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Geoscientific Instrumentation Methods and Data Systems Discussions

Interactive comment on "Resistive plate chambers for tomography and radiography" *by* C. Thomay et al.

Anonymous Referee #2

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The paper is very good and it summarizes the properties on RPC chambers in the use in muon tomography. I have only small remarks:

1) p.661, lines 7-10. Detection efficiency (99%) and purity (95%) values are quoted. They seems not be evaluated with the MC simulation quoted few lines after. Can you specify if these value are obtained with the MC, or in which way they were evaluated?

2) Figure 4: Along the Y axis it is "ADC counts": I expected something like "Number of events", or "number of hits". Can you specify the meaning of "ADC counts"? The x-axis looks very strange. If you count the number of strips (X_estimated and X_hit), I expected values quantized as 0,1, 2. . .6.. As the binning is much smaller, both X_estimated and X_hit are not the number of the strips. So, I suggest to convert the units in mm.

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3) Figure 5. The meaning of the error bar on points is not clear. It cannot represent an error, as the point-by-point fluctuations are much larger than the reported error bars. Please, specify, or remove the bars from the plot.

4) Could you state how long takes the data acquisition to produce fig. 6? Here, the bin size seems to be the strip number both in x and y. I suggest to modify the caption as following: "Reconstructed vertex positions for events with a scattering angle larger than 30 mrad due to the presence of a lead block of 10 $\times$10 x15 cmˆ3. Units along the X and Y axis represent the strip number; each strip is 1.5 mm wide". The "true" position of the lead block is outlined." Remove (if possible) the superscript "XY Vertex Position".

Interactive comment on Geosci. Instrum. Method. Data Syst. Discuss., 2, 657, 2012.