

# Status report

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# Introduction

I made B-field in the direction perpendicular and parallel to PMT's photoelectric surface.

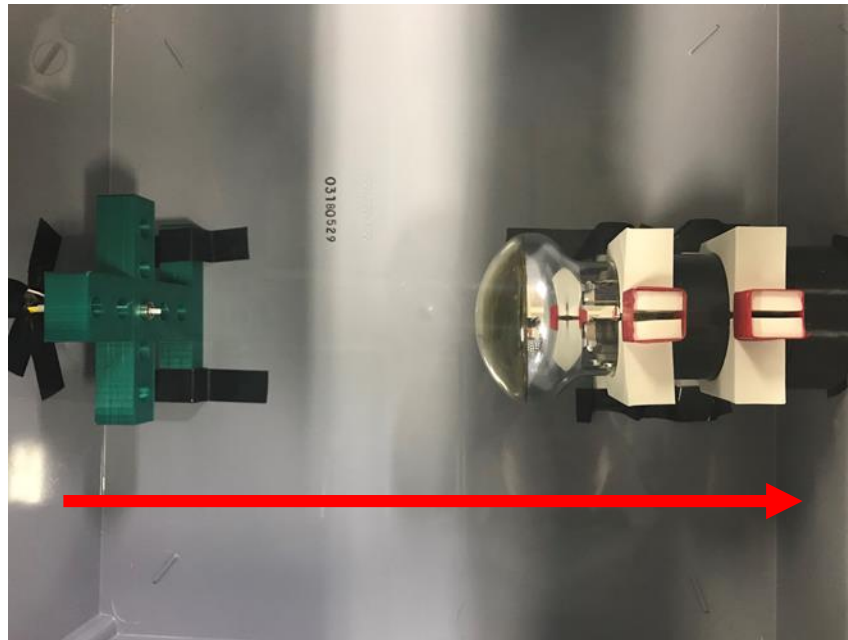
Then, I measured PMT's efficiency.

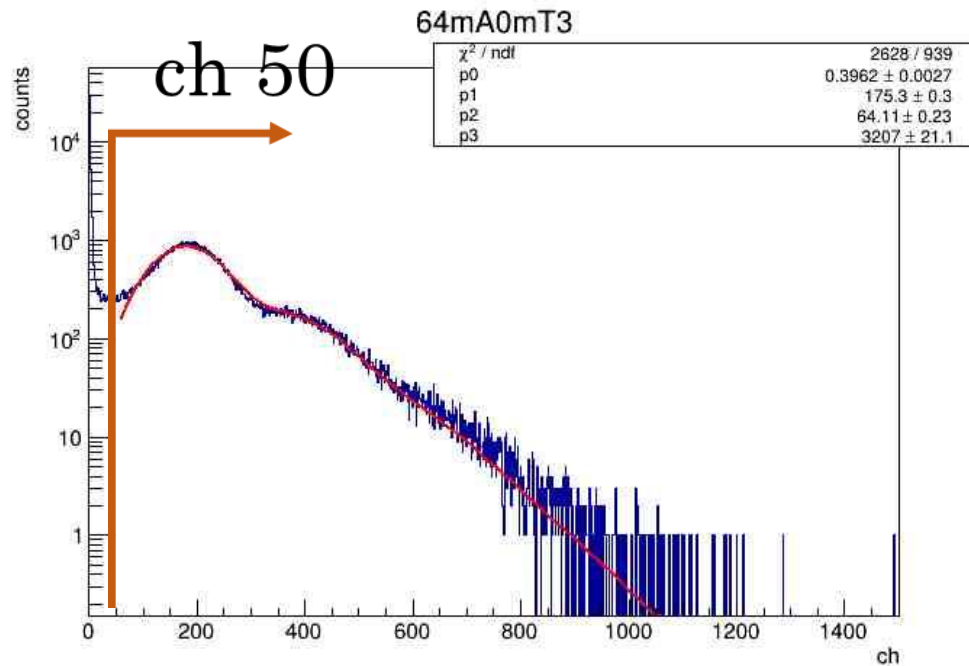
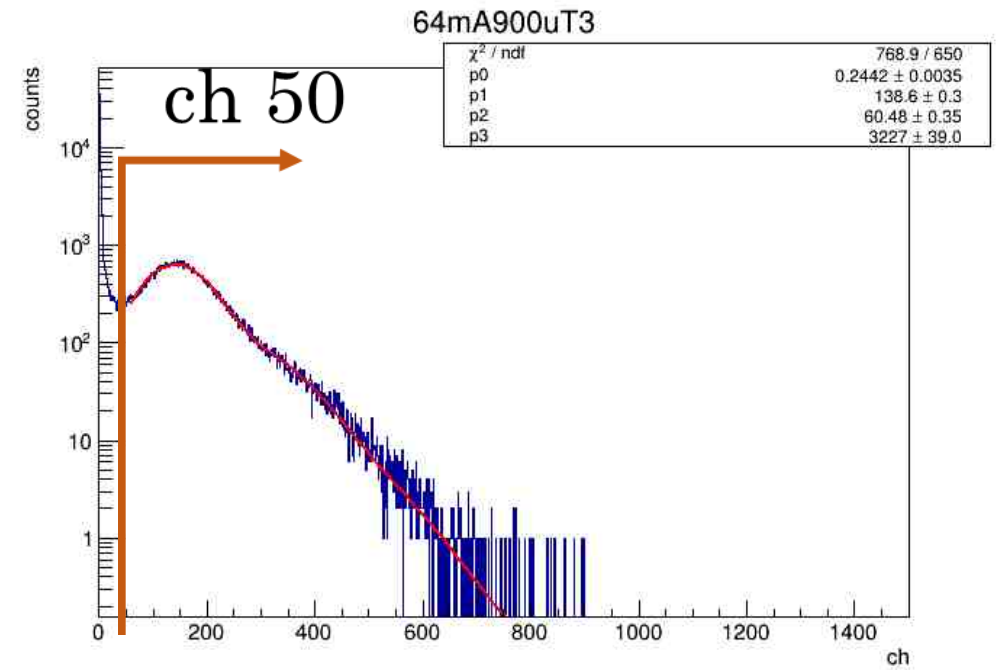
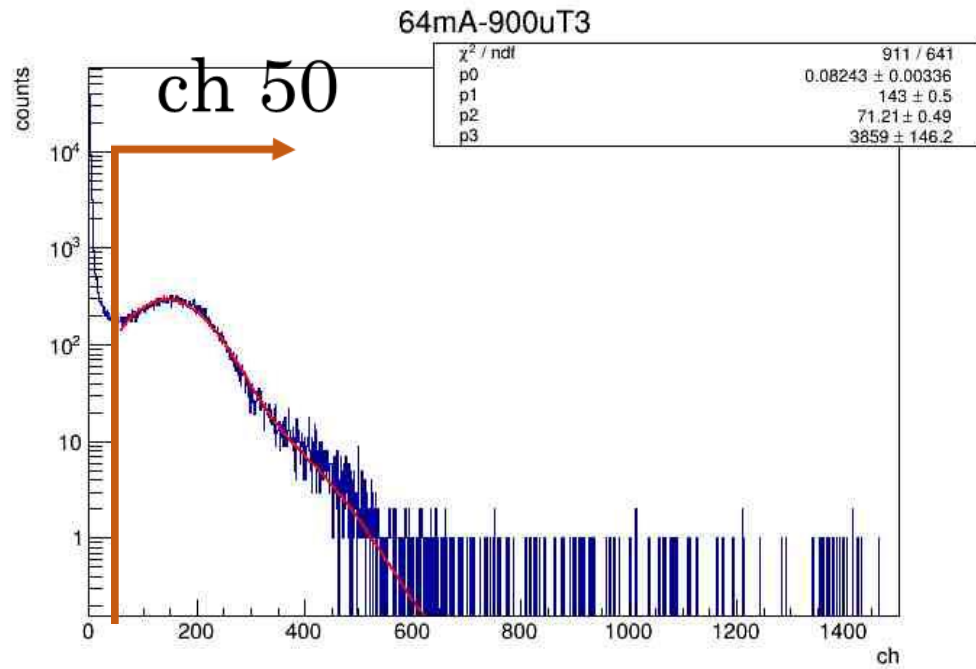
# Results

I made B-field in the direction perpendicular to PMT's photoelectric surface.

