

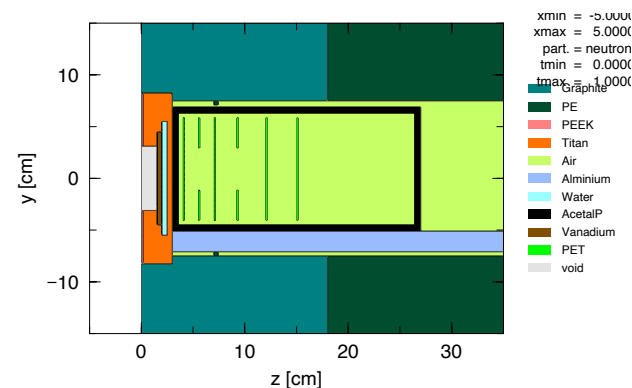
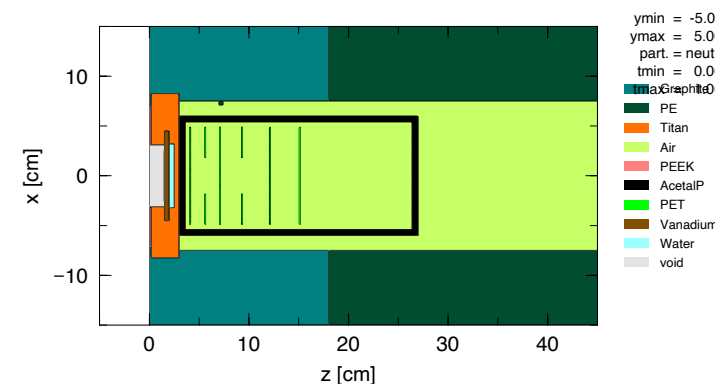
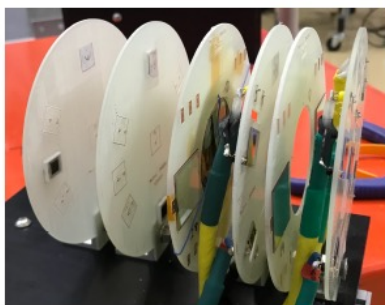
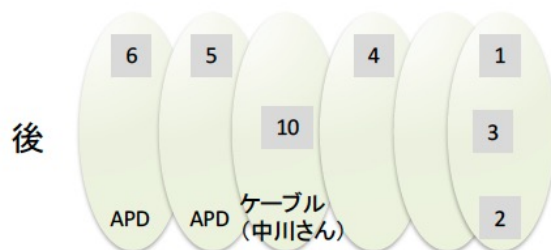
Weekly report

Shima Shimizu

PHITS calculation for RANS

- ◆ Amount of neutrons is estimated from the measurement using Indium foils.
- ◆ Looking at PHITS calculation to see if we can reproduce the numbers.

