

REPORT ON JINST_016P_0920

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Title: The SuperFGD Prototype Charged Particle Beam Tests

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Dear Etam Noah,

You replied to my editor report quite promptly - no delay worth mentioning.

I am satisfied with most of your responses to my report, and found the format of your answers very clear and easy to use.

Here I only write to you on the points where I am asking you for additional improvements or clarifications.

1. Section 2, 5th line: reconstruction -> reconstruction
2. C1: the last sentence can be improved to: "... negligible in our magnetic field, considering that the ATLAS Tile Calorimeter scintillators show a change in light yield of under 13. C3: is the micro -coax cable bringing the bias voltage the same as the one previously mentioned to tune each voltage? (I would be slightly surprised if this were the case.)
4. C4: What a vague statement! Maybe better to replace "denotes the probability of interactions" with "qualitatively denotes the probability of observing the passage of light between individual pixel so an MPPC, as stated by vendor".
5. C8: Thanks for the added info. But in the case you show the pedestal is

not in the hundreds. Would it not be better to show a case in which it is necessary to average the different pedestals found with different gain settings?

6. C11: Maybe you could add after “with no error bars” “when the hit threshold could only be determined as an upper limit”.

7. C18: I still find your revised text unclear. From what you say, I am not the only one! Please clarify which are the two crosstalk tubes in your first case, and then where are the two “adjacent crosstalk cubes”. Since you refer not to use a drawing, I did not try to interpret the drawing you added.

Also, please clarify what crosstalk from which fibers is included in Mxtalk: x, y? also it would be clearer, I think, to already mention here the effect of Tyvek sheets.

One more thing: does the kappa parameter quantify crosstalk into just one cube, or into a set of affected cubes? Stating this should allow the reader to crosscheck vs. the detailed description of the separate crosstalks.

8. C26: now I understand the difference between crosstalk observed in y fibers and x fibers. However I think that earlier in the paper, where you introduce the Tyvek sheets, it would be nice to say why you introduce them – and why they will not be used in ND280.

This is all.

I am looking forward to your next revision.

Kind regards,

the JINST editor