MUON COLLABORATION
JANUARY 29-31
MECHANICAL INTEGRATION

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IIT/FNAL

2/15/01
Introduction

The purpose of this presentation is to highlight the integration of the cooling hardware components mechanical features, correlating to the physics design parameters.
Topics of Discussion

- The lattices discussed are described in the "PARAMETERS FOR STUDY 2 Version 2 1/16/01" Section 2.7 Cooling Lattices.
- The layouts presented here are of the cooling lattices and highlight the main mechanical requirements necessary for installation operation and maintenance of the lattices components.
- A picture is worth a thousand words
SFOFO LATTICE 1 & 2

- Some adjustments on the dimensions of the center solenoid coils was dimmed necessary to allow the installation of the RF feeders to each cell.
- The magnetic field change effect on the cooling performance need reevaluation.
- Costs may benefit from this changes
**Lattices new dimensions**

- On the lattice (1) 2.75m long:

<table>
<thead>
<tr>
<th>len1</th>
<th>dl</th>
<th>rad</th>
<th>dr</th>
</tr>
</thead>
<tbody>
<tr>
<td>m</td>
<td>m</td>
<td>m</td>
<td>m</td>
</tr>
<tr>
<td>Previous</td>
<td>1.210</td>
<td>0.330</td>
<td>0.770</td>
</tr>
<tr>
<td>New</td>
<td>1.335</td>
<td>0.080</td>
<td>0.722</td>
</tr>
</tbody>
</table>

- On the lattice (2) 1.65m long:

<table>
<thead>
<tr>
<th>len1</th>
<th>dl</th>
<th>rad</th>
<th>dr</th>
</tr>
</thead>
<tbody>
<tr>
<td>m</td>
<td>m</td>
<td>m</td>
<td>m</td>
</tr>
<tr>
<td>Previous</td>
<td>0.627</td>
<td>0.396</td>
<td>0.792</td>
</tr>
<tr>
<td>New</td>
<td>0.776</td>
<td>0.099</td>
<td>0.722</td>
</tr>
</tbody>
</table>
Other space considerations

- Installation or removal of any lattice from an assembled line can only be on direction perpendicular to the line; therefore, a hardware spacer or a gap is designed for this operation.
- The thickness of the gap is 0.072m, it is essential that no component will protrude within this space.
Real Life

- We need to update drawings with current input A.S.A.P.
- Suggest extra meetings to complete parameters this week if possible.
- Info needed:
  Current Magnet Design
  Current RF Design
  Other available information, Vacuum, Cryogenics, etc.
What This Means

- ddA a strong statement that summarizes how you feel or think about this topic
- Summarize key points you want your audience to remember
Next Steps

- Summarize any follow-up action items required of you
- Summarize any actions required of your audience
- Summarize any follow-up action items required of you