◆ 箔設置場所

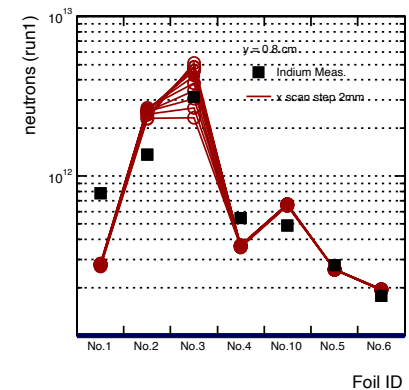
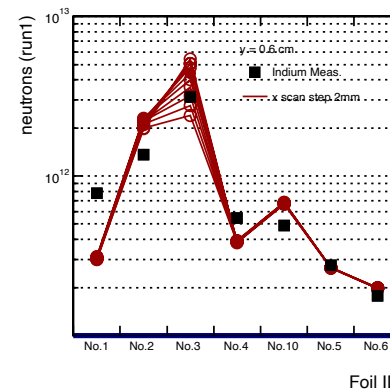
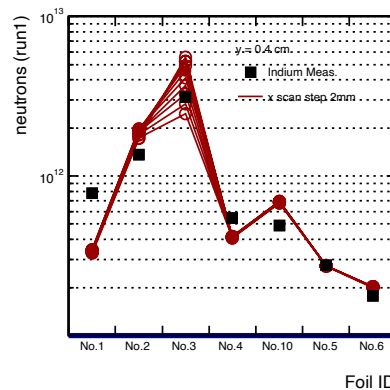
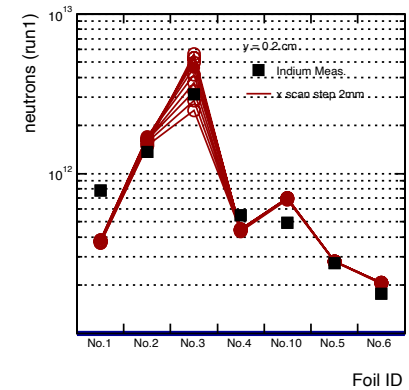
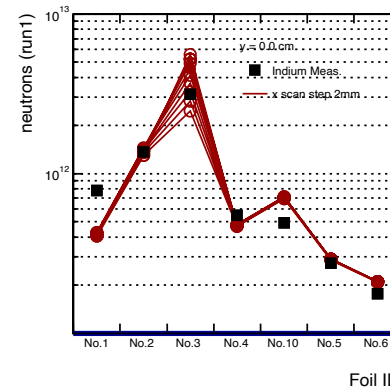
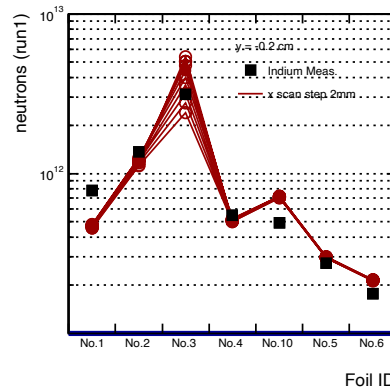
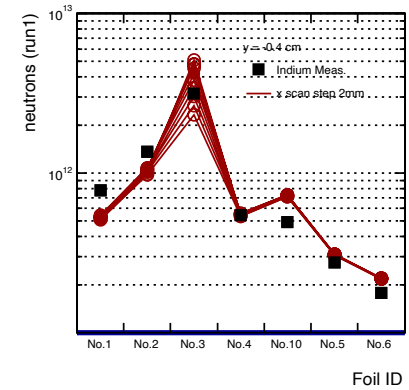
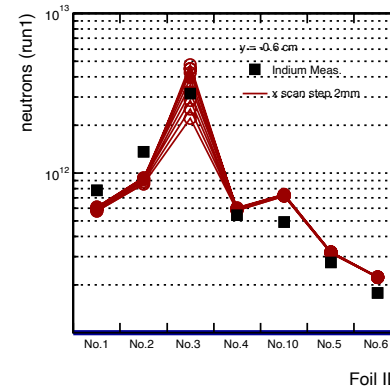
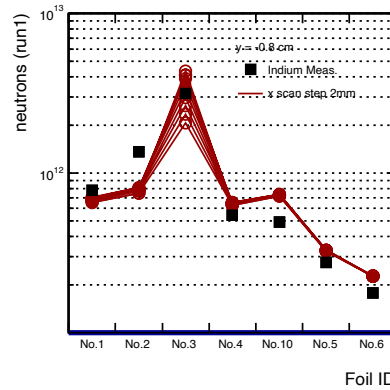


- ◆ Calculation starts from pre-calculated neutron distribution at the target provided by Wakabayashi-san.

