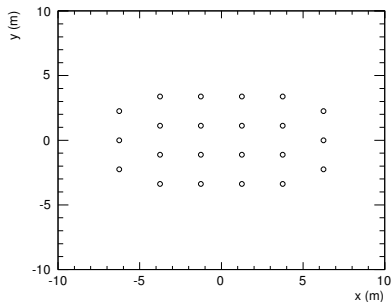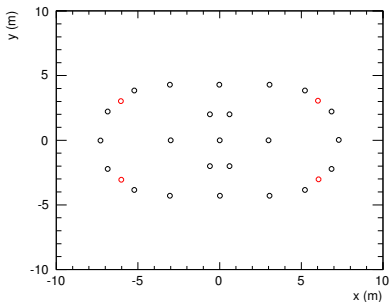# Water Pool Muon Veto Efficiency

Qing He

Princeton University
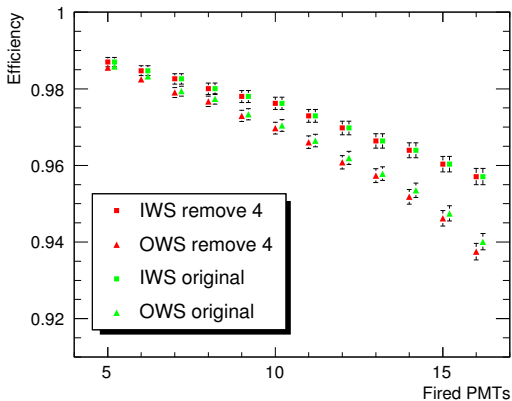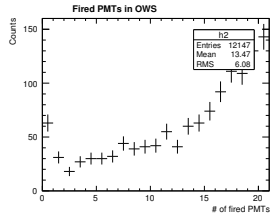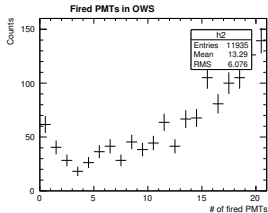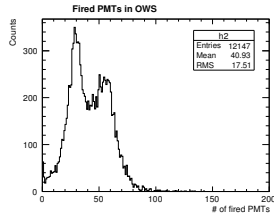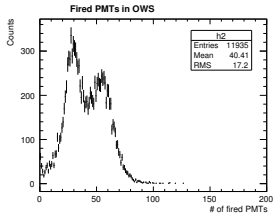
Dayabay Collaboration

- Case 1: remove the 4 corner PMTs on the bottom floor, total number of PMTs is 23.

- Case 2 (VT's proposal): uniformly redistribute PMTs on the bottom floor, total number of PMTs is 22.
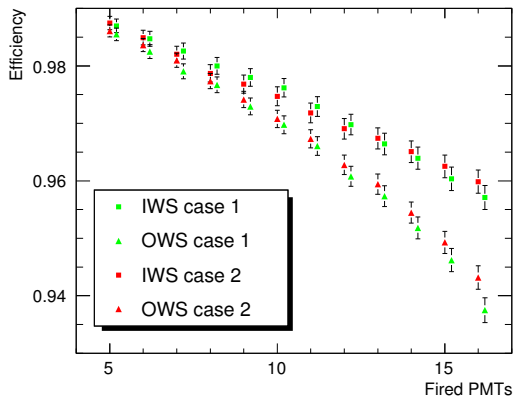
Efficiency of Randy's proposal

- Using the sample sample, just shut off the 4 PMTs for comparison
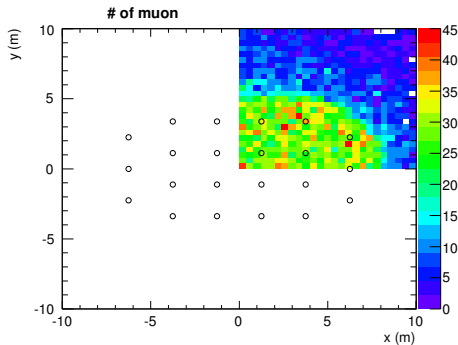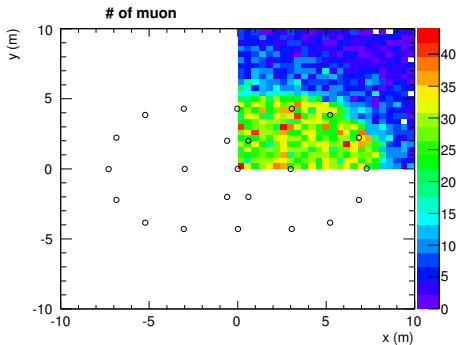
Number of hit PMTs

- Number of hit PMTs comparison between the two proposals.
- Left: Case 1 (19400 events, renormalized to 19600 events); Right: Case 2 (19600 events).
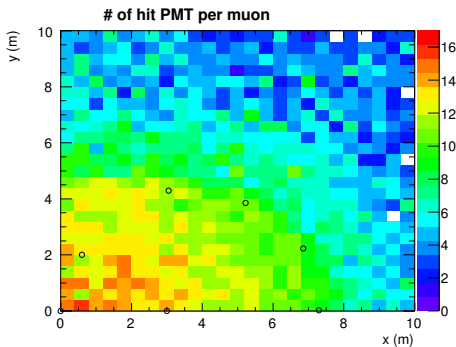
- VT's proposal looks a little bit better, but hard to say due to statistis limit.
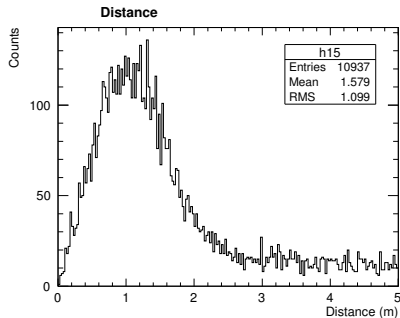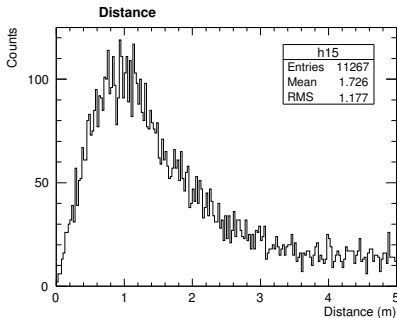
- Plot number of muons which pass through the bottom floor (require it also pass throught OWS).
- Left: Case 1; Right: Case 2.

Muons go through the bottom floor
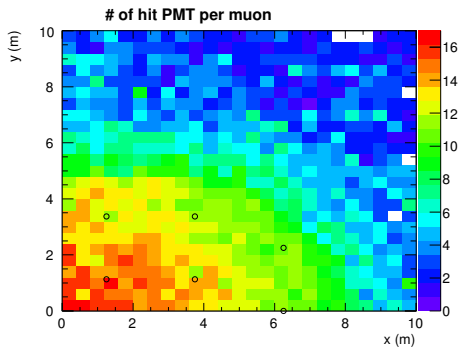
- Plot number of hit PMTs for muons which pass through the bottom floor
- Left: Case 1; Right: Case 2.

Reconstruction related issue

- Plot the distance between the largest hit PMT and muon intersection point with the bottom floor.
- Left: Case 1; Right: Case 2.