Dear authors, below you will find the reviewers' comments.

REVIEWER 1:

I would recommend a minor revision. In particular, the statements and descriptions in Chapters 2.1 and 2.2 could be more precise and therefore easier to understand.

Dear Reviewer 1,

Thank you for your time invested in reading and inspection of the manuscript. I would like to comment on your suggestion for minor changes of the manuscript in your text below: Chapter2.1:

1)I recommend adding a cross section drawing of the exact detector setup with the exact assignments of the applied potentials. This would make it much easier to understand the electric field configuration inside the active volume that determines the charge collection and signal formation on the readout wire grids. This field configuration also determines the electrostatic forces on the converter foils which has to be compensated by the intermediate compensation volume.=> A figure with an cross-section cut of one detection plane has been added

2)Fig.1 nicely illustrades the tracks of alpha ot triton reaction products when emitted orthogonal from the converter layer. However, these products are emitted randomly in 2pi and therefore might deteriorate the achievable position resolution to a value worse than the quoted 2mm. It would be worth being mentioned that this has been checked in simulation calculations. =>

In the $^{10}B(n,\alpha)^{7}Li$-reaction there is no Triton particle but a ^{7}Li particle accompanying the alpha-particle. The Reviewer 1 is right, that the alpha and ^{7}Li-particle are back-to-back randomly released in 4π from the point of conversion in the solid B_4C. Due to the substrate (aluminium) on the back-side of the converter coating only one half of the 4Pi, 2Pi are free for the escape of the ions out of the coating. From the necessary thickness of the B_4C-coating for a reasonable neutron absorption and the longest escape travel range results an escape cone, which defines a solid angle in which the ions are expected to leave the coating in to the stopping-gas. The orthogonal to the converter plane oriented escape path in the escape cone gives the longest ion tracks in the stopping gas, since on this path, the kinetic energy dissipation of the ions in the solid was the smallest, what gives the “largest” voltage pulses in the wire system. *This explanation has been added to the manuscript.* Other path in the escape cone had not been considered in the SRIM/TRIM simulations even though they can contribute the broadening of the ions tracks range in the stopping gas. The authors have relinquished to add more simulation since it would further increase the point of mass on a part of the content of the current manuscript on particular topic. The aim of the authors was to present the path of detector design development in all scales at a similar complexity level and not to focus to much on the micro world of the conversion process. We ask the Reviewer to understand this and not to insist on further simulations. This could be a topic for a paper, which is more focused on the conversion process in the detector like an experimental report, where also experimental data like pulse height spectra need to be explained.

3)Chapter2.2:
The term efficiency used in the chapter is somewhat undefined to my opinion. It should be more precisely decribed what exactly is included in calculating the displayed efficiency. If the total

neutron detection efficiency of the device (which should be used for comparison with other devices) is meant, this should include the neutron absorbtion probability in the converter layer, the escape probabilty of the reaction products from the layer, the charge deposit of the reaction products in the gas volume, the charge collection efficiency of the x/y-grids and e.g. the threshold settings of the readout electronics. => We add more details/information's on the performed GEANT4 simulations.