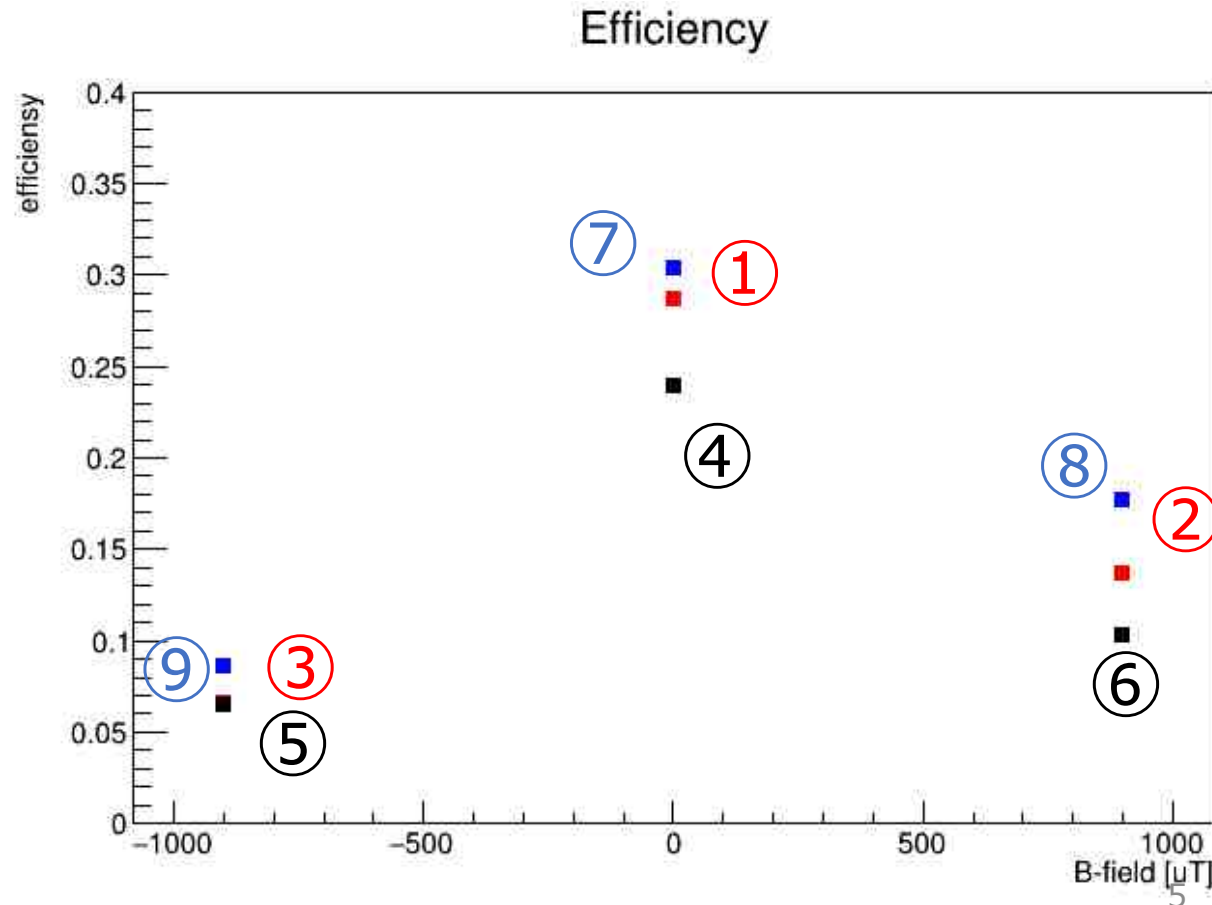
Then, I measured PMT's efficiency.

I defined this red arrow as positive direction of B-field.





The coil made B-field: 0.9 uT  
in 2000 mA.



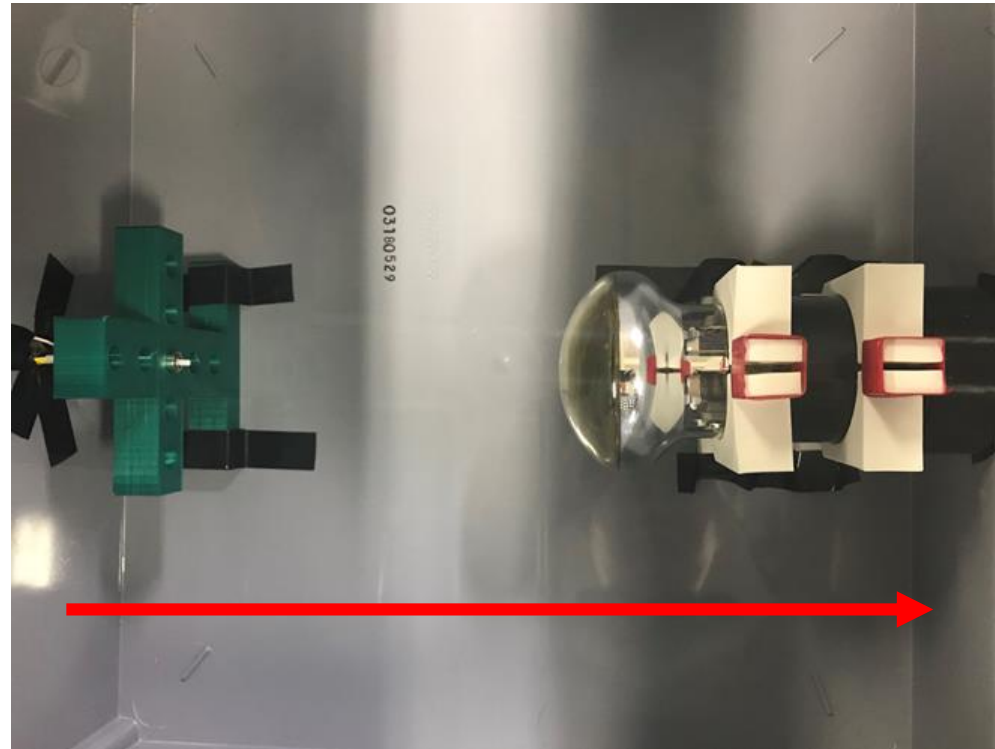
3<sup>rd</sup> time(Blue)

	-900mT	0mT	900mT
Efficiency	0.085835	0.303851	0.17622

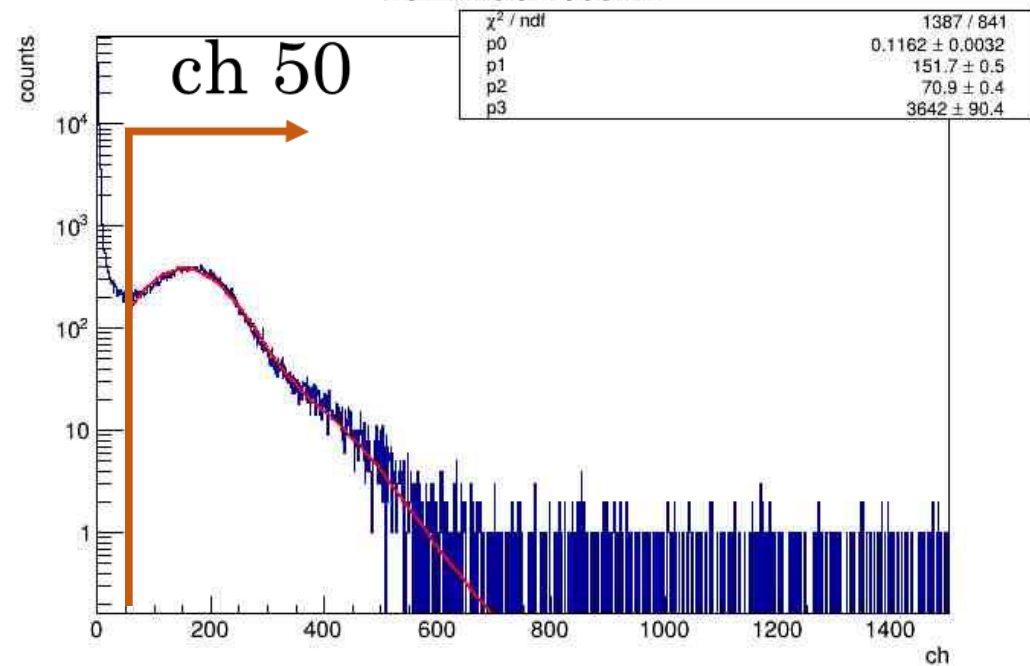
Previous results(Red:1<sup>st</sup> time, Black:2<sup>nd</sup> time)

	-900uT	-900uT2	0mT	0mT2	900uT	900uT2
count	39496	38588	172074	143646	82079	61464
efficiency	0.065852	0.064338	0.286901	0.239503	0.136851	0.10248

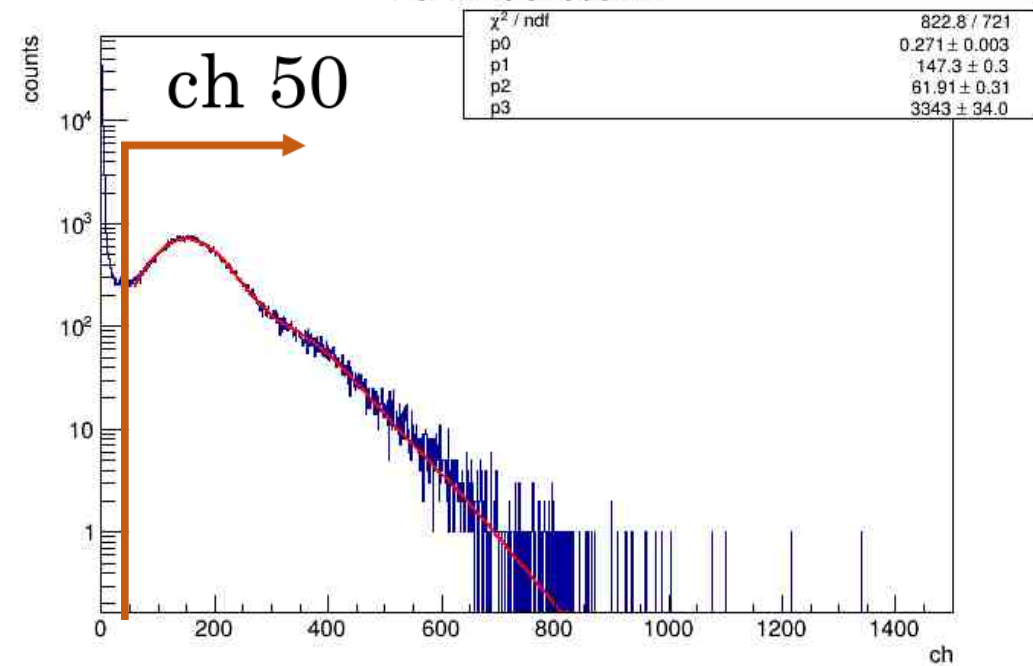
Then, I measured PMT's efficiency in some coil currents.  
I defined this red arrow as positive direction of B-field.



