

## Beam Dimensions In RHIC

J. Claus

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Collider Accelerator Department  
**Brookhaven National Laboratory**

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BEAM DIMENSIONS IN RHIC

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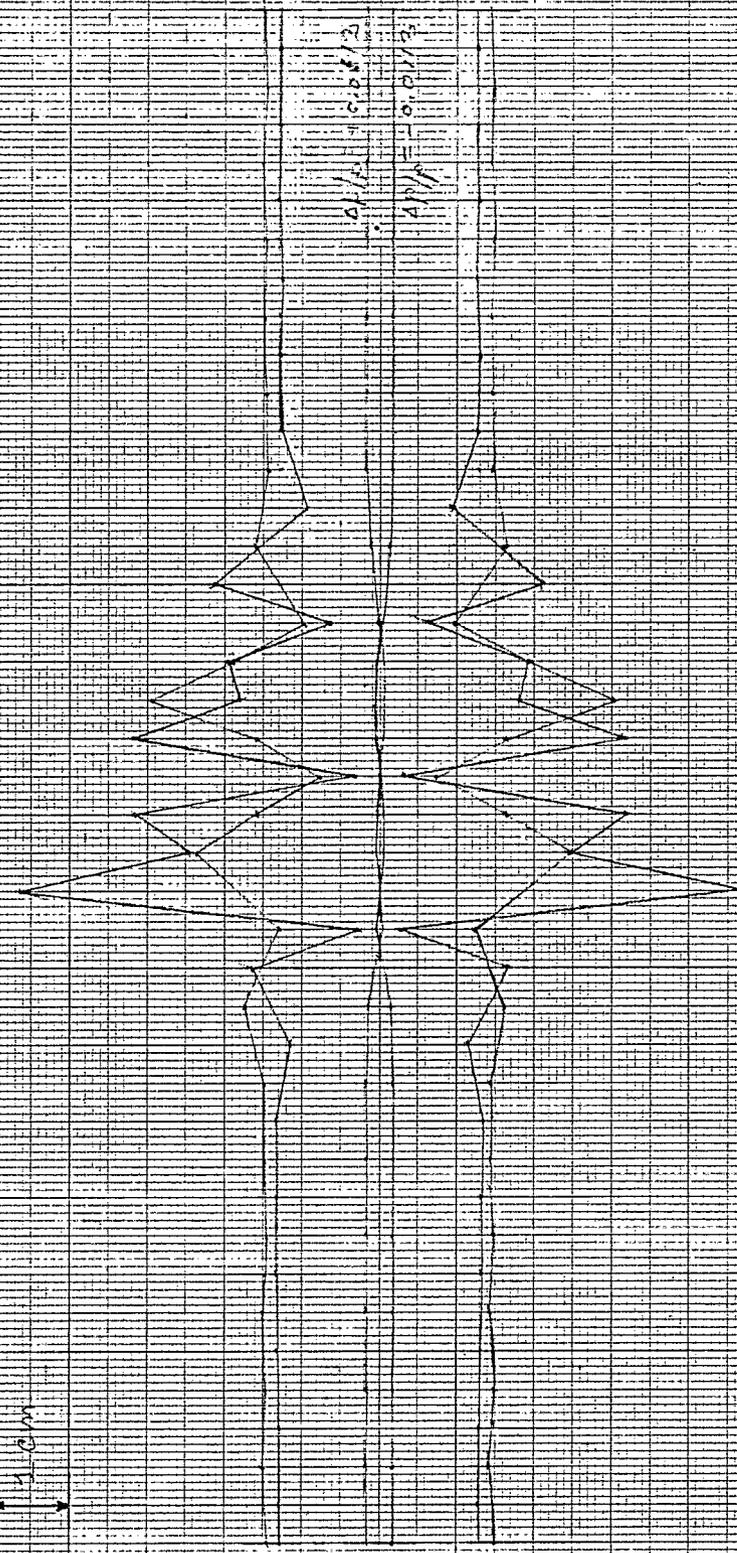
Brookhaven National Laboratory

