

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

C. Thomay et al.

christian.thomay@bristol.ac.uk

Received and published: 12 November 2012

Regarding the comments of Anonymous Referee #2:

1.) In our current simulation setup, detector efficiency and purity are not included, as these values depend heavily on aspects of the hardware (noise, crosstalk, etc) that cannot be trivially modeled in a Geant4 simulation. Consequently, efficiency and purity are both assumed to be 100% in MC.

2.) ADC stands for Analog-to-Digital Converter, which is a digital value assigned to the charge deposited in the detector. An explanation has been added to the caption of fig. 3. The y axis in fig. 4 was in fact wrong as it's indeed just the number of events, and has now been changed accordingly. The residual value should not be quantized in

C279

number of strips, as it's the distance between the estimated x value ($x_{\text{estimated}}$) and the measured value (x_{hit}). $x_{\text{estimated}}$ comes from the track fit to all hits except from the layer under consideration, while x_{hit} is simply the measured hit position from that layer, so the residual is real-valued.

3.) The error bars come from the measured error on the raw resolution, which in turn stem from (as stated in the text) multiple scattering in the detector and the track fit. The magnitude of the error bars shown comes from the error on the width of the Gaussian fit by which we extract the resolution. We felt a more detailed explanation of the errors would exceed the scope of the paper, and can be found in the cited publication.

4.) Acquisition time added and caption changed accordingly.

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