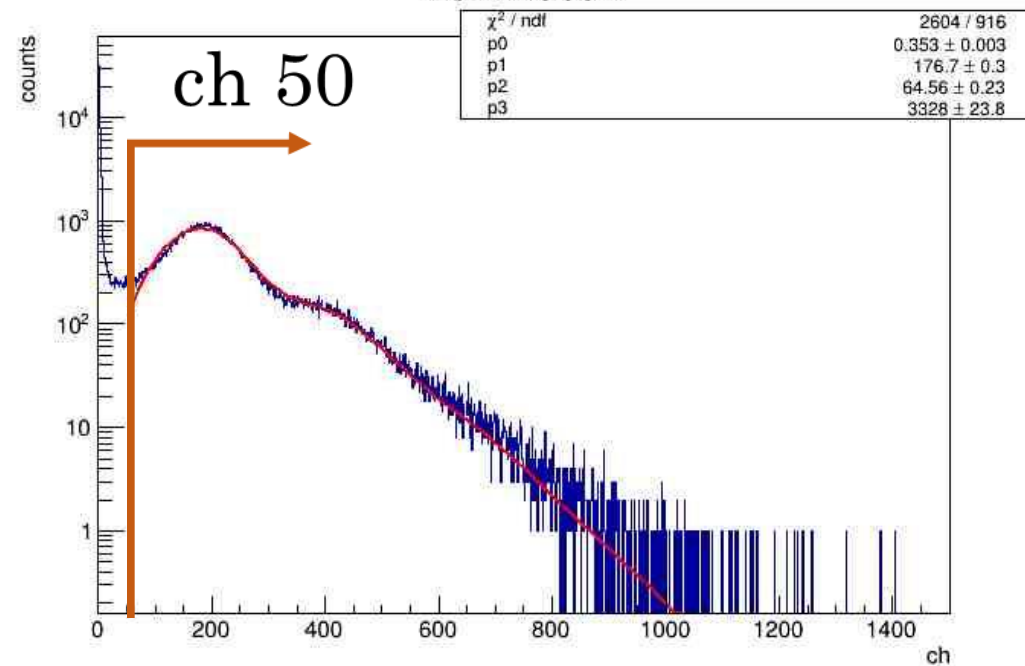
P64mACC-1500mA



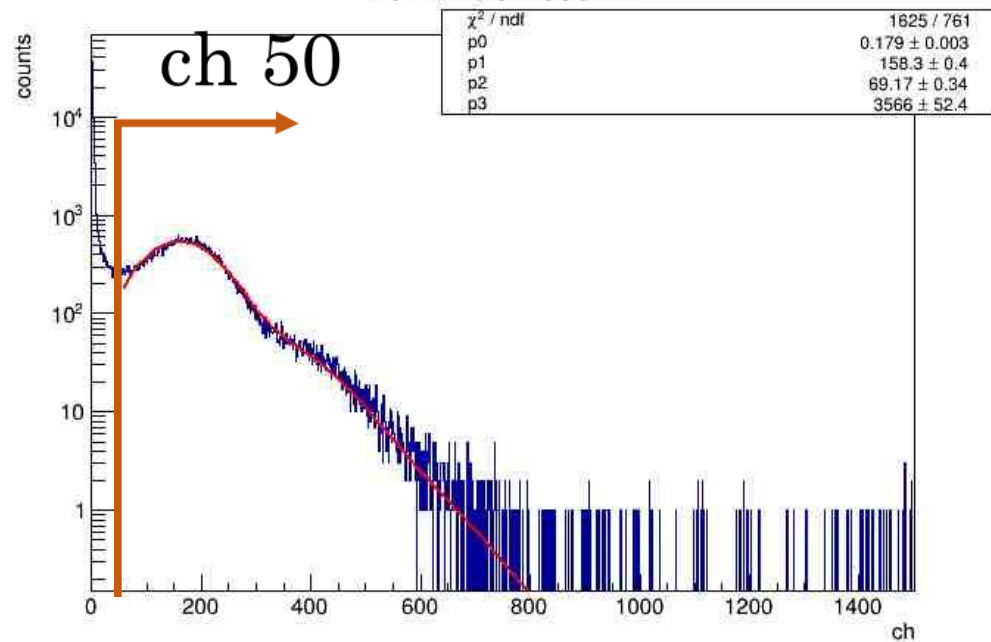
P64mACC1500mA



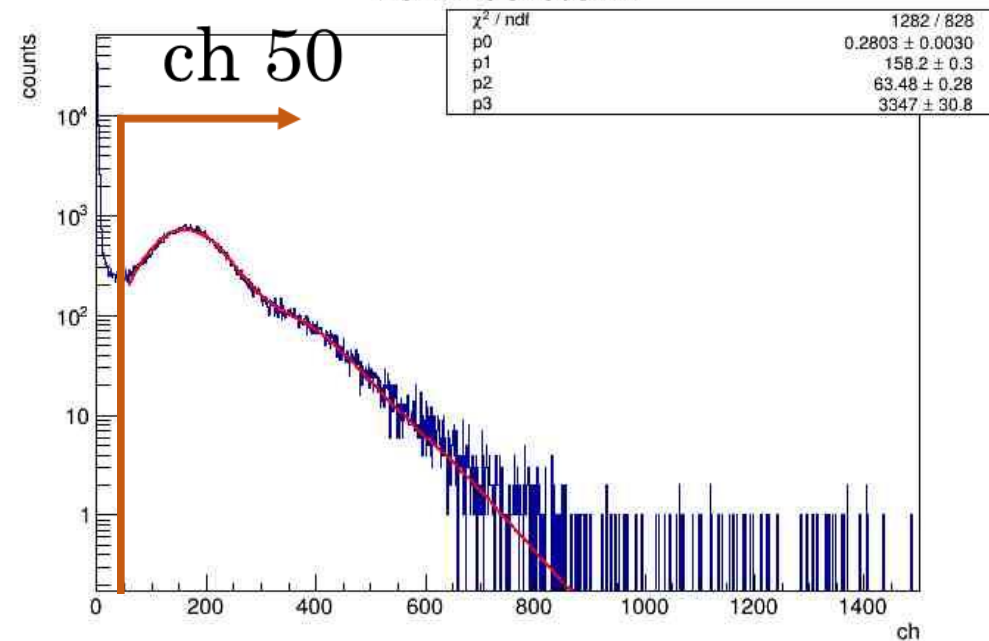
P64mACC0A



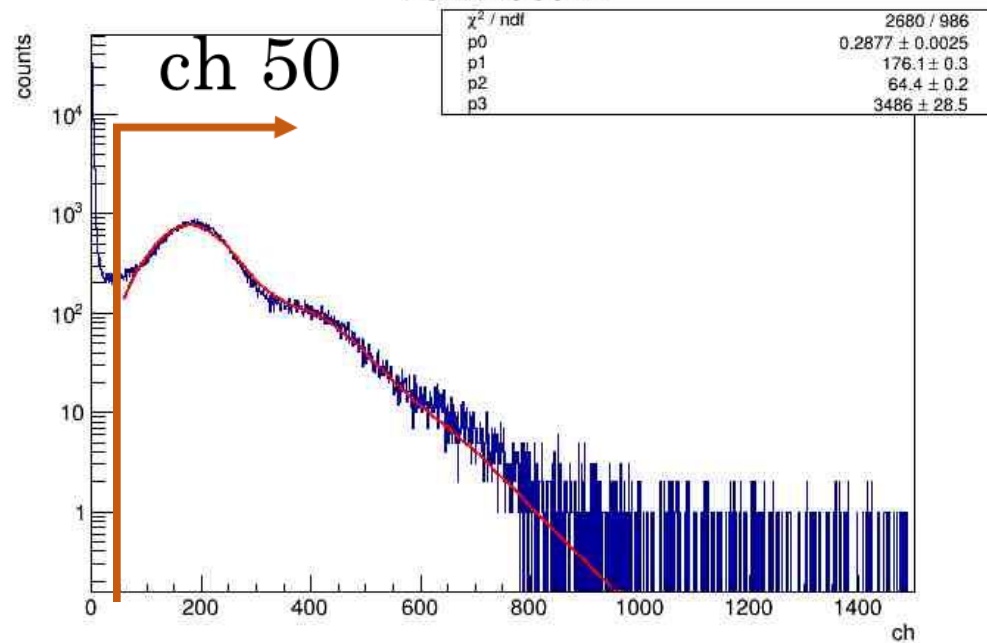
P64mACC-1000mA



