

TallBo meeting - 04/27/2016

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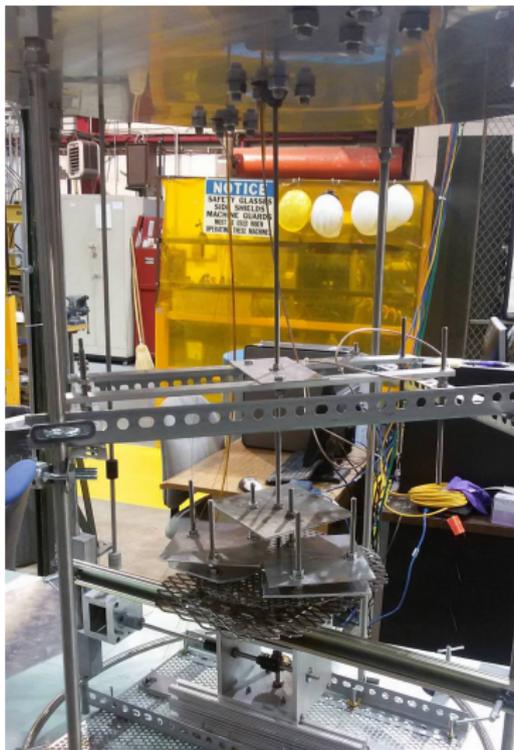
April 27, 2016

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STELLA'S DESIGN

Stella's design

Stella is ready. On Thursday we're gonna clean all the pieces with Ethanol and on Friday we should be ready to take the preliminary tests in Nitrogen.



We have one painful issue, we can move the source only clockwise due to the piece in figure below. We took some measurements of the number of rotations we need to move from one SiPM to the other and then back to the first one (after a 2π rotation).



| from where to where | # of rotations | range of validity |
|----------------------------|-----------------------|--------------------------|
| <i>SiPM A to B</i> | 47 | not calculated |
| <i>SiPM B to A</i> | 104 | 104-106 |
| <i>SiPM A to B</i> | 45 | 45-49 |
| <i>SiPM B to A</i> | 103 | 103-106 |

DATA ACQUIRING'S SPEED TESTS

The complete analysis I performed is available on the LArTPC's page, file called `speed_test_april_25_2016`. What is important to know is that for a run of 600 seconds the speed was 595 Kbps with 4 active channels and the sampling at 500 samples per waveform. With the same configuration and a running time of 30 seconds the speed was 640 Kbps.

SUGGESTIONS FOR THIRD COMPONENT

Suggestions for third component

While I was talking with Professor Rubbia, he suggested we should use 2 VUV hamamtsu SiPMs instead of one and one SensL. The reason is that we are not sure the behaviour of the 2 different SiPMs is the same, and we could see differences in the time due to the difference in the way the SiPM response. The suggestion is to use one VUV SiPM detecting 128 nm light, one VUV SiPM detecting shifted light and maybe a third SensL SiPM just to have data from something we have previously well tested and that is well known in literature.