PHITS calculation for RANS

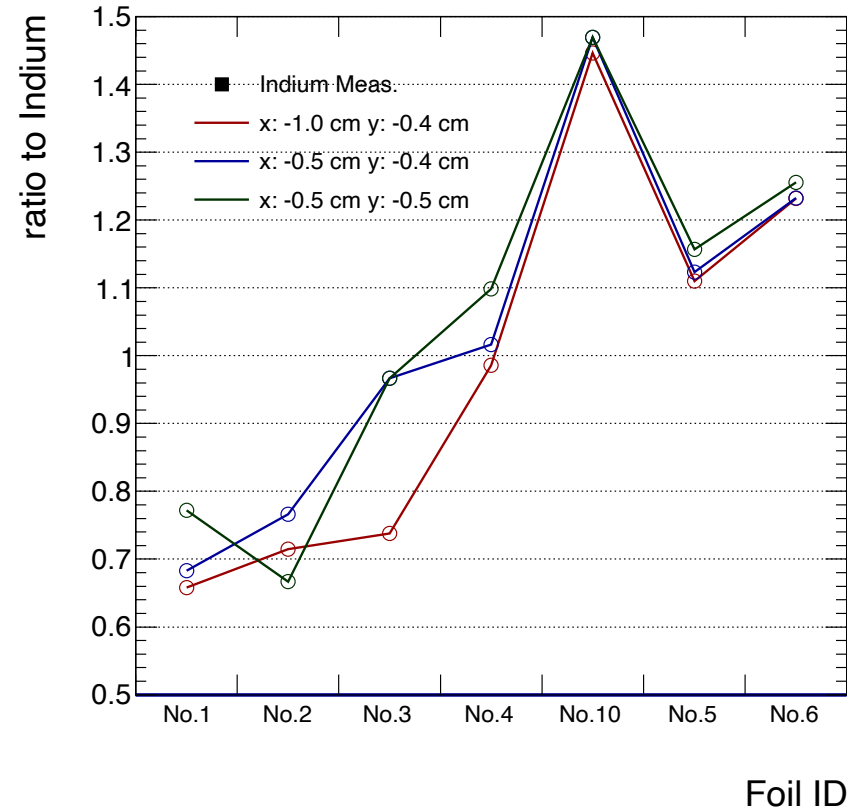
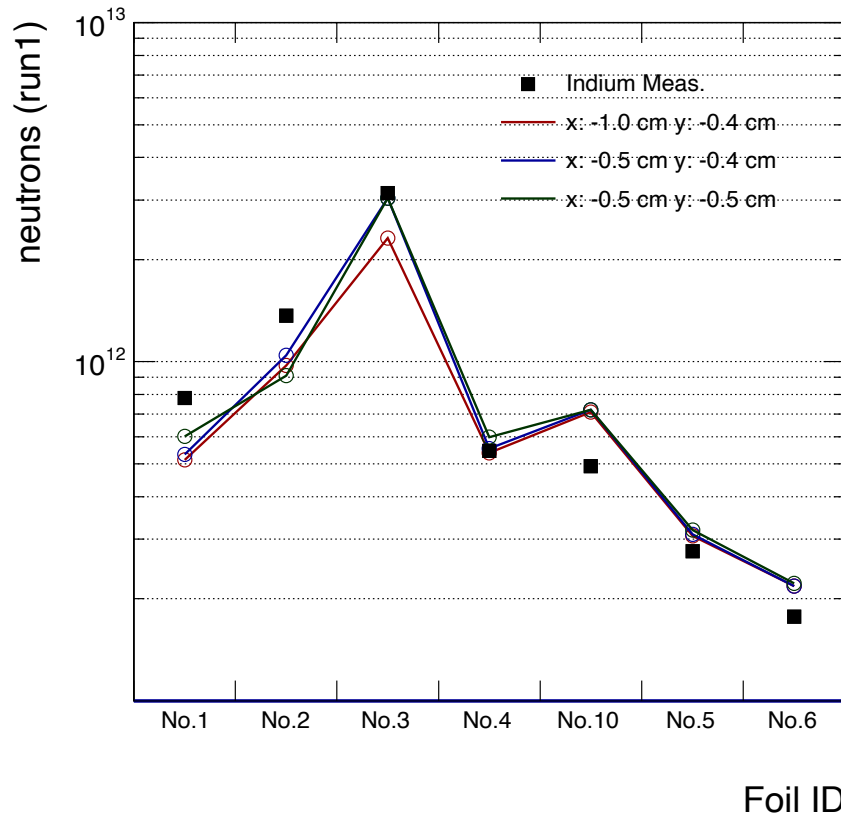
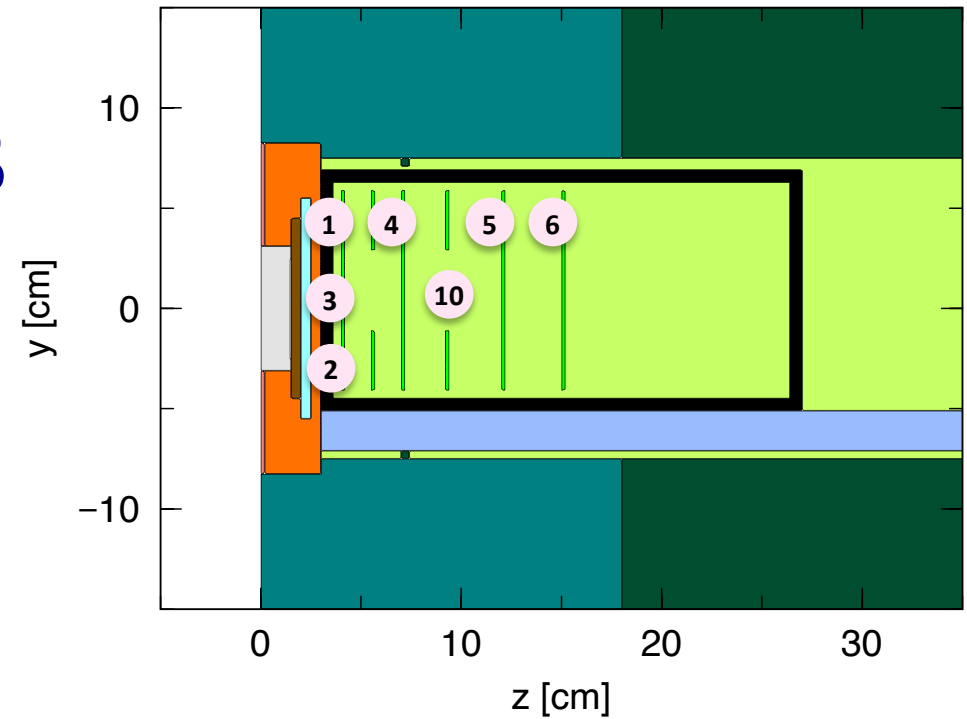
- ◆ Looking at neutrons with $E > 335$ keV.
- ◆ As we don't know exact position of the inserted box, x and y positions are scanned with a step of 2mm.