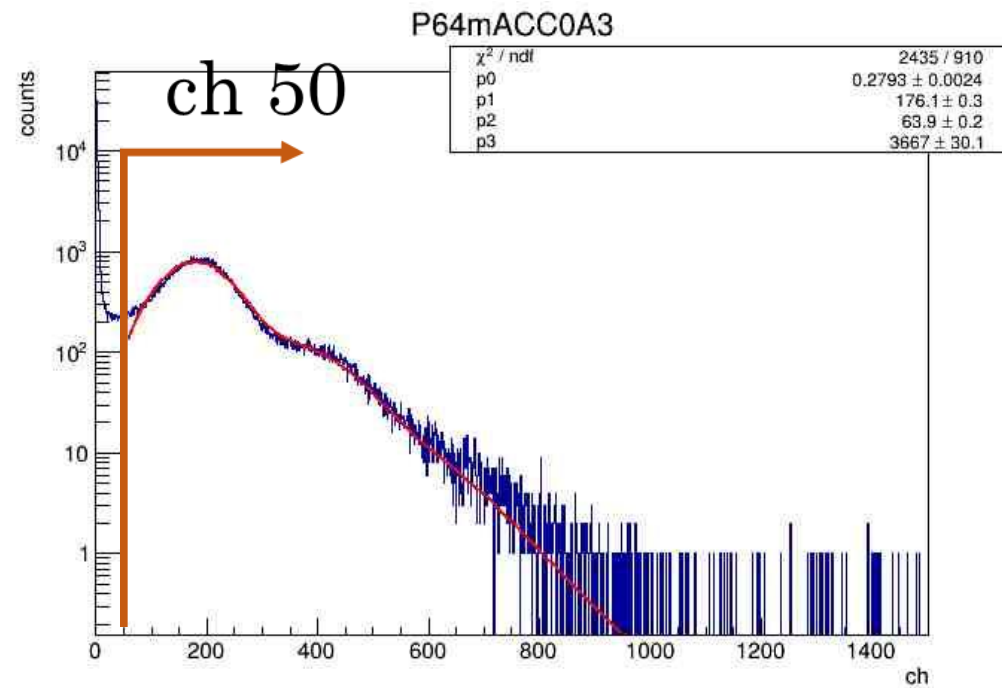
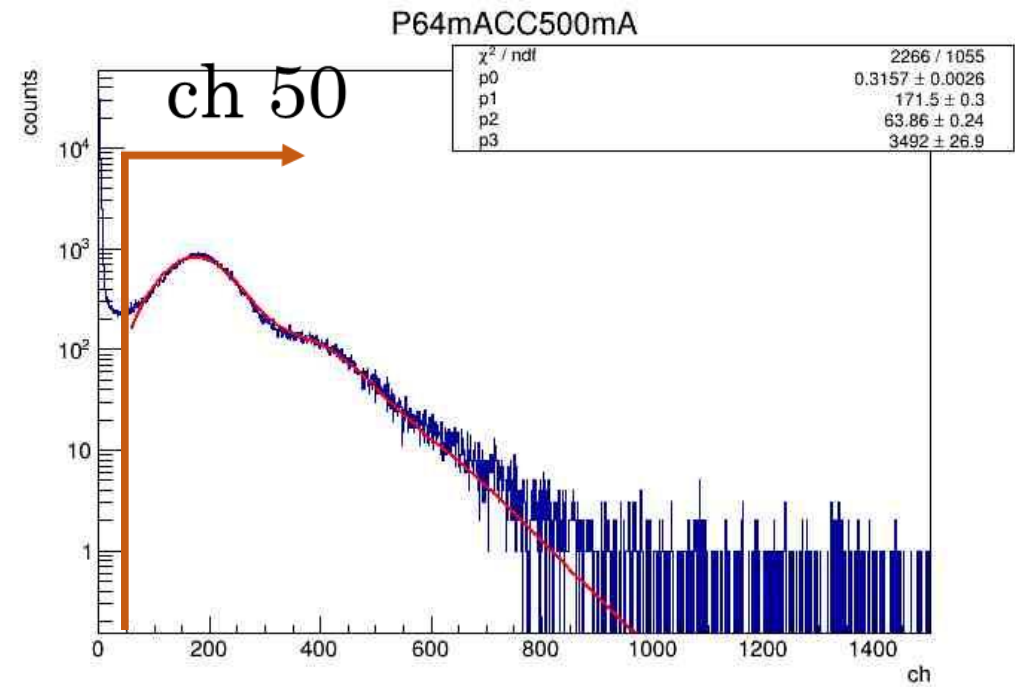
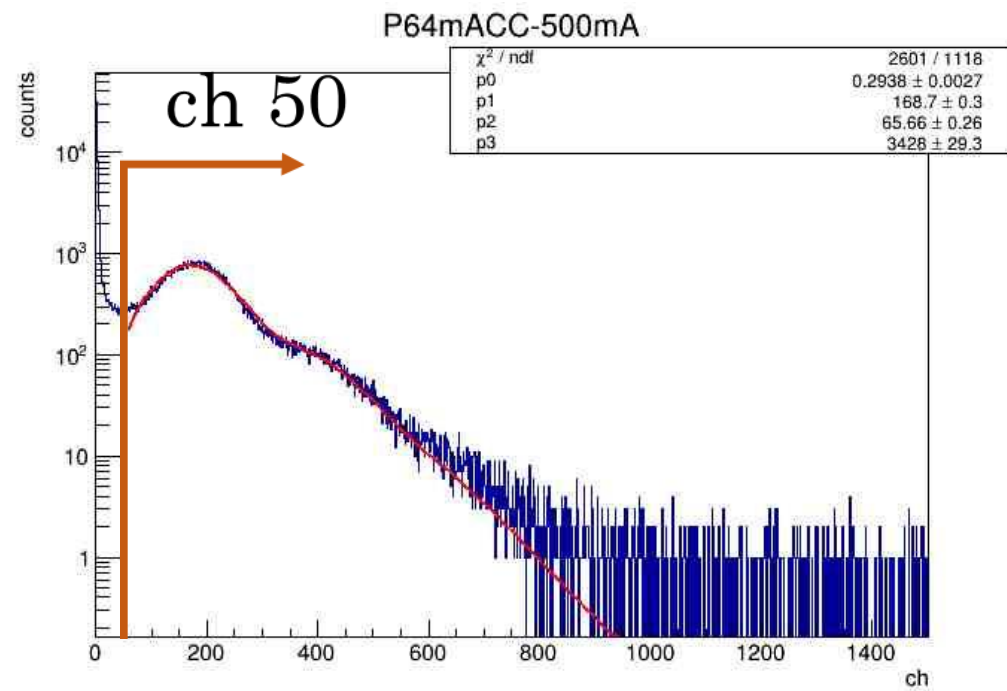
P64mACC1000mA

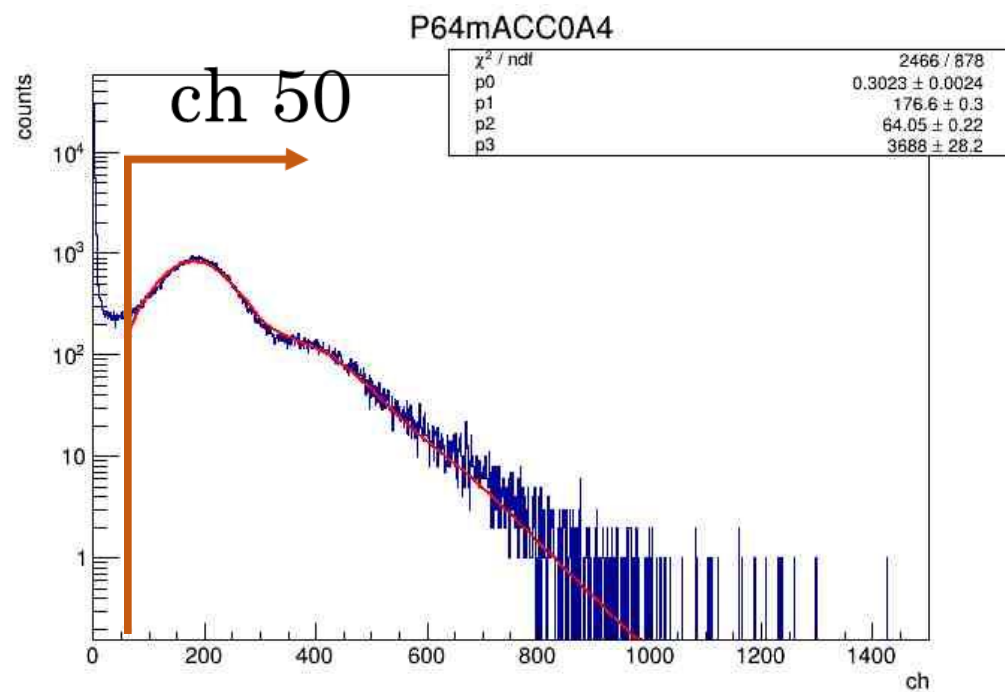
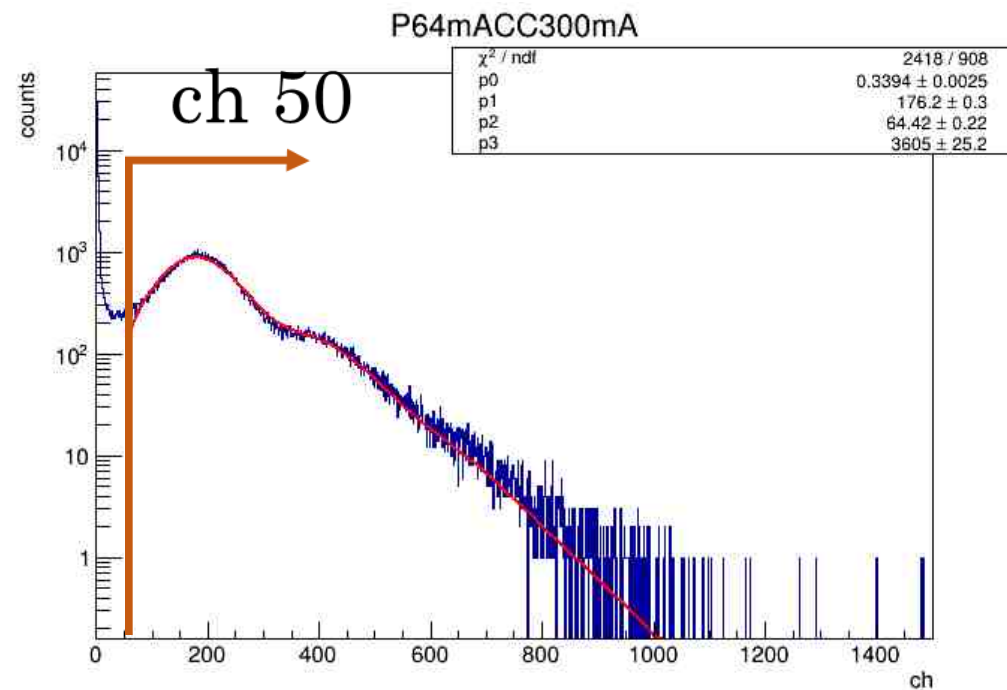
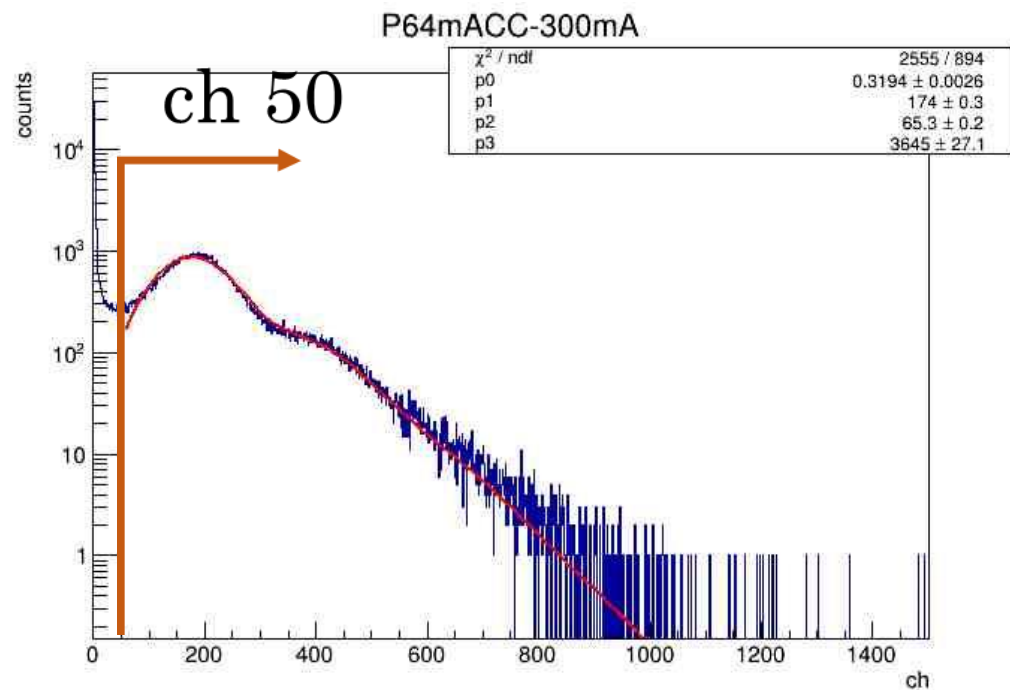


