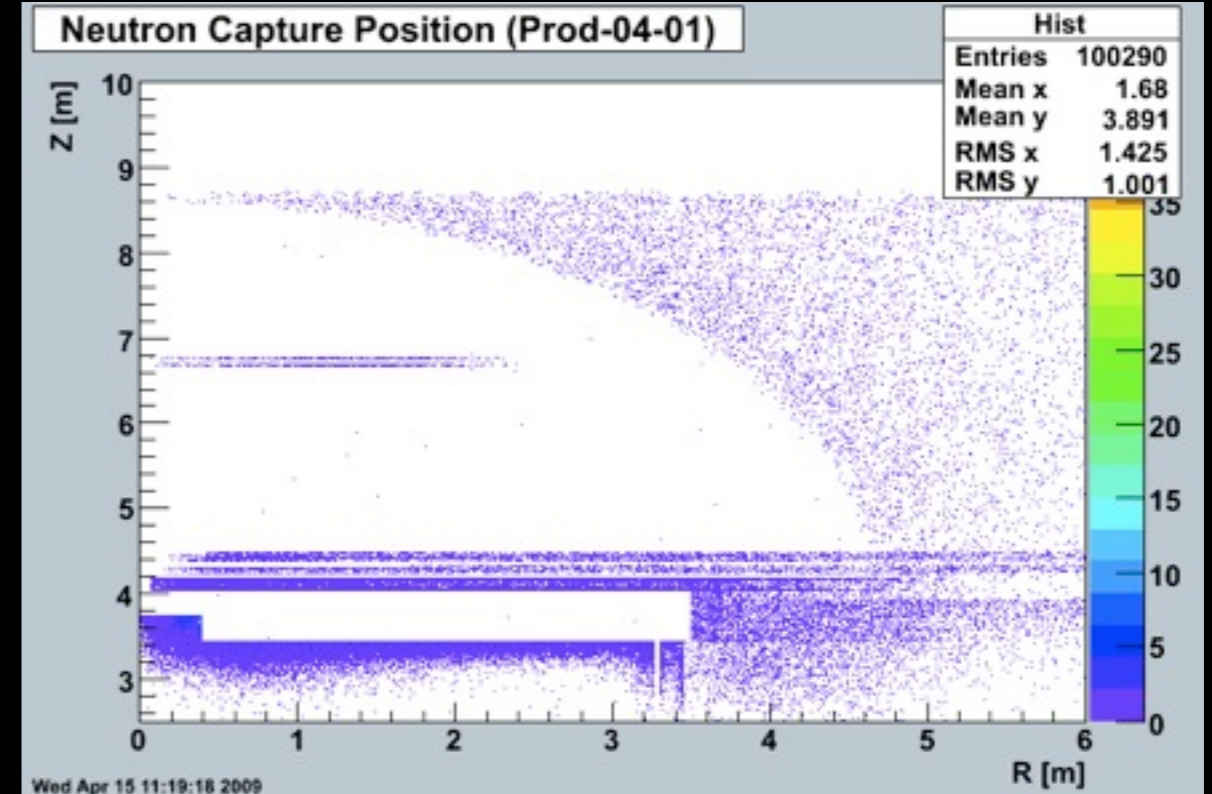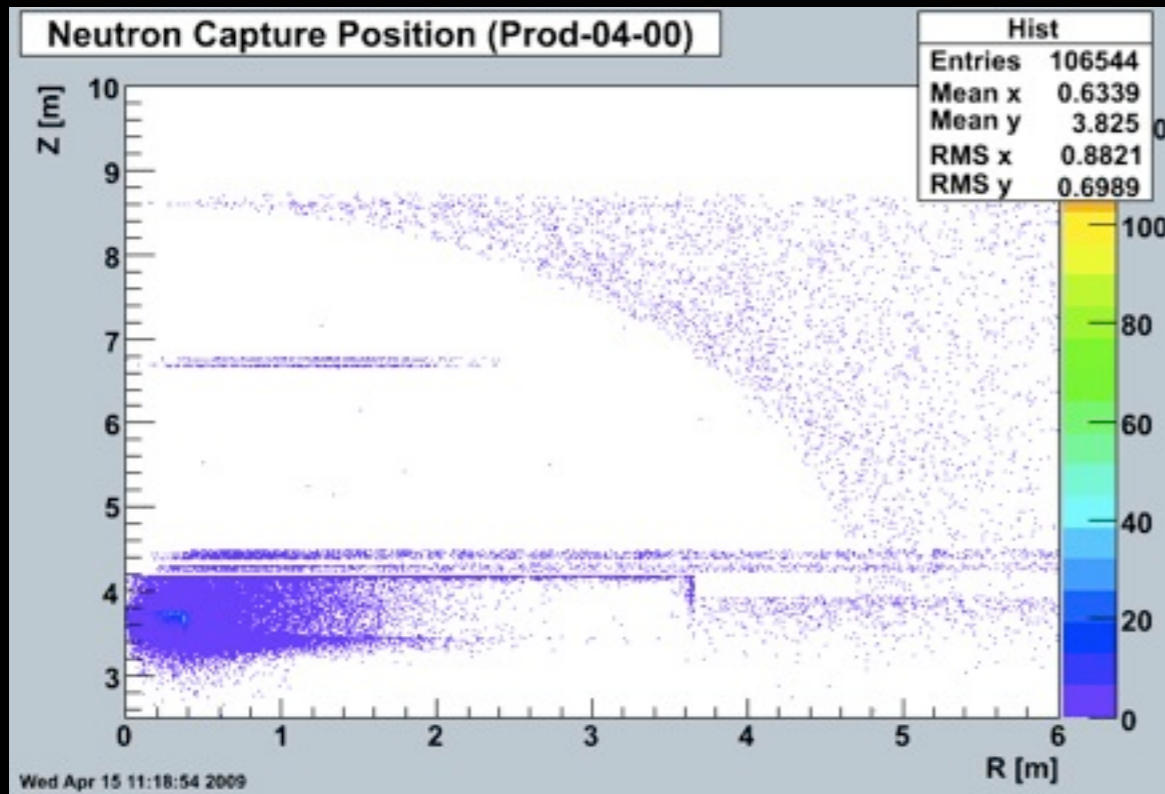# Change in Geometry

