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| NSCL Proton Detector |

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| February 24, 2016 |
|  15:00 EST |
| Mechanical Design Meeting |

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| Meeting called by: | Chris Wrede | Type of meeting: |  Mechanical Design Meeting |
| Attendees: | Chris Wrede (CW), Patrick Glennon (PG), Don Lawton (DL), Lack Ottarson (JO), David Perez-Loureiro (DPL) | Note taker: | DPL |
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## Minutes

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| Agenda item: | Proton Detector Mechanical Design |  |  |

#### Discussion:

#### PG showed the new Mechanical design for the Proton Detector (PD) where he has included a PEEK tube to hold the field cage. In this new design, he also added the Gating Grid and the preamplifier box (Mesytec MPR-16). He also added the gas feedthroughs, four on each side of the chamber.

The entrance window in the chamber is 1/16” Aluminum. DL asked for the window sealing. PG said we need an O-ring, but he has not done it yet.

CW asked for the distance between the Chamber and the Beam pipe, because the thin Kapton window in very fragile. DL asked why the window has to be so thin. We have to check with LISE if we can add a thicker window.

DL asked why the tube for the gas chamber has to be Al, CW replied that the gamma ray attenuation will be lower, due to lower atomic number (Z=13) compared to Stainless Steel (SS) (Fe, Z=26). The difference was not very significant, but has to be recalculated. Using an SS chamber, will make easy the welding and the tube can be thinner.

PG also said that he will probably remove the cathode peak holders and he will attach it to the PEEK tube of the filed cage. He suggested we could do the same with the GG.

We need to investigate how to bias the GG. Probably the easiest way is to keep the GG attached to the PCB board and use some spacers with connectors on them.

We also have to think a way to hold the Aluminized mylar to the cathode.

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| Action items | Person responsible |  |
| * Ask Lolly for the connectors in the PCB
 | DPL |  |
| * Simulate the energy loss and Ion optics with LISE++ for different Physics cases
 | DPL |  |
| * Check Gamma Ray Attenuation in Al and Stainless Steel
 | DPL |  |
| * Calculate the maximum amount of air allowed between the degrader chamber and the detector
 | DPL |  |
| * Ask Lolly how we are going to BIAS the GG
 | DPL |  |

## Other Information