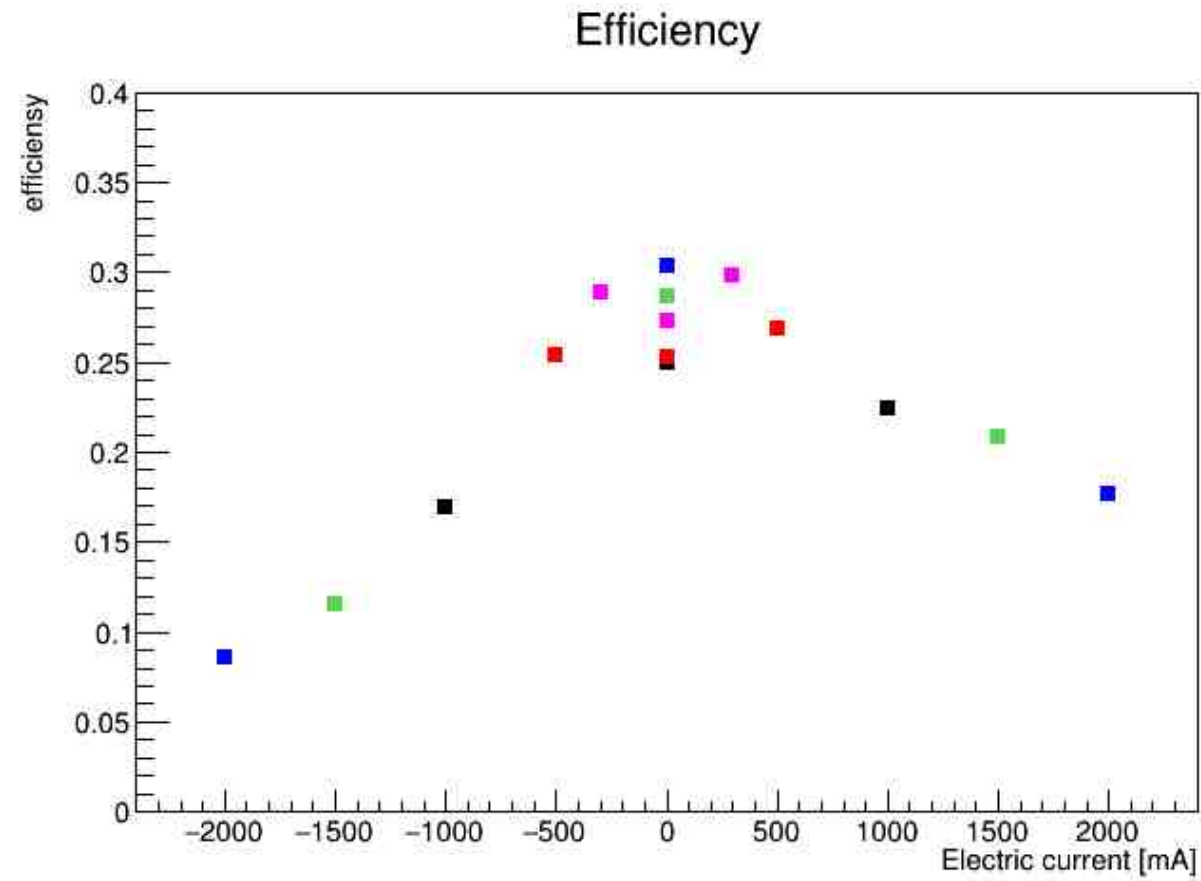
P64mACC0A2











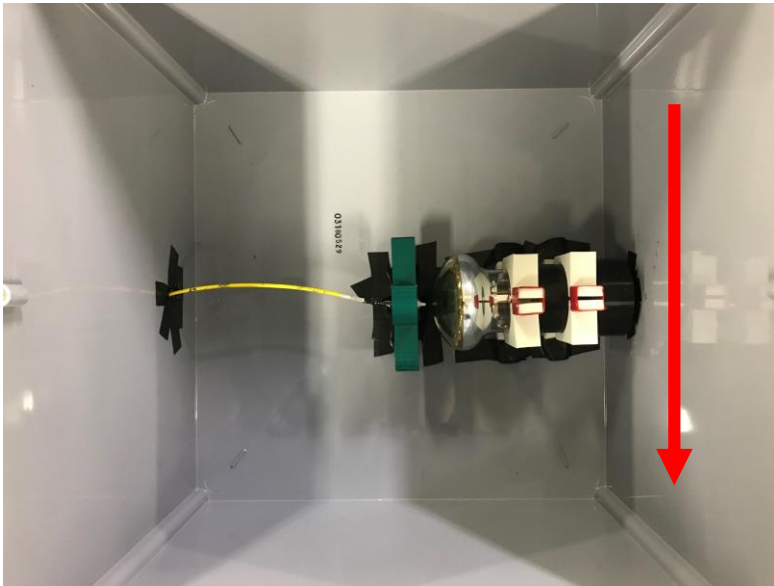
coil current[mA]	0	2000	-2000	0	1500	-1500	0	1000	-1000	0	500	-500	0	300	-300
efficiency	0.303851	0.17622	0.085835	0.286351	0.208484	0.115742	0.24971	0.224297	0.169492	0.25248	0.268544	0.254277	0.273246	0.298036	0.288495

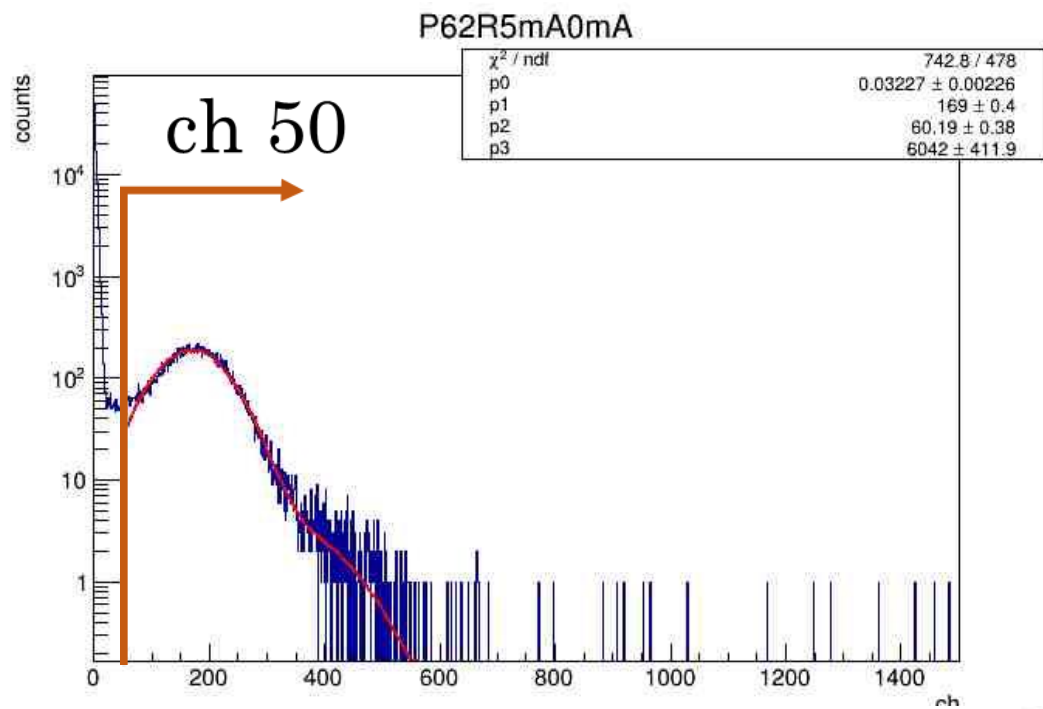
I made B-field in the direction parallel to PMT's photoelectric surface.

LED current was Pulse 62.5 mA.

