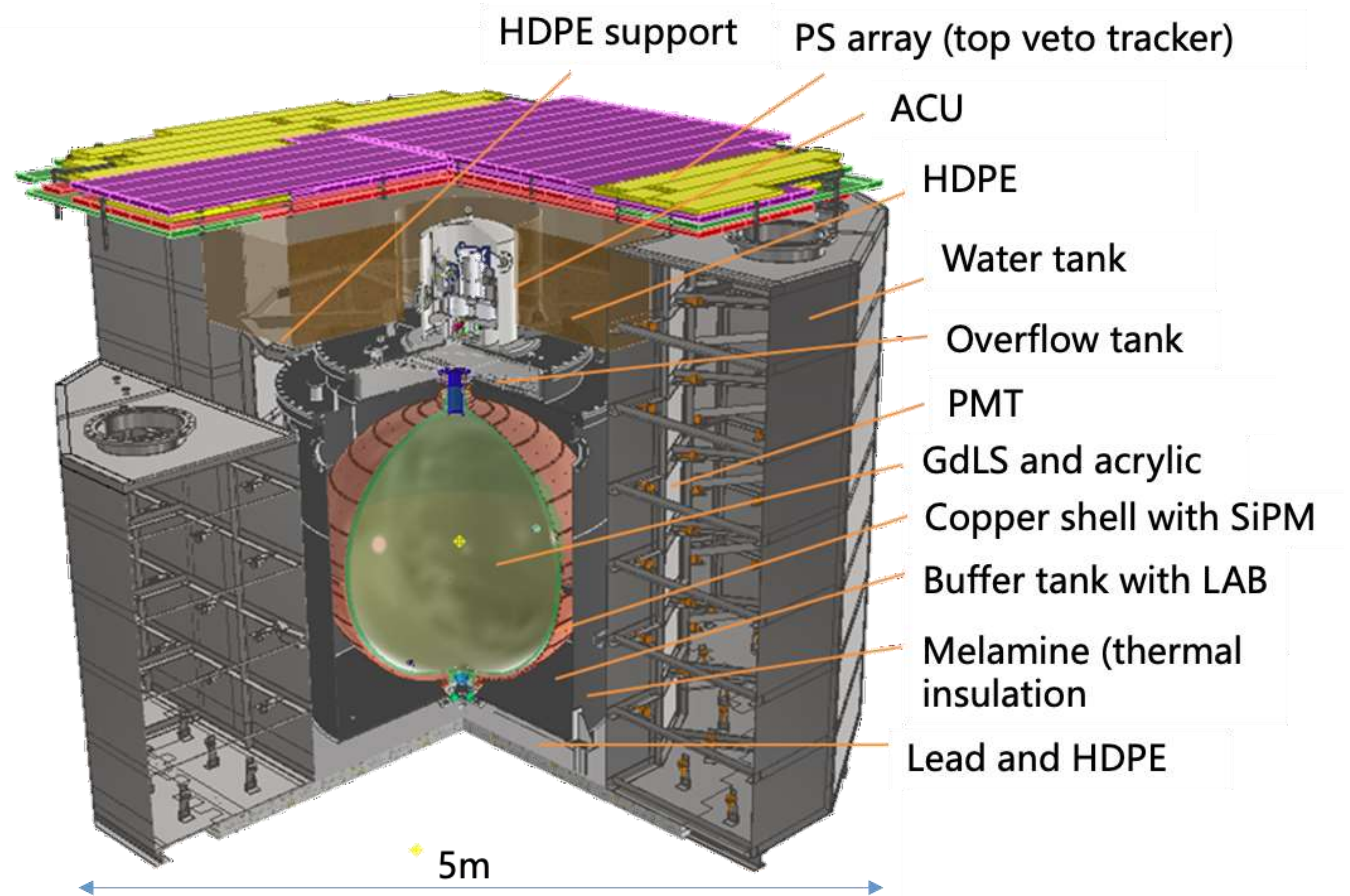


TAO顶部反符合探测器

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2026-7-17

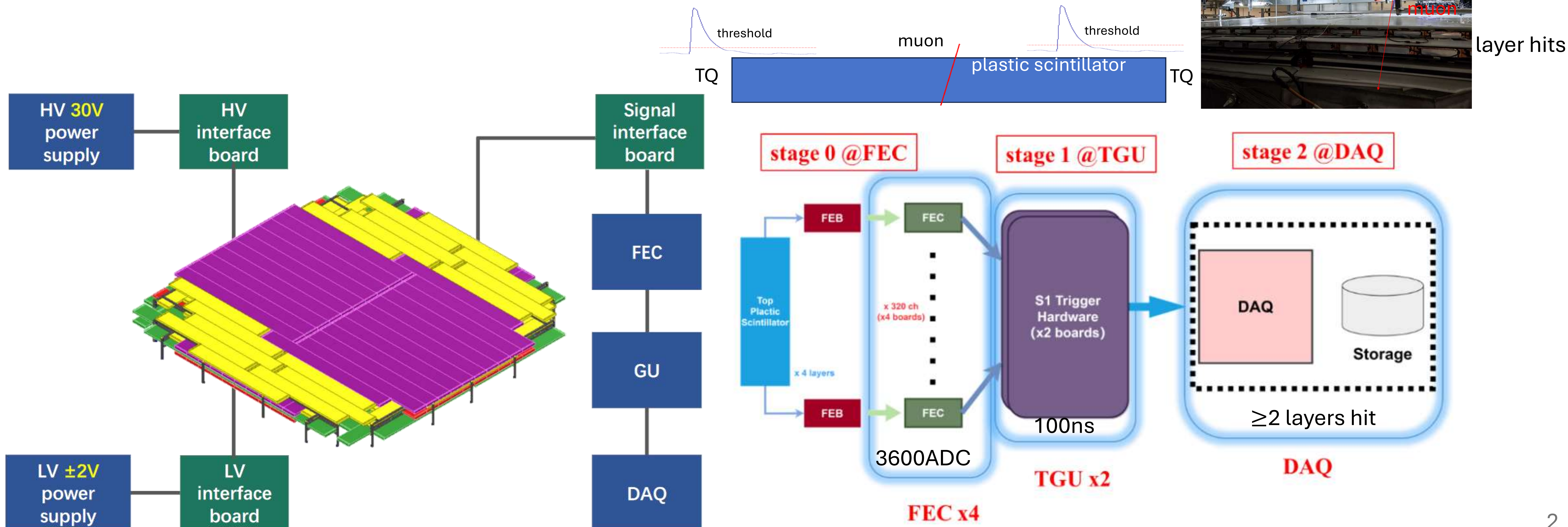


➤ TVT structure

- The function of tvt: tracking and tagging cosmic ray
- 160 ps and embedded WLS fiber, 4 layers, 40 ps each layer
- The two ends of the ps are coupled with SIPM and optical fibers for readout

➤ TVT trigger logical

- FEC(1st): single channel, threshold on amplitude (3600ADC)
- TGU(2nd): single PS 2 end coincidence (time + amplitude)
- DAQ(3rd): coincidence of layers hit (2/4 + trigger window)

