is no sign of a change in vertical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

J. H. Evans  
4/27/73

VERTICAL SIZE (INCHES)

INTEGRATION TRANSITION

100 200 300 400 500 600 700



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

- 1) VERTICAL TARGETS AT 2.5 (0.1 IN)
- 2) BEAM INTENSITY: 4.0-4.9 x 10<sup>12</sup> p/p
- 3) VACUUM: ~5 x 10<sup>-7</sup> Torr
- 4) SIZE FOR 95% OF BEAM
- 5) DATA ON 4/25/73

100

TIME METERS to (MILLISECONDS)

1000