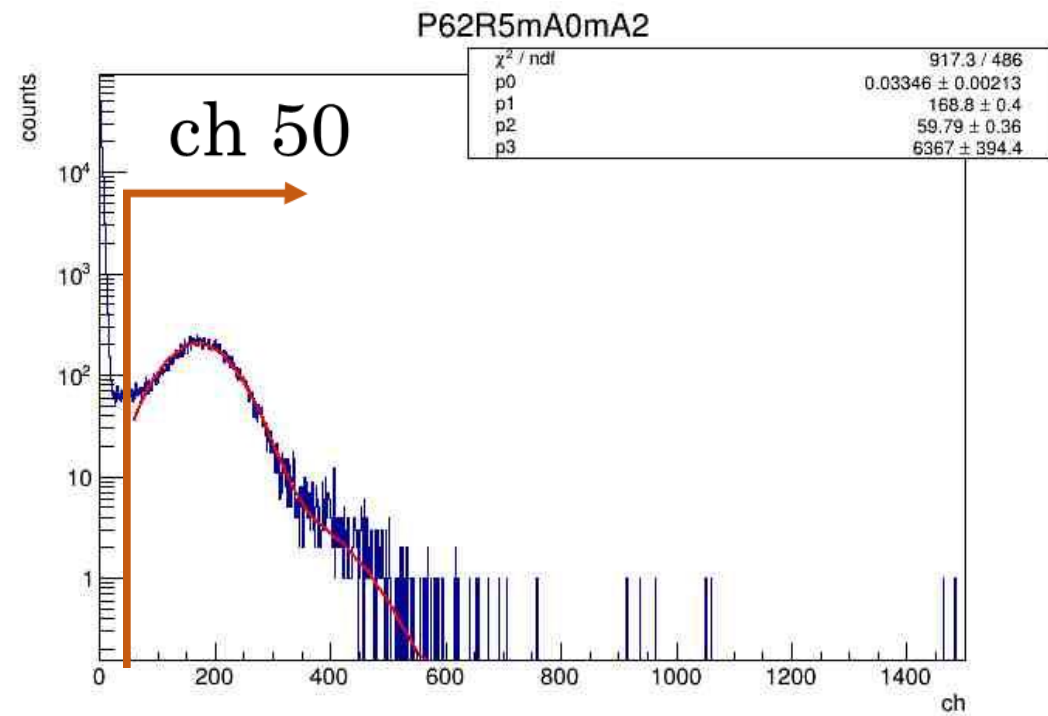
Then, I measured PMT's efficiency.

I defined this red arrow as positive direction of B-field.

