

Beam Dimensions In RHIC

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BEAM DIMENSIONS IN RHIC

J. Clausen

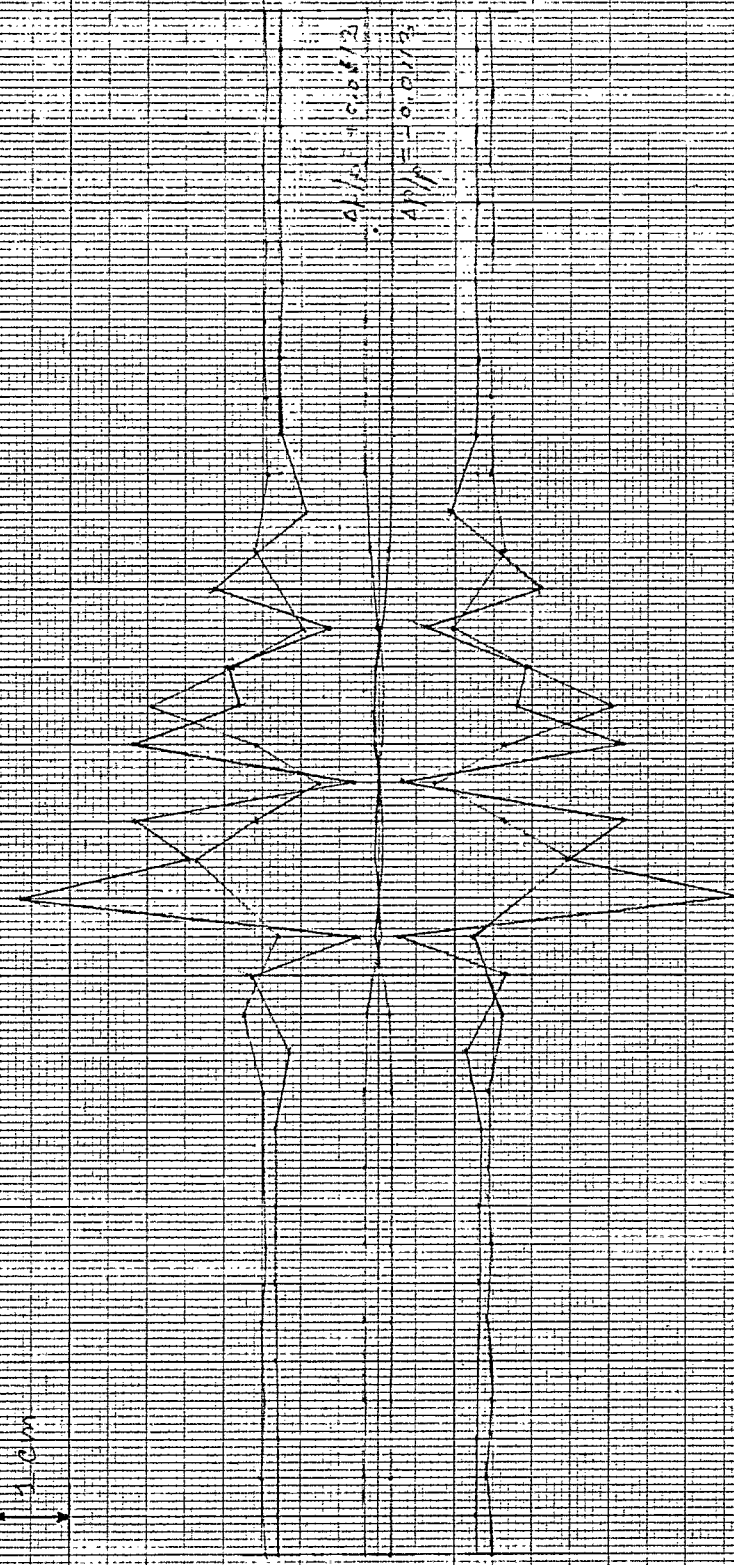
Brookhaven National Laboratory

March 10, 1984

Inner Arc

Q₁ Q₂ Q₃ Q₄ Q₅ Q₆ Q₇ Q₈ Q₉ Q₁₀ Q₁₁ Q₁₂ Q₁₃ Q₁₄ Q₁₅ Q₁₆ Q₁₇ Q₁₈ Q₁₉ Q₂₀ Q₂₁ Q₂₂ Q₂₃ Q₂₄ Q₂₅ Q₂₆ Q₂₇ Q₂₈ Q₂₉ Q₃₀ Q₃₁ Q₃₂ Q₃₃ Q₃₄ Q₃₅ Q₃₆ Q₃₇ Q₃₈ Q₃₉ Q₄₀ Q₄₁ Q₄₂ Q₄₃ Q₄₄ Q₄₅ Q₄₆ Q₄₇ Q₄₈ Q₄₉ Q₅₀ Q₅₁ Q₅₂ Q₅₃ Q₅₄ Q₅₅ Q₅₆ Q₅₇ Q₅₈ Q₅₉ Q₆₀ Q₆₁ Q₆₂ Q₆₃ Q₆₄ Q₆₅ Q₆₆ Q₆₇ Q₆₈ Q₆₉ Q₇₀ Q₇₁ Q₇₂ Q₇₃ Q₇₄ Q₇₅ Q₇₆ Q₇₇ Q₇₈ Q₇₉ Q₈₀ Q₈₁ Q₈₂ Q₈₃ Q₈₄ Q₈₅ Q₈₆ Q₈₇ Q₈₈ Q₈₉ Q₉₀ Q₉₁ Q₉₂ Q₉₃ Q₉₄ Q₉₅ Q₉₆ Q₉₇ Q₉₈ Q₉₉ Q₁₀₀

Outer Arc



Beam dimensions at midpoint:

$r = 12.5$

$\Delta r = \frac{1}{6} \cdot 10 \times 10^{-6} \text{ rad} = 1.67 \times 10^{-6}$