→ $y \sim 0.4$ mm gives good description.

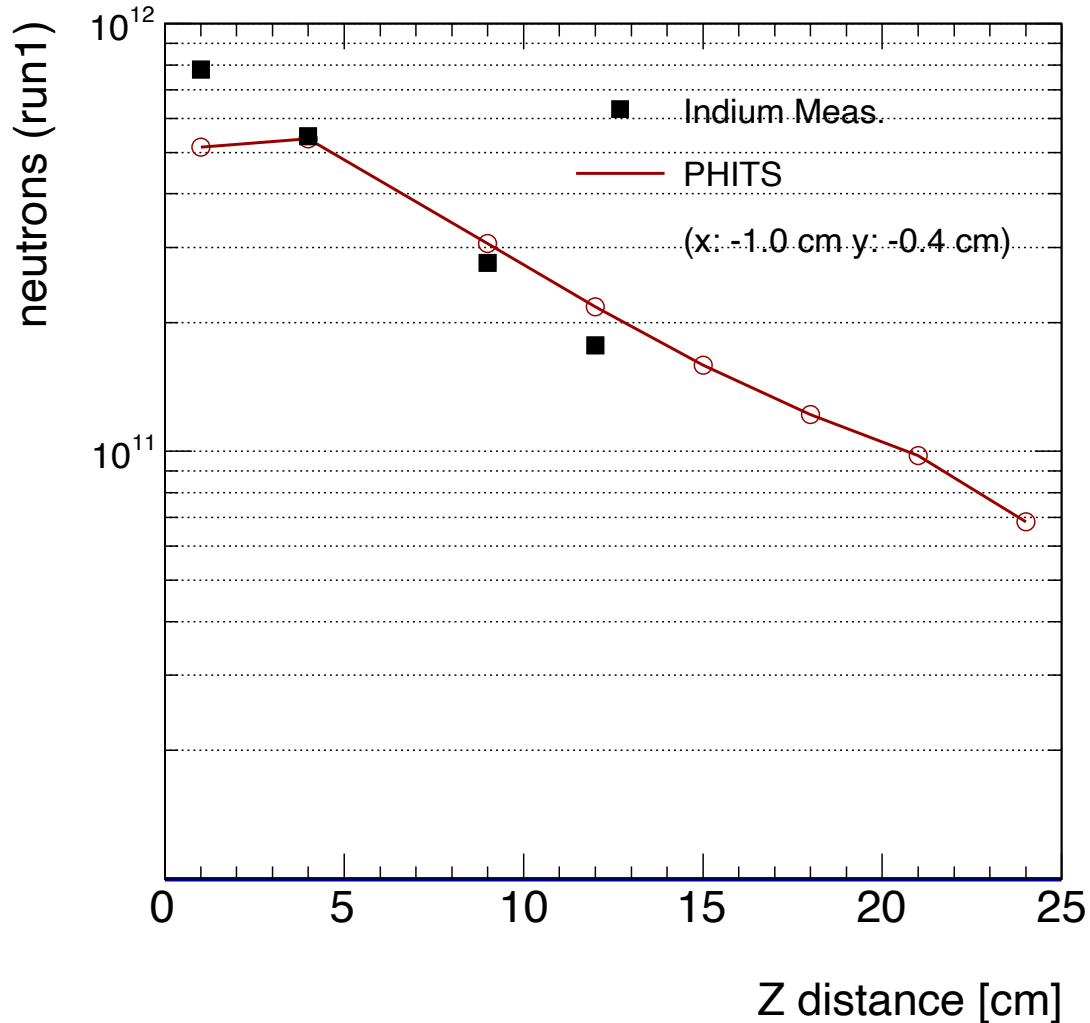


PHITS calculation for RANS

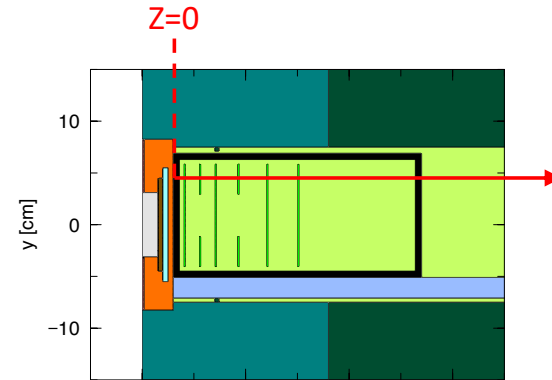
- ◆ y dependence is well reproduced with $\Delta(x, y) = (-1.0 \text{ cm}, -0.4 \text{ cm})$ shifts on the 1st plane.
- ◆ PHITS provides more neutrons than the indium estimation as z increases.



PHITS calculation for RANS



Extrapolation to z-direction, at the upper side of PCB planes.



- ◆ run 1:
 - 1092 [s]
 - 35871 [$\mu\text{A}\cdot\text{s}$]
- ◆ run 1 – 14
 - 32306 [s] (2 days)
 - 1203841 [$\mu\text{A}\cdot\text{s}$] = 33.6 * run 1

Others

- ◆ ECCE-style ZDC is prepared in DD4HEP.
 - As the readout codes are not ready, it will not be in the simulation campaign.
- ◆ Irradiated APDs are back to lab from RANS area.
 - Trying to re-check the APD signals in lab.
 - Somehow, I fail to see signals with an APD which was NOT irradiated.