March 10, 1984

Outer Arc

Q<sub>1</sub> Q<sub>2</sub> Q<sub>3</sub> Q<sub>4</sub> Q<sub>5</sub> Q<sub>6</sub> Q<sub>7</sub> Q<sub>8</sub> Q<sub>9</sub> Q<sub>10</sub> Q<sub>11</sub> Q<sub>12</sub> Q<sub>13</sub> Q<sub>14</sub> Q<sub>15</sub> Q<sub>16</sub> Q<sub>17</sub> Q<sub>18</sub> Q<sub>19</sub> Q<sub>20</sub> Q<sub>21</sub> Q<sub>22</sub> Q<sub>23</sub> Q<sub>24</sub> Q<sub>25</sub> Q<sub>26</sub> Q<sub>27</sub> Q<sub>28</sub> Q<sub>29</sub> Q<sub>30</sub> Q<sub>31</sub> Q<sub>32</sub> Q<sub>33</sub> Q<sub>34</sub> Q<sub>35</sub> Q<sub>36</sub> Q<sub>37</sub> Q<sub>38</sub> Q<sub>39</sub> Q<sub>40</sub> Q<sub>41</sub> Q<sub>42</sub> Q<sub>43</sub> Q<sub>44</sub> Q<sub>45</sub> Q<sub>46</sub> Q<sub>47</sub> Q<sub>48</sub> Q<sub>49</sub> Q<sub>50</sub> Q<sub>51</sub> Q<sub>52</sub> Q<sub>53</sub> Q<sub>54</sub> Q<sub>55</sub> Q<sub>56</sub> Q<sub>57</sub> Q<sub>58</sub> Q<sub>59</sub> Q<sub>60</sub> Q<sub>61</sub> Q<sub>62</sub> Q<sub>63</sub> Q<sub>64</sub> Q<sub>65</sub> Q<sub>66</sub> Q<sub>67</sub> Q<sub>68</sub> Q<sub>69</sub> Q<sub>70</sub> Q<sub>71</sub> Q<sub>72</sub> Q<sub>73</sub> Q<sub>74</sub> Q<sub>75</sub> Q<sub>76</sub> Q<sub>77</sub> Q<sub>78</sub> Q<sub>79</sub> Q<sub>80</sub> Q<sub>81</sub> Q<sub>82</sub> Q<sub>83</sub> Q<sub>84</sub> Q<sub>85</sub> Q<sub>86</sub> Q<sub>87</sub> Q<sub>88</sub> Q<sub>89</sub> Q<sub>90</sub> Q<sub>91</sub> Q<sub>92</sub> Q<sub>93</sub> Q<sub>94</sub> Q<sub>95</sub> Q<sub>96</sub> Q<sub>97</sub> Q<sub>98</sub> Q<sub>99</sub> Q<sub>100</sub>

Inner Arc



Beam dimensions at midpoint:

