True 2D XY Position Distribution

Slide 1

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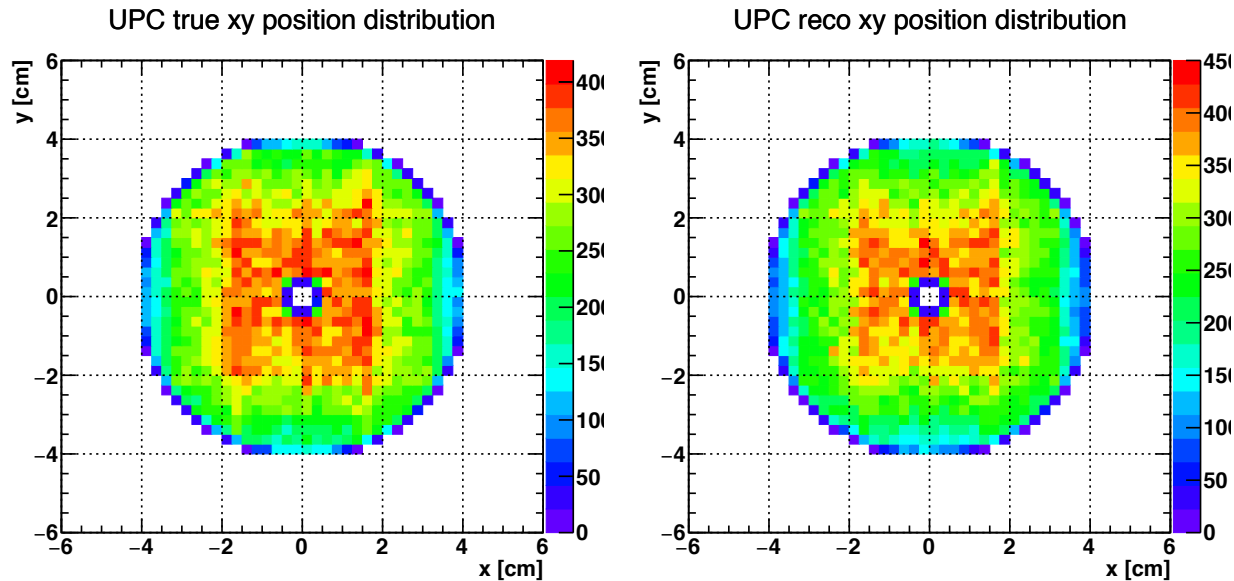
[2019/12/19 @ 21:00 KST]
Radiation Laboratory Meeting
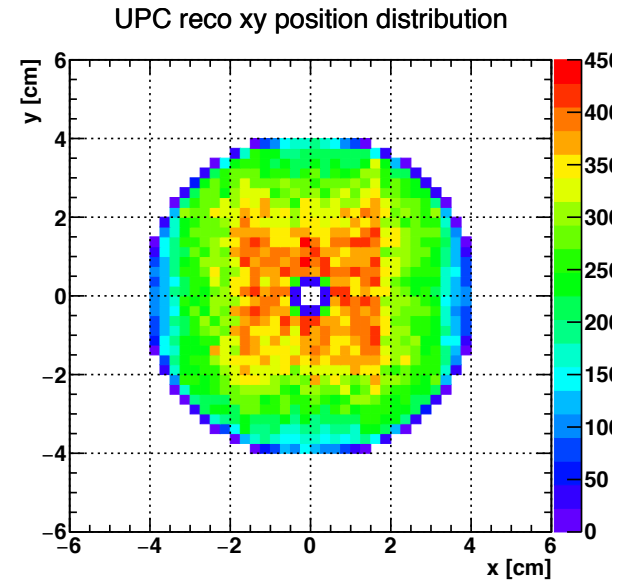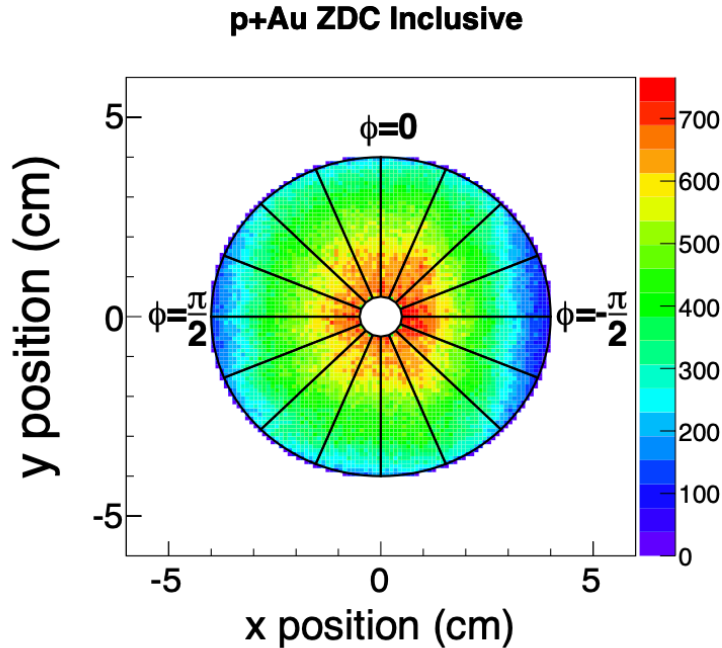
2D XY Plot – Un-polarized UPC