$\Delta R/R = 7 \cdot 10^{-6}/12$

03/05/84

16.11.89

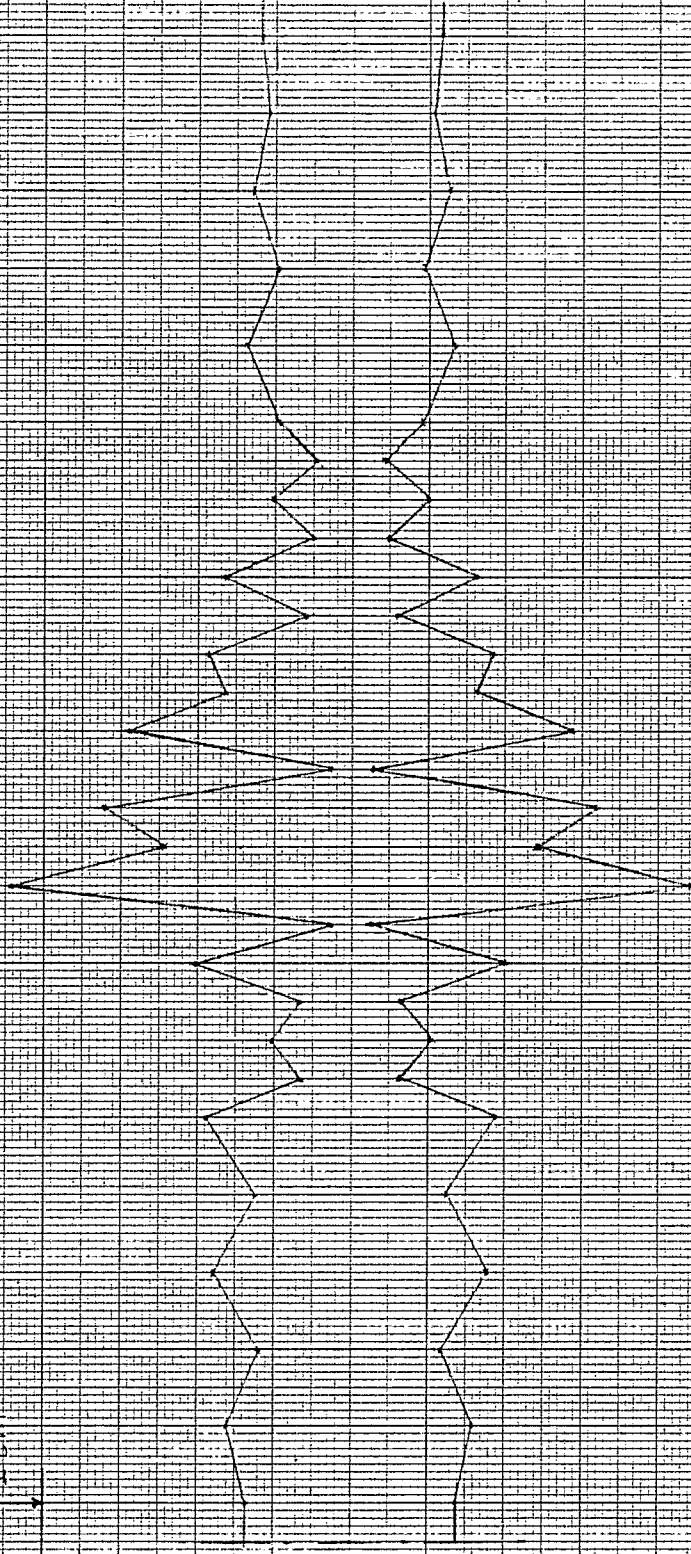
JTC

Outlet Ave

Q₈ Q₇ Q₆ Q₅ Q₄ Q₃ Q₂ Q₁ Q₀

Inlet Ave

2.0m



03/06/84 16.34.47 JRL

Research Institute of Physics

$$y = 6/100 \cdot x$$

$$y = 10 \cdot x \cdot 10^{-3}$$

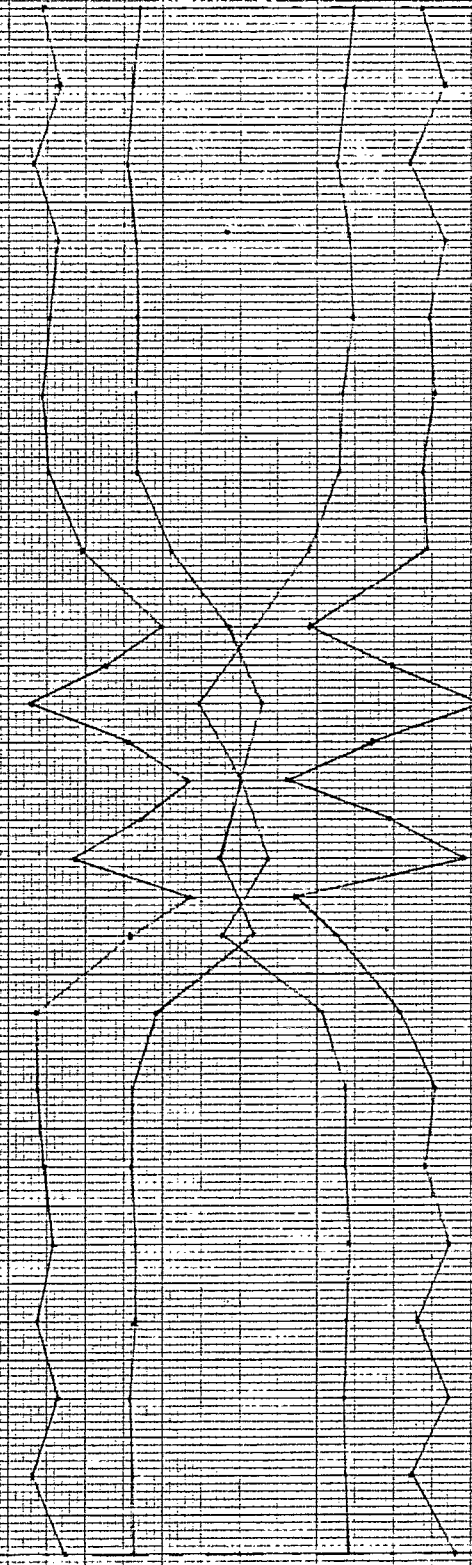
$$A/P = 1.0001$$

Outer Arc

R_1 R_2 R_3 R_4 R_5 R_6 R_7 R_8

Inner Arc

1 cm



1.60

1.51

05/06/84 16.30m 47 JCU
Revised with 10/10/84

$$X_F + X_{ep} = 6 / \sqrt{15} = 1.3$$

$$S_D = 1/6 \cdot 10 \times 10 = 16.67$$

$$AP = 1.60$$

Inner Arc

Q8 Q7 Q6 Q5 Q4 Q3 Q2 Q1 Q0

Outer Arc

10mm

$\epsilon_0 = 1/6$
 $\Delta p/p_0 = \pm 0.003$

height
width

Beam dimensions after shot
at $\gamma = 12.5$
 $\epsilon_0 = 1/6$
 $\Delta p/p_0 = \pm 0.003$
02/28/84 10.2/01 JCL