between

Prod-04-00 and Prod-04-01

Identical macro run 1e5 neutrons using different version of DOGS

Right : Neutron capture position using Prod-04-00
Left : Neutron capture position using Prod-04-01

The left (Prod-04-01) plot has lots of neutron capture throughout the region from the IV tank to dorm floor. This region is supposed to be filled with air....
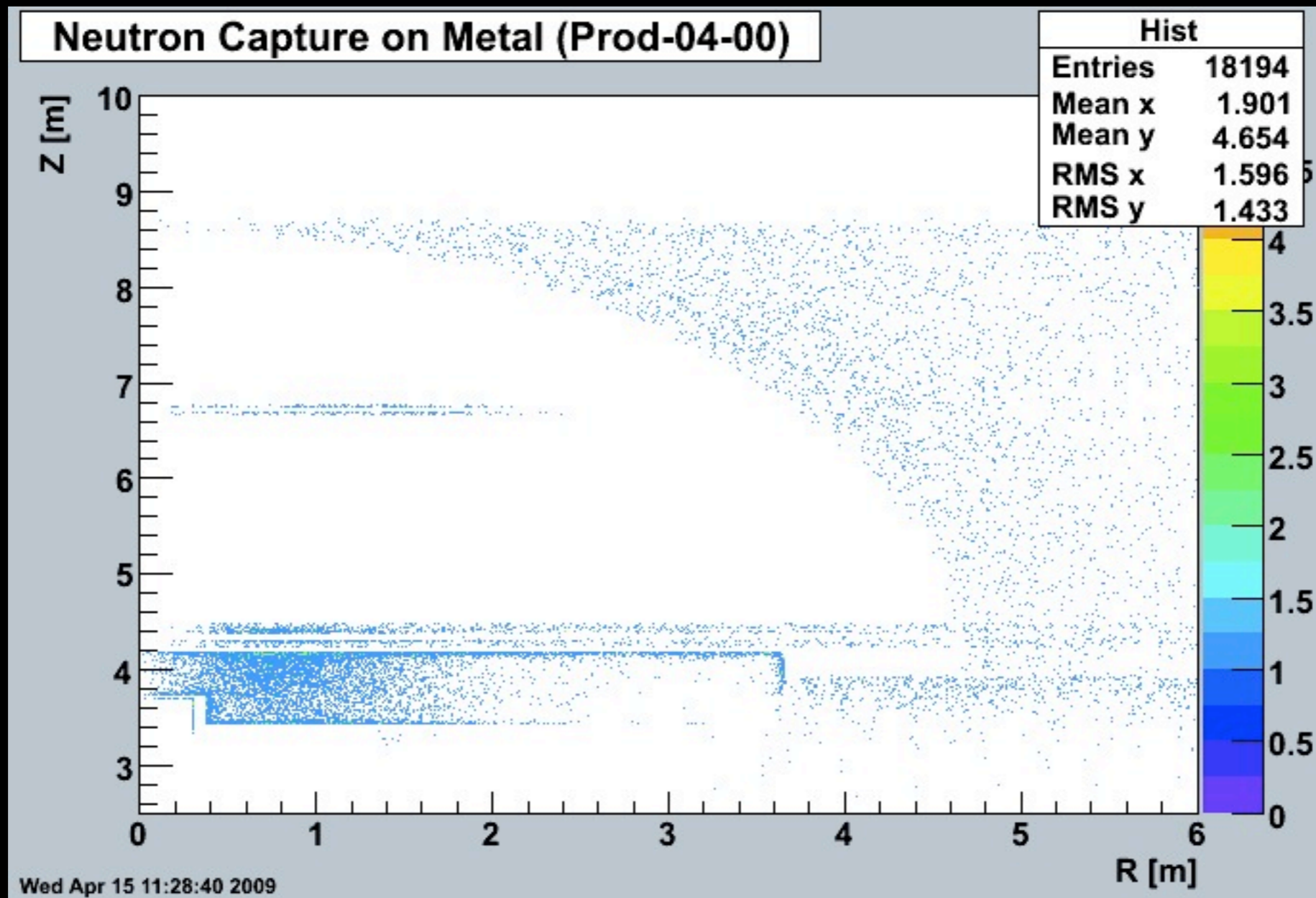
Let's look at metal nucleus