True (left) and reco (right) xy distributions for un-polarized UPC

- ◎ Both true and reco xy position distributions show square shape.
- ◎ For reco, it is understandable because of various combined detector effects plus square shape of ZDC.
- ◎ For true, it is unphysical to see a similar square shape like in reco , so I need to check further this true distribution properly.

2D XY Distribution – Data and UPC

p+Au ZDC Inclusive
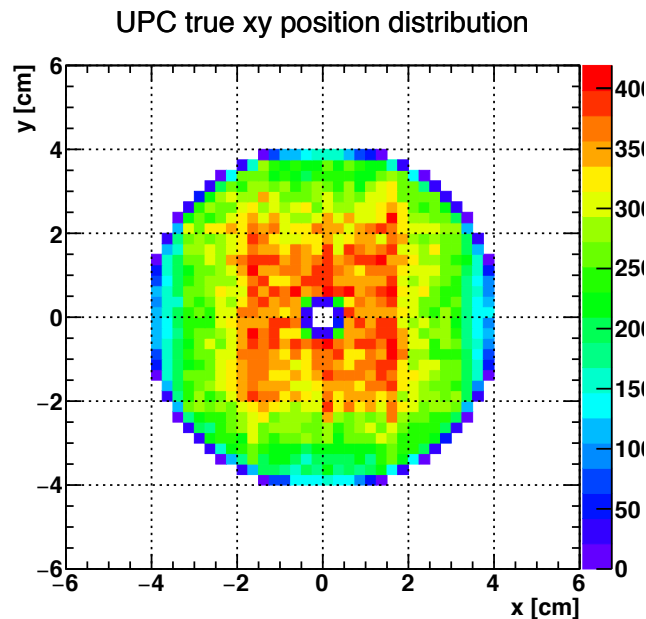
UPC reco xy position distribution

- ⌘ XY plot for pAu from Minjung's analysis note.
- ⌘ Combines various detector effects hence visible square shape.
- ⌘ Square shape may also be due to square shape of our ZDC detector.

- ◎ Current reco xy plot from un-polarized UPC MC exhibits similar features as pAu data plot for similar reasons.
- ❑ So shape is understandable.

This is unphysical to observe square shape in true xy spectrum seen so far below:

UPC true xy position distribution

So I have until early next week to thoroughly finish checking this square shape in true xy plot. I am doing this by:

⌘ Making true xy position distribution without applying any cut.

⌘ Making xy plot for each cut applied. These checks will provide us more information.