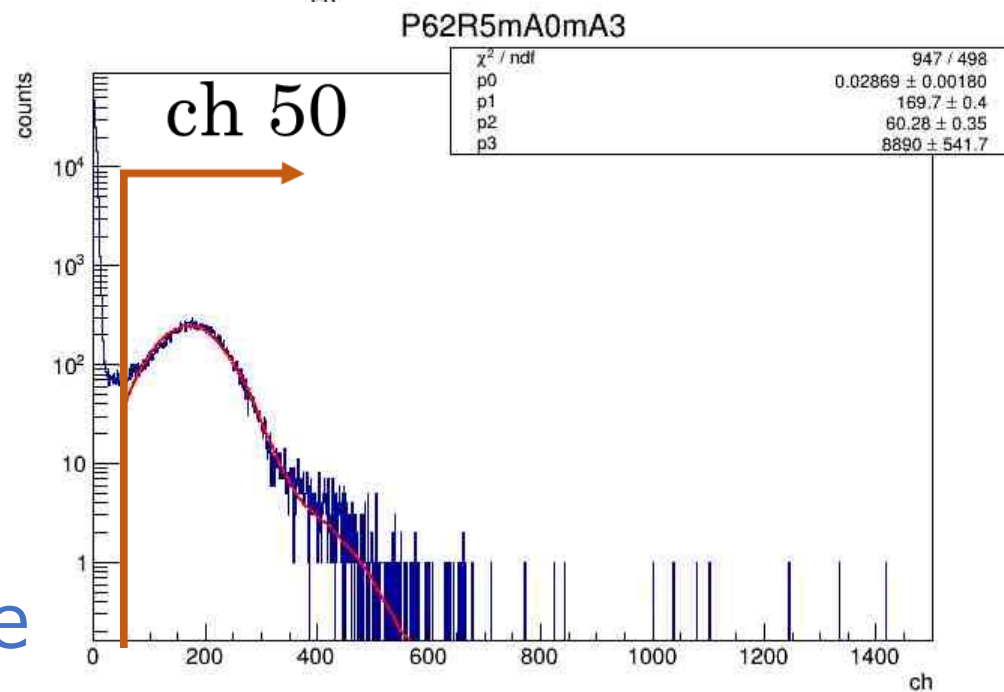




1<sup>st</sup> time

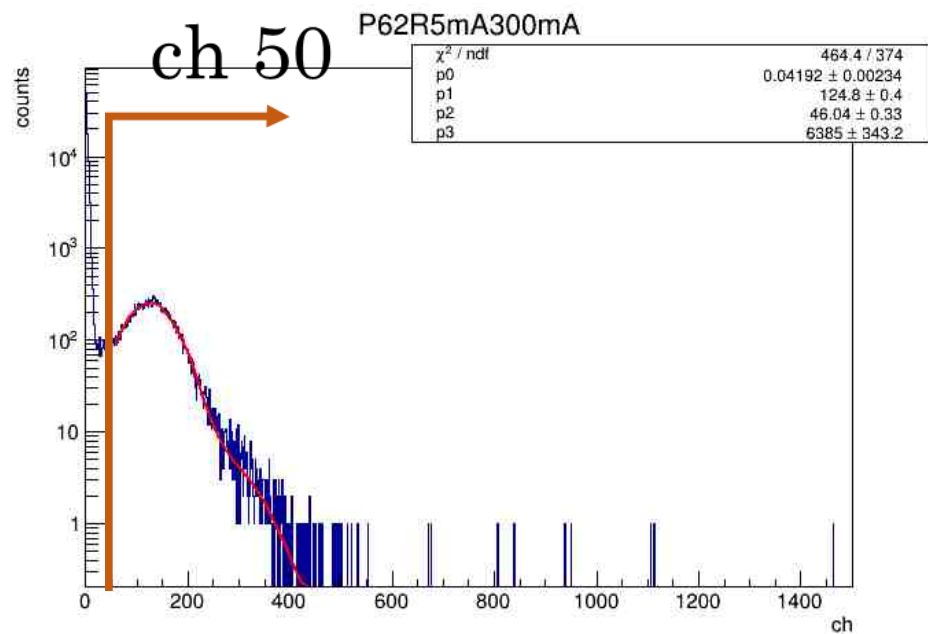


2<sup>nd</sup> time

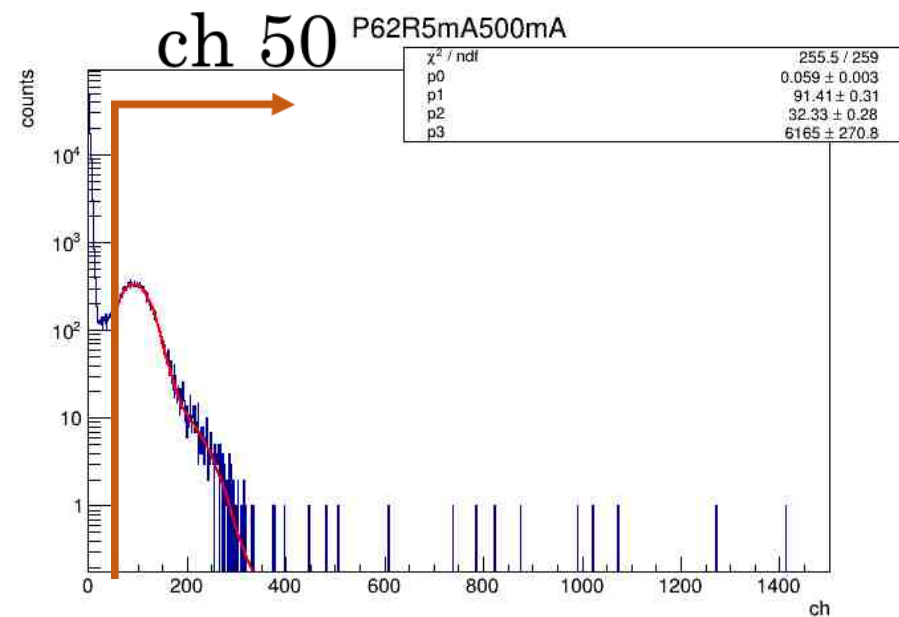


3<sup>rd</sup> time

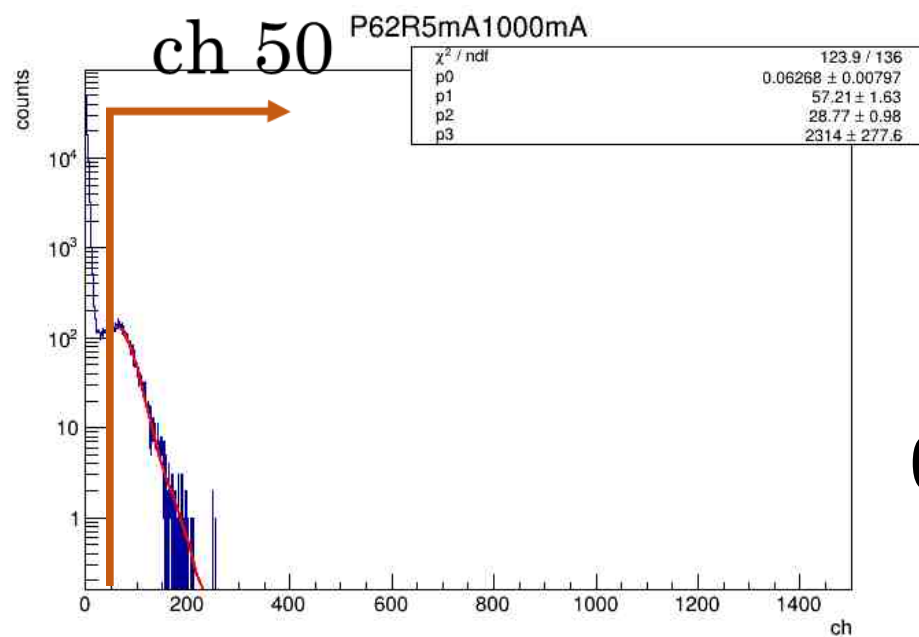
-0.03 mT



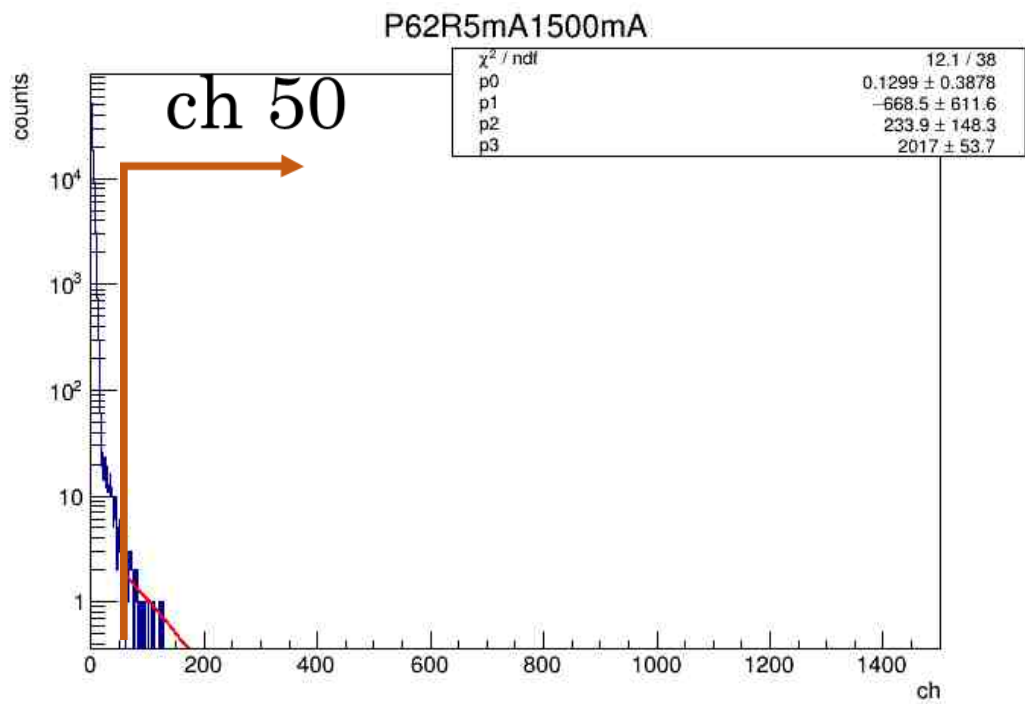
0.08 mT



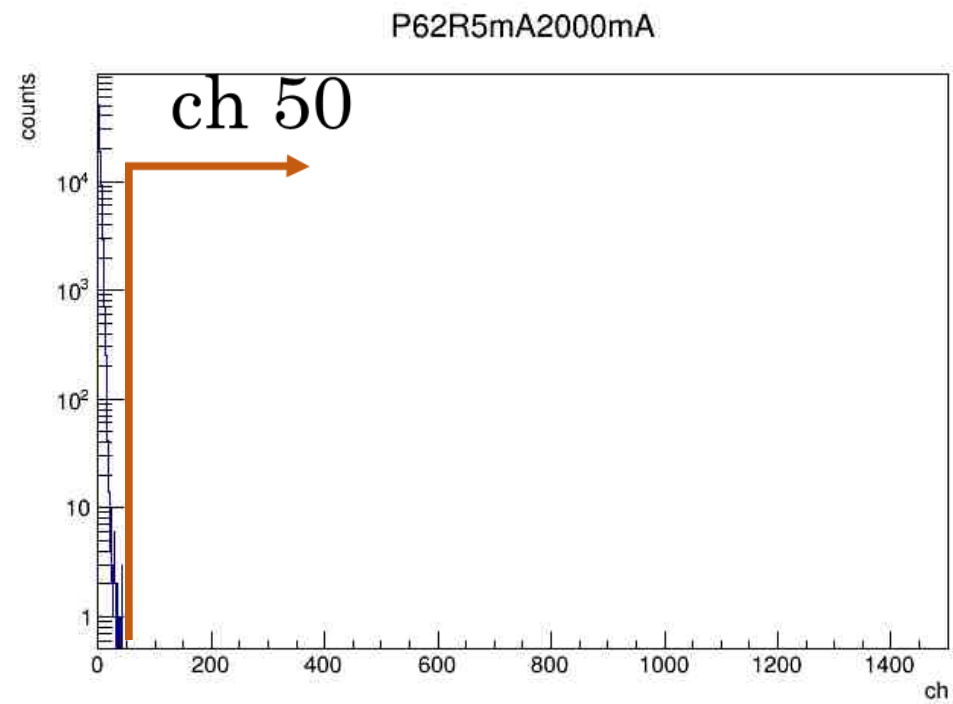
0.15 mT



0.32 mT

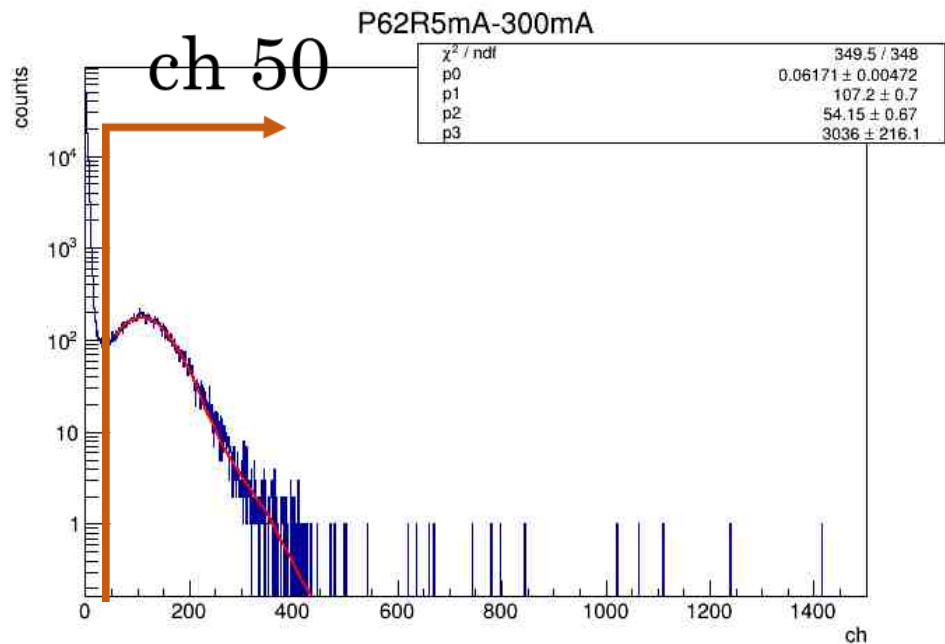


0.50 mT

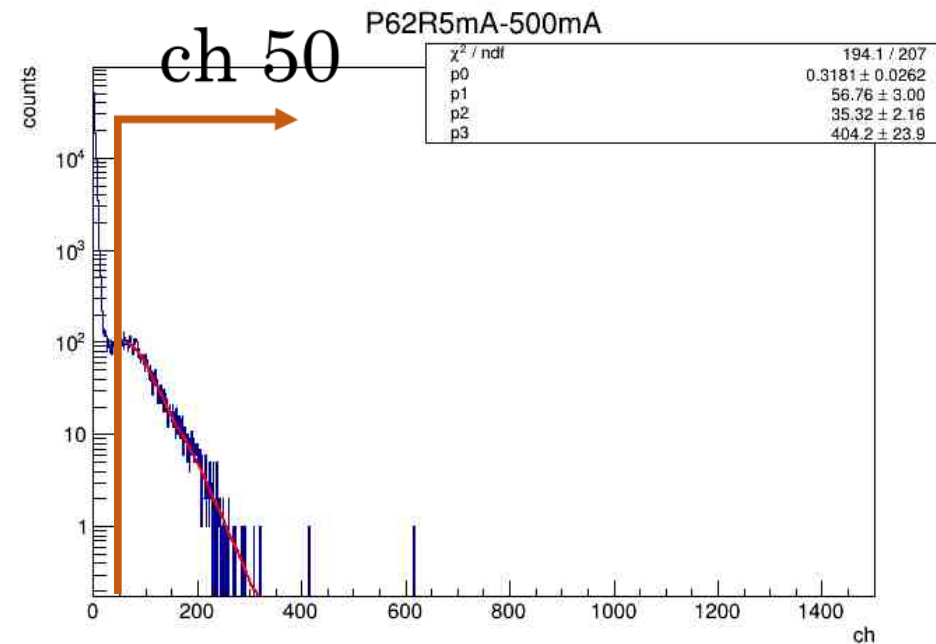


0.65 mT

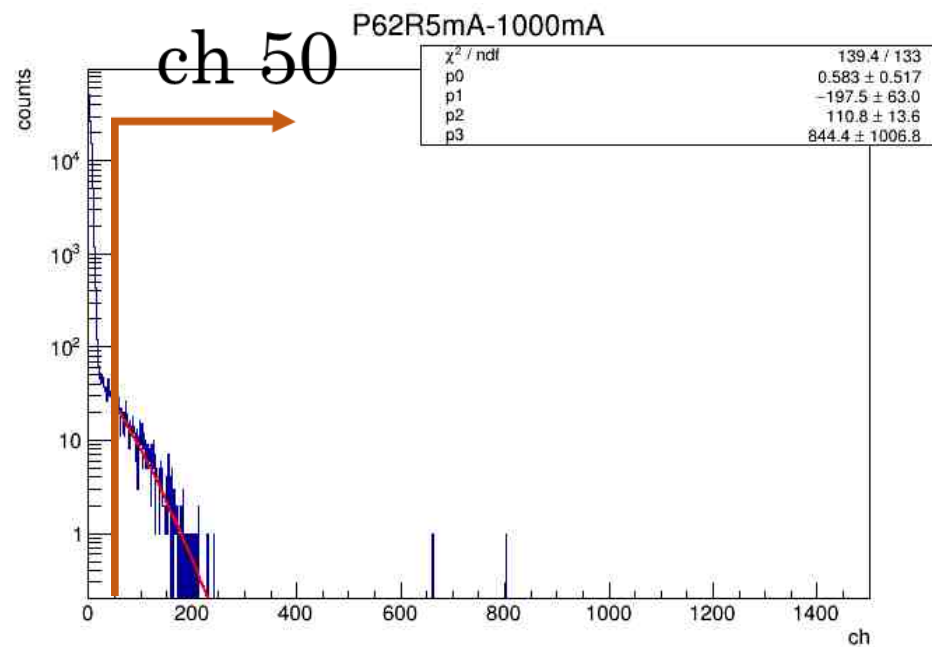




-0.12 mT

