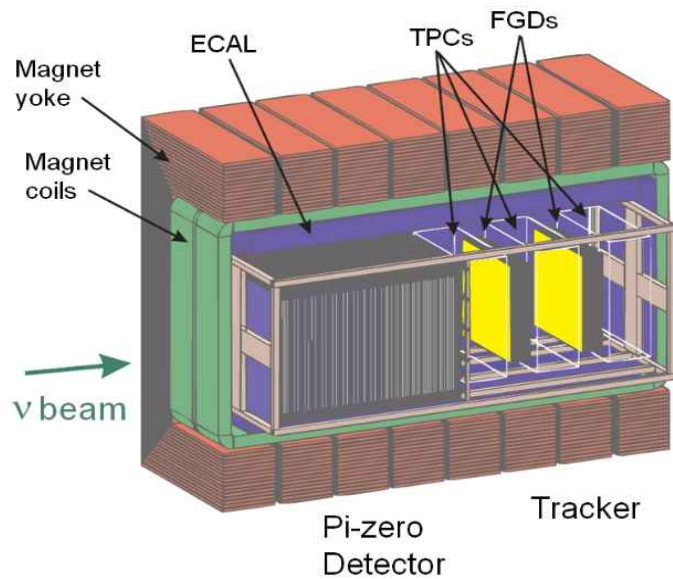


VN-neutrino meeting

Nguyen Minh Truong

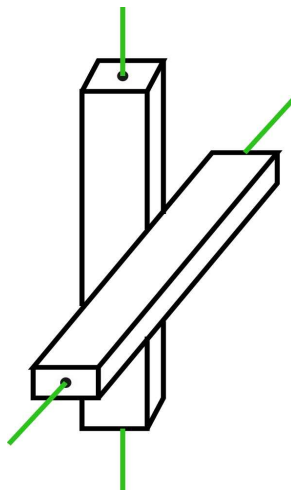
Nov 29th 2017

T2K ND280 upgrade & superFGD



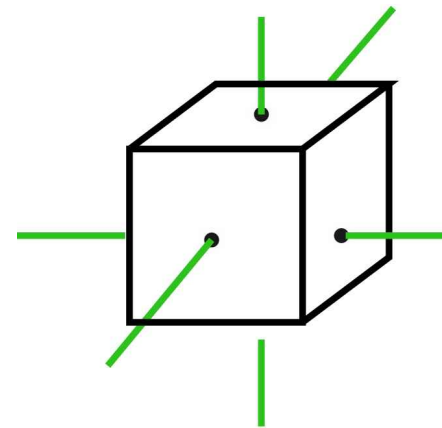
The ND280 is a near detector and will monitor the neutrino beam