$$X = 0.012$$

$$\Delta P/P = 1/6 = 0.1667$$

$$\Delta P/P = 7.0 \times 10^{-3}$$

03/05/84

16.11.89

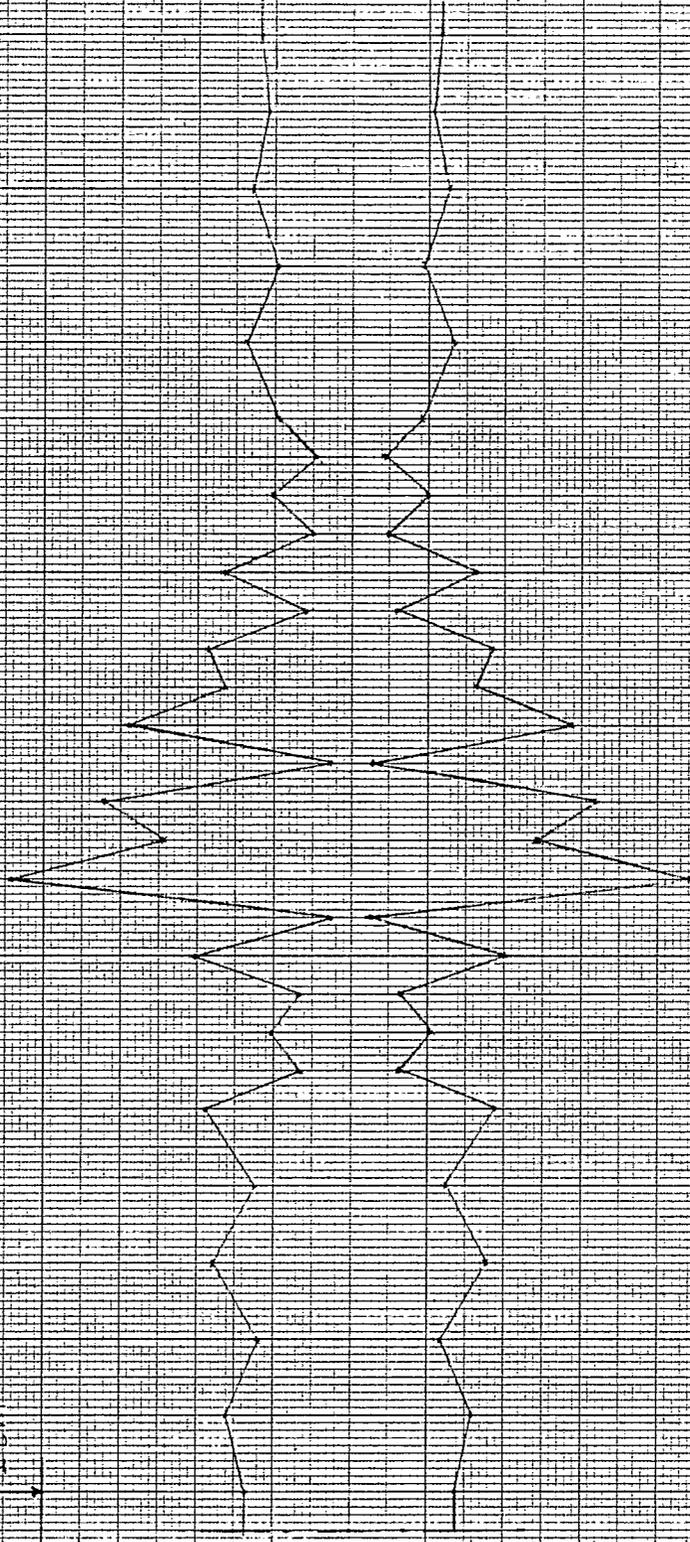
JL

Outlet Ave

Q<sub>8</sub> Q<sub>7</sub> Q<sub>6</sub> Q<sub>5</sub> Q<sub>4</sub> Q<sub>3</sub> Q<sub>2</sub> Q<sub>1</sub> Q<sub>0</sub>

Inlet Ave

2.0m



03/06/84 16:34:47 JRL

Researcher's name

$$y = 6/10 \sin(\pi x)$$

$$y = 6/10 \sin(\pi x)$$

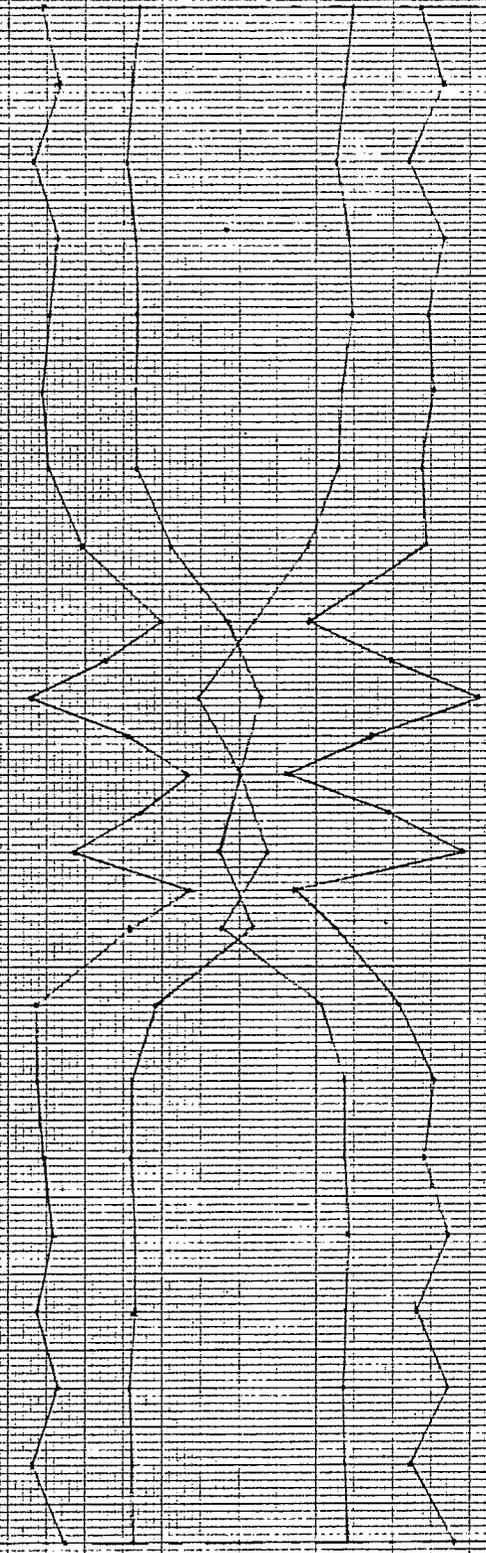
$$y = 6/10 \sin(\pi x)$$

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

0.5/0.6/0.4 16.0/17.0

Radius with 1/6

$$X = \frac{1}{6} + X_{ep} = \frac{6}{15} = 13$$

$$S_0 = \frac{1}{6} \cdot 10 \times 10 = 16.67$$

$$AP = 1 + 0.51$$

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 2 hrs  
at  $\gamma = 12.5$

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

02/28/84 10:21:01

JCL