tagged with

neutron capture event

(Prod-04-00)

Similar simulation with 1e4 neutrons...
(slightly different starting position)

Neutron Capture on Metal (Prod-04-00)

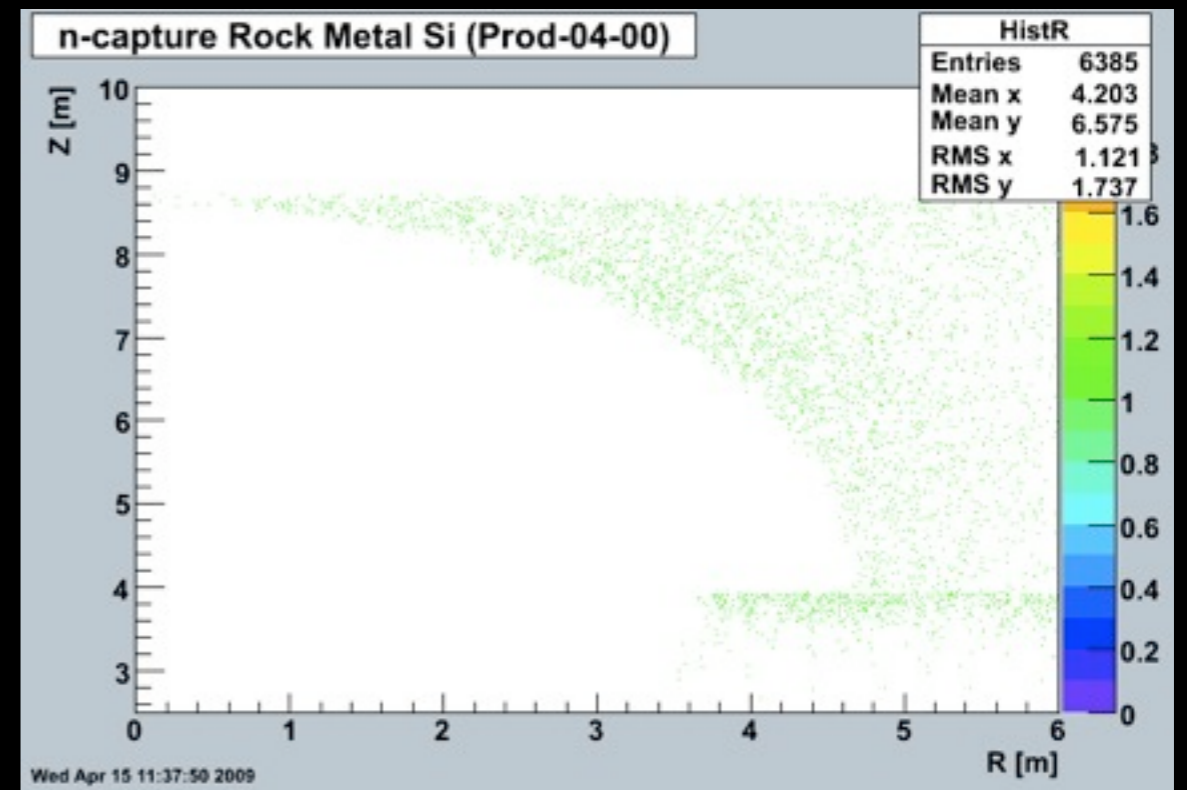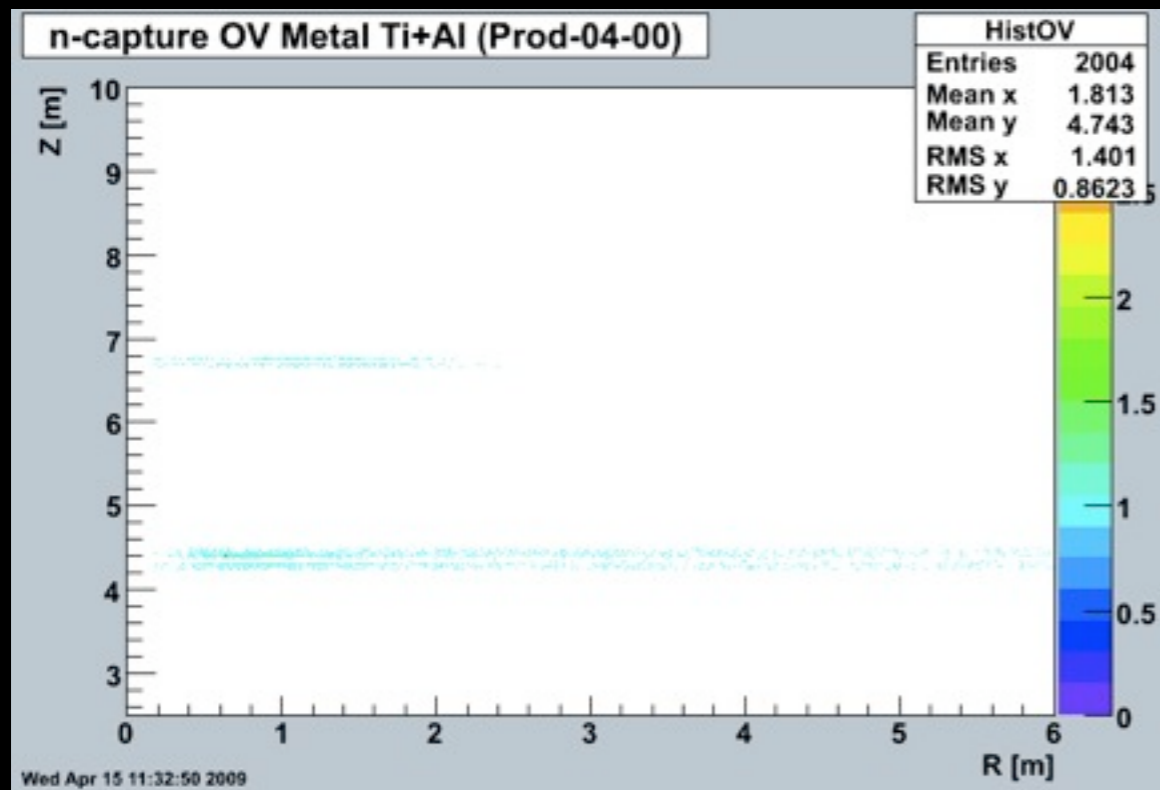| Hist	
Entries	18194
Mean x	1.901
Mean y	4.654
RMS x	1.596
RMS y	1.433