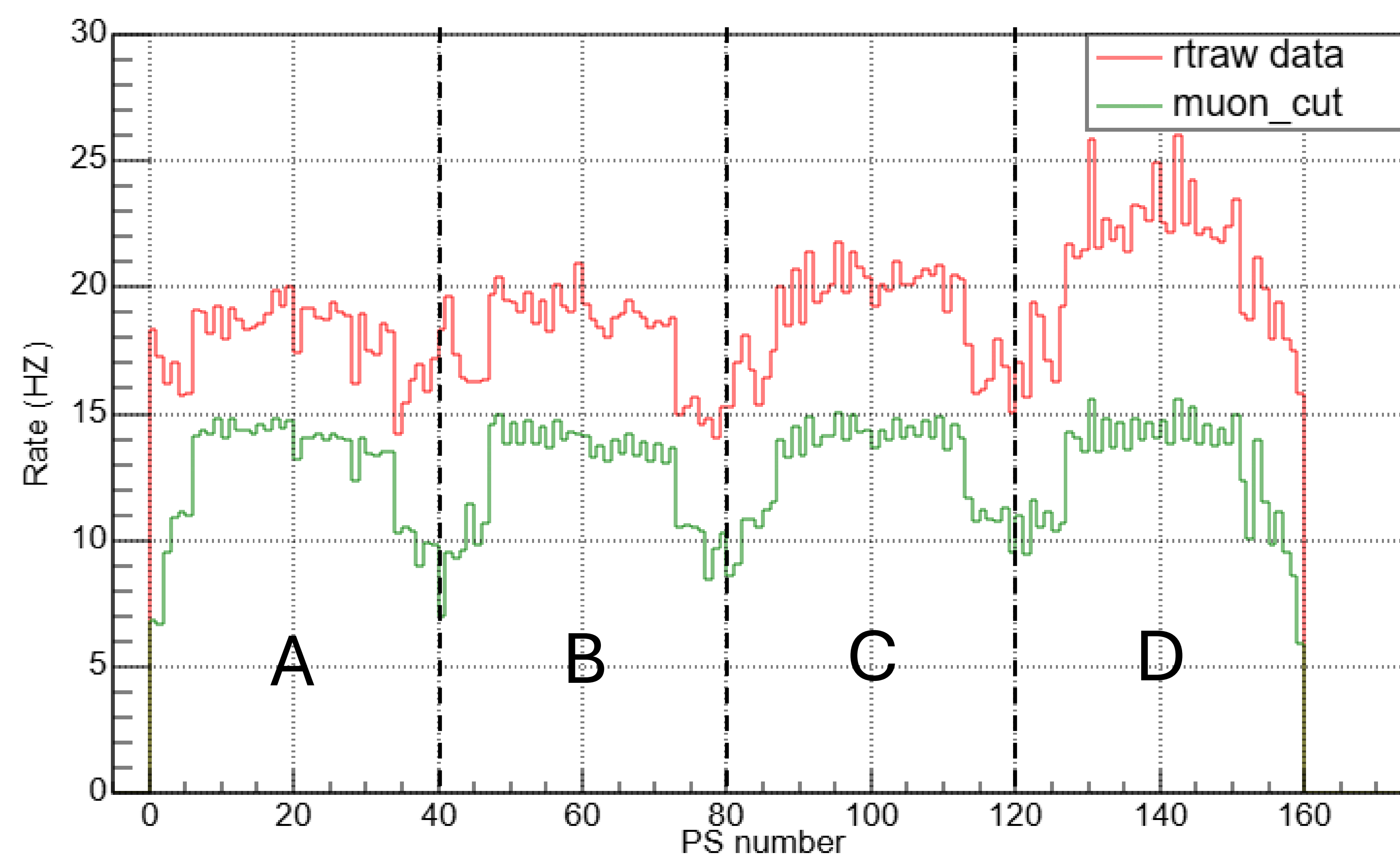
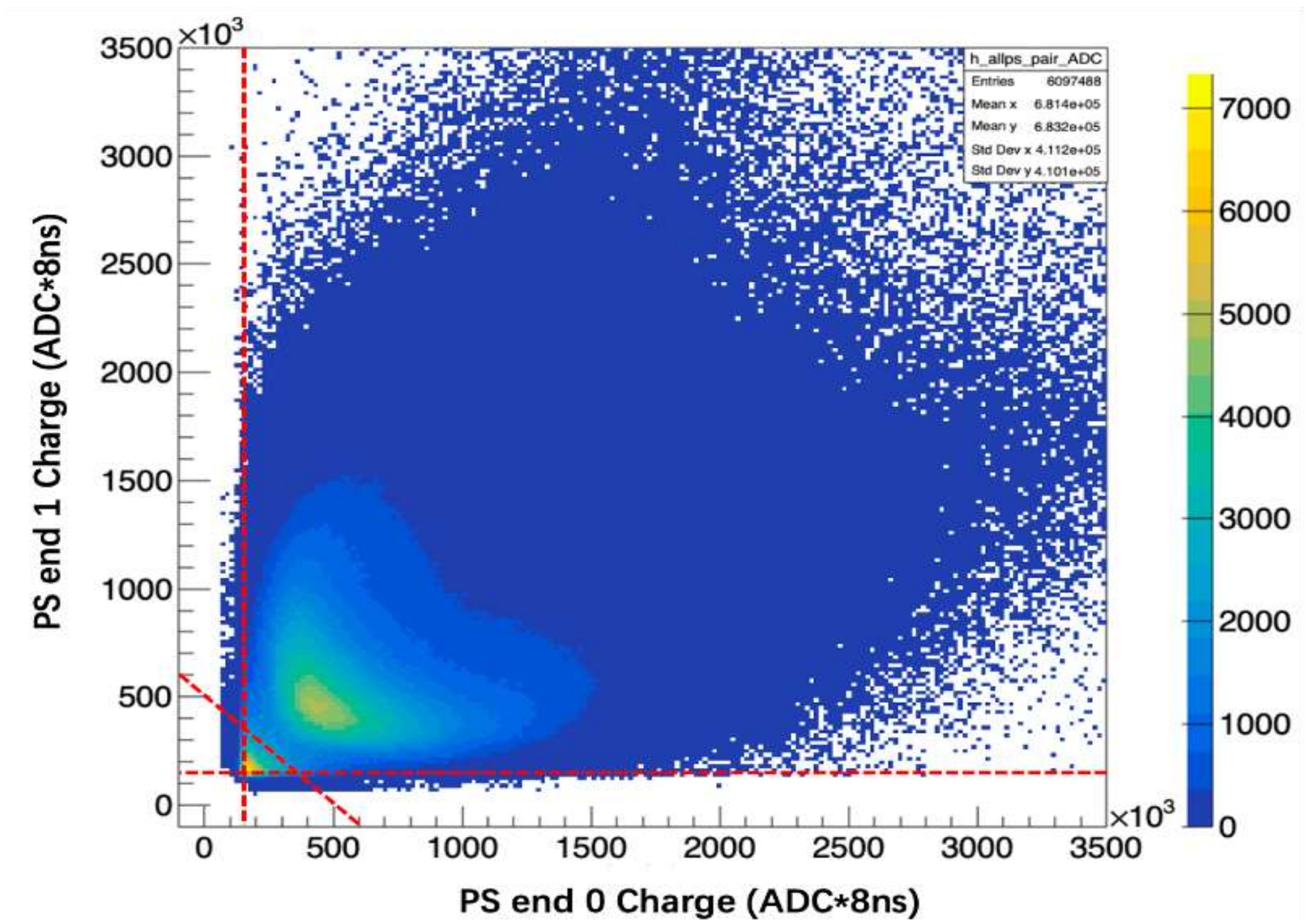


➤ TVT muon selection

- $\text{adc_a} \geq 150000 \ \&\& \ \text{adc_b} \geq 150000 \ \&\& \ \text{adc_a} + \text{adc_b} \geq 600000$ 、 $\text{layers hit} \geq 2$

➤ Muon rate of TVT

- After cut, TVT total muon event rate is
~ 590.0Hz, ~36.9Hz/m²
- CD tagged muon efficiency: TVT only : 58% ;
TVT + WT : 98%



TVT Muon Rate

