|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| NSCL Proton Detector |

|  |
| --- |
| August 22, 2016 |
|  10:15 EST |
| Phone Call |

 |

|  |  |  |  |
| --- | --- | --- | --- |
| Meeting called by: | David Perez Loureiro | Type of meeting: | Phone Call |
| Attendees: | Chris Wrede (CW) Lolly Pollacco (EP), David Perez-Loureiro (DPL) | Note taker: | DPL |
|  |  |  |  |

## Minutes

|  |  |  |  |
| --- | --- | --- | --- |
| Agenda item: | Power Supply for MICROMEGAS |  |  |

#### Discussion: DPL asked for the maximum current required for the power supplies of the Micromegas (MM) anodes. EP answered that the current required is very low for the rates we are going to deal with in our detector. 20 A should be more than enough. DPL mentioned the two possible power supplies considered (Mesytec MHV-4 and ORTEC 710).EP mentioned that he had not experience with the MHV-4, but given the specifications of noise (<1mV at 400 V), he thinks they might be appropriate for biasing the Micromegas. He asked DPL to check out the remote control, monitoring and data logging capabilities of this Power supply. DPL mentioned that they have USB port for that purpose. To be checked out.

EP also mentioned that new Power supplies have the possibility to read the real applied voltage, despite of the losses in the cables. He said he can check out which ones are them if needed

#### Conclusions:

Mesytec MHV-4 power supply for the GG and the two sectors of the MM, namely inner electrodes and veto ring.

|  |  |  |
| --- | --- | --- |
| Action items | Person responsible | Deadline |
| * Check out remote control capabilities
 | DPL |  |
| * Check if capabilities of the module are appropriate
 | EP |  |
| * Check power supplies with real measurement of the bias
 | EP (if needed) |  |
|  |  |  |
| Agenda item: | Micromegas Anodes and preamps |  |  |

#### Discussion: DPL asked EP how many different power supplies we need for the anodes of the MM we need. He thinks that the more the better, but he agreed that this make thinks more complicated. He thinks that a way to proceed is to have two different voltages in the anodes, one for the inner part and other for the veto rings. We might need to reduce the gain in the inner electrodes due to the high ionization produced by the beam. Thus we will probably need to bias one of the channels with a different tensions (The ionization in the central pad may overwhelm the detector, needing to decrease the gain). Nevertheless, the maximum voltage of the MPR16-L is 400V. EP mentioned that Livius Trache ordered a special one with higher input voltage (EP will check this). EP suggested to contact Mesytec too to ask what they can do. If need, we can use a separate preamp (ORTEC 142A for that channel). If we use the MPR16-L we should check with Mesytec which is the maximum voltage the Lemo00 connectors can handle (At least 650 V required).

DPL also asked for the reason of 8 anodes in the veto ring. EP said that the signals might be very small and we need to reduce the nose as much as possible. He also mentioned that we can always join the anode signals if not needed.

#### Conclusions:

|  |  |  |
| --- | --- | --- |
| **Action items** | **Person responsible** | **Deadline** |
| * Contact Mesytec about the preamps
 | DPL |  |
| * Ask Livius Trache about the preamps they ordered
 | EP |  |
|  |  |  |
| Agenda item: | Gating Grid |  |  |

#### Discussion: CW asked EP whether he is available to meet on the phone or Skype later this week. EP that he might be going to CERN either this or next week to check about the status of the FC and make some minor changes on the design. DPL will set up the VC system with ZOOM

#### Conclusions:

|  |  |  |
| --- | --- | --- |
| Action items | Person responsible | Deadline |
| * Check out remote control capabilities
 | DPL |  |
| * Check switching module unit
 | EP |  |
|  |  |  |
| Agenda item: | Need of a filter after the preamp |  |  |

#### Discussion: DPL asked EP about the need of a filter before the ADC and what kind of filter we need. EP said that Mesytec sells already that filter for the preamp (To be checked model). The reason for the need of this filter, even though EP is not sure whether is needed or not is to be able to have a trigger signal. CW and DPL mentioned the possibility of running trigger-less provided we do not record waveforms. EP said that he can borrow the filter and see whether we need it or not. EP said that he will also look at the Digital Electronic specifications

#### Conclusions:

|  |  |  |
| --- | --- | --- |
| Action items | Person responsible | Deadline |
| * Check ADC characteristics
 | EP |  |
| * Check ADC + filter properties
 | DPL |  |
| * Trigger-less or triggered mode?
 | DPL |  |
|  |  |  |

## Other Information

EP wants to book the flight to NSCL for November soon. He asked CERN to deliver the detector by October so that it arrives to NSCL by the time EP is here. If that is not possible, EP will bring the detector in his luggage