**ISR RUNNING-IN**

Run 93 - 28 July 1971
Ring 1 - 22 GeV/c - 20 bunches

* * * *

Effect of the wide angle spectrometer main magnet (experiment R 203) on the ISR beams

* * * *

**Working point: Fα 22**

The spectrometer arm was at 90°, i.e. with the magnet in its farthest position from the ISR orbits. In these conditions its effect should be about the same on each ring. The closed orbits (horizontal and vertical) and the Q values of Ring I were measured with the magnet at its maximum current (1000 A) and at zero current.

The measurements gave:

<table>
<thead>
<tr>
<th></th>
<th>I = 1000 A</th>
<th>I = 0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hor. closed orbit:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>average orbit</td>
<td>- 34.6 mm</td>
<td>- 34.7 mm</td>
</tr>
<tr>
<td>peak to peak</td>
<td>14.8 mm</td>
<td>14.4 mm</td>
</tr>
<tr>
<td>(as printed out)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>maximum difference between orbits:</td>
<td>0.8 mm</td>
<td></td>
</tr>
</tbody>
</table>
Vertical closed orbit:
peak to peak  
maximum difference  
between orbits:  

\[
\begin{align*}
I &= 1000 \text{ A} & I &= 0 \\
Q_H &= 8.581 & Q_H &= 8.581 \\
Q_V &= 8.554 & Q_V &= 8.555 \\
5.4 \text{ mm} & & 5.3 \text{ mm} & & 0.4 \text{ mm}
\end{align*}
\]

It is concluded that the magnet has no effect on the ISR. The measurements must however be repeated with the spectrometer arm set at its smallest angle.

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