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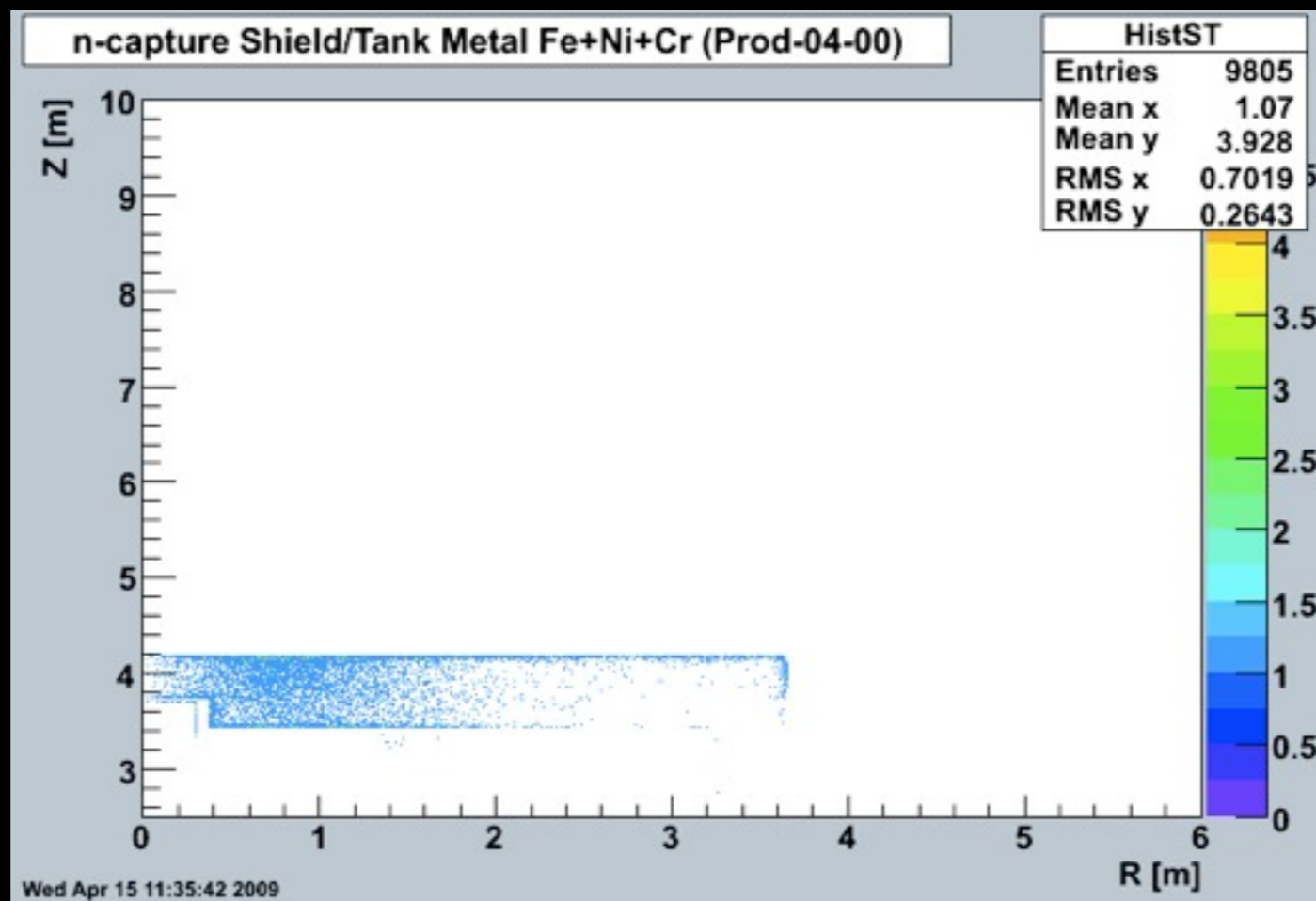# Tagged capture metal position
(Prod-04-00)

We can identify capture metals nucleus

From DCGLG4sim geometry construction....

- Rock Metal elements = Si
- OV Metal elements = Ti + Al
- Shield + Tank Metal elements = Fe + Ni + Cr

OV Metal capture
(Ti + Al)

Rock Metal capture
Si capture

Shield Tank Metal capture
(Fe + Ni + Cr)

Conclusion: it seems that the volume between IV tank to the dorm floor is filled with stainless steel in the DCGLG4sim geometry of Prod-04-00. Is this a bug?