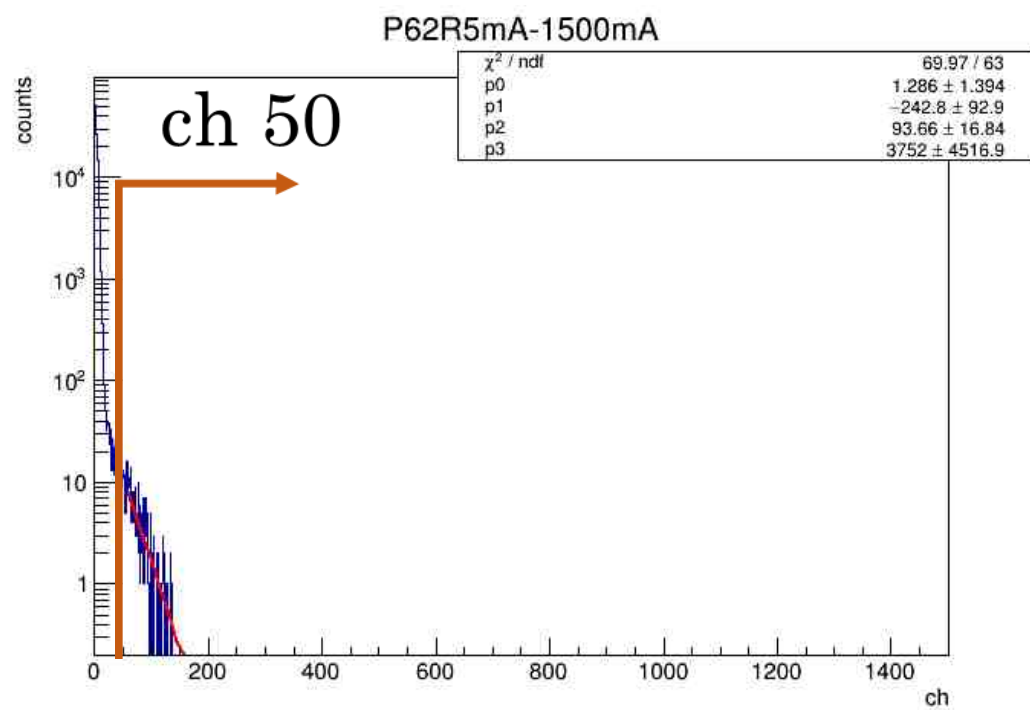


-0.19 mT

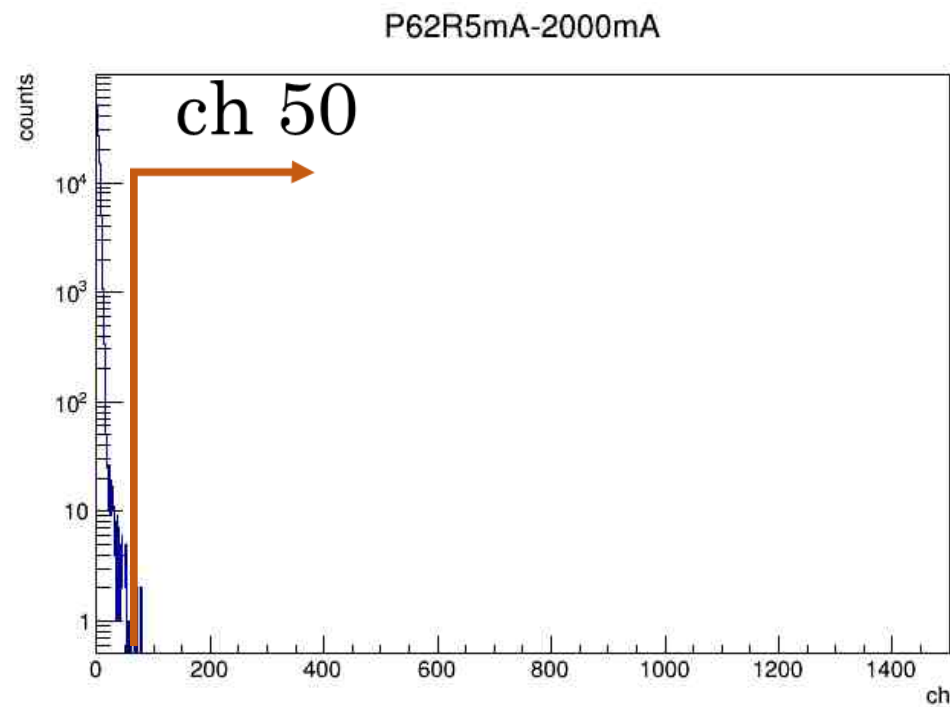


-0.35 mT

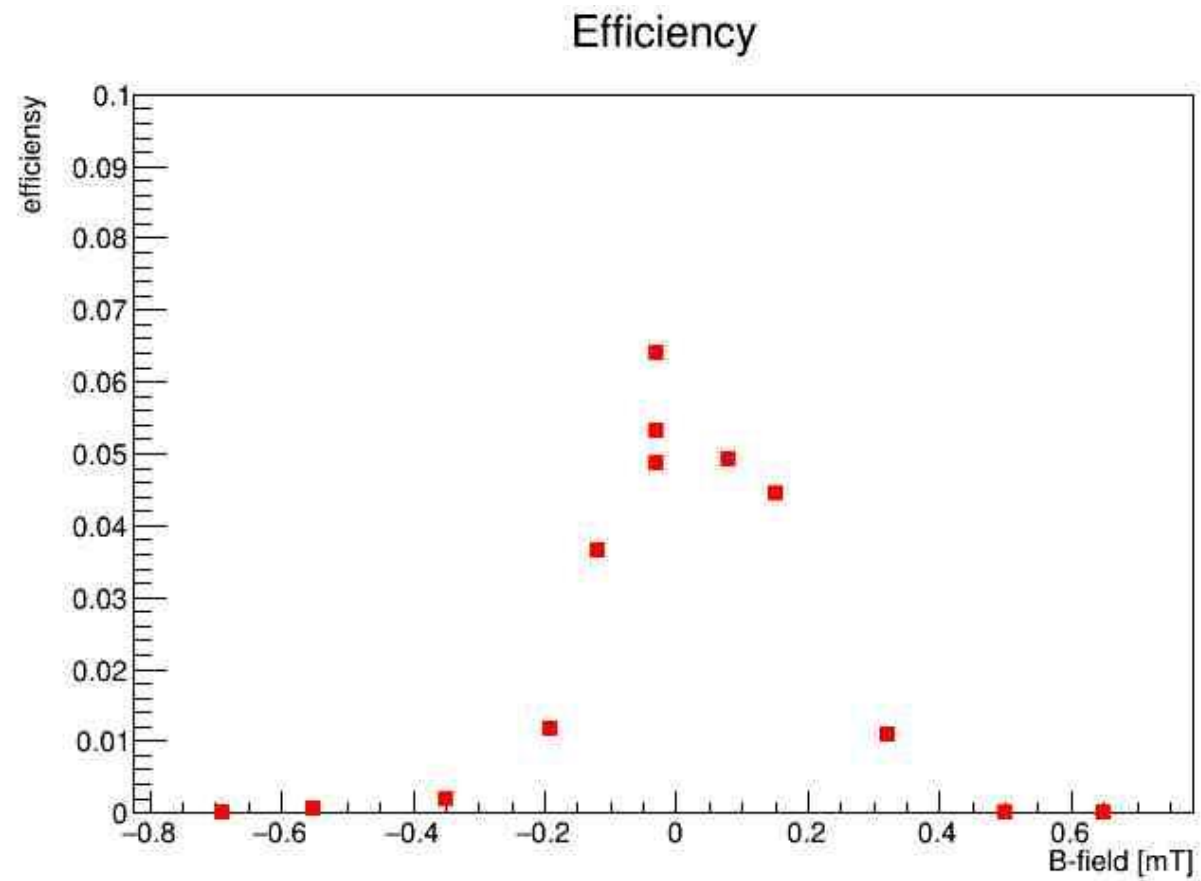




-0.55 mT



-0.69 mT



1<sup>st</sup> time 2<sup>nd</sup> time 3<sup>rd</sup> time

B-field	-0.69	-0.55	-0.35	-0.19	-0.12	-0.03	-0.03	-0.03	0.08	0.15	0.32	0.5	0.65
efficiency	5.34E-05	0.000567	0.001989	0.011608	0.036513	0.048714	0.053102	0.063906	0.049207	0.044342	0.010919	0.000133	0

# To the next

- I'm going to examine effects of Earth's magnetic field on PMT's efficiency.