The FGD is one of subdetectors in the ND280 detector



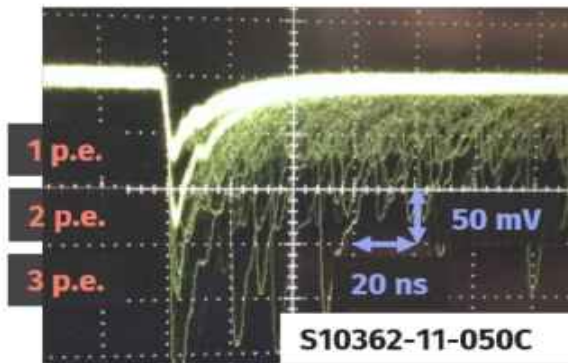
Scintillator bars

FGD

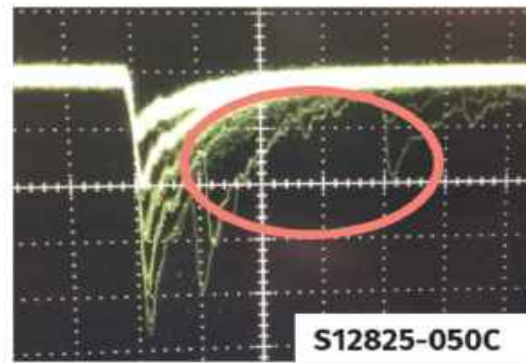


Scintillator cube

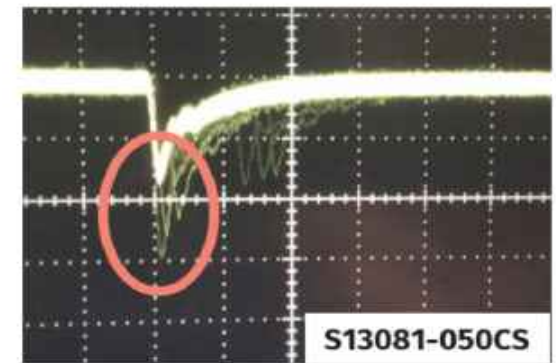
MPPC



(a) First generation MPPC.



(b) Afterpulse suppression type.

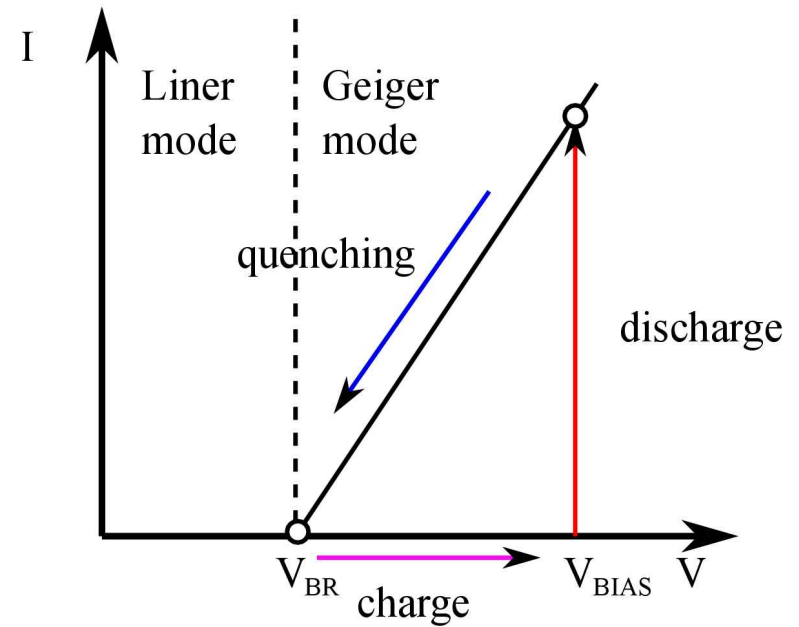
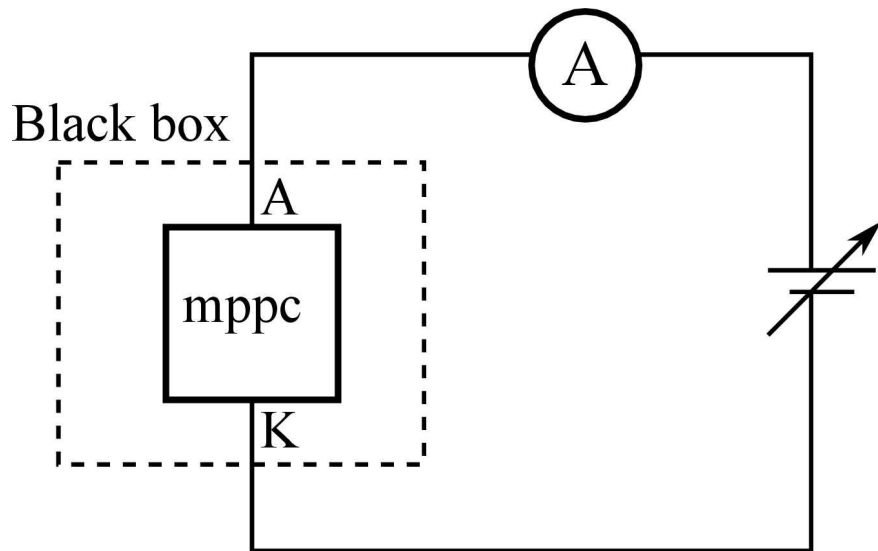


(c) Crosstalk suppression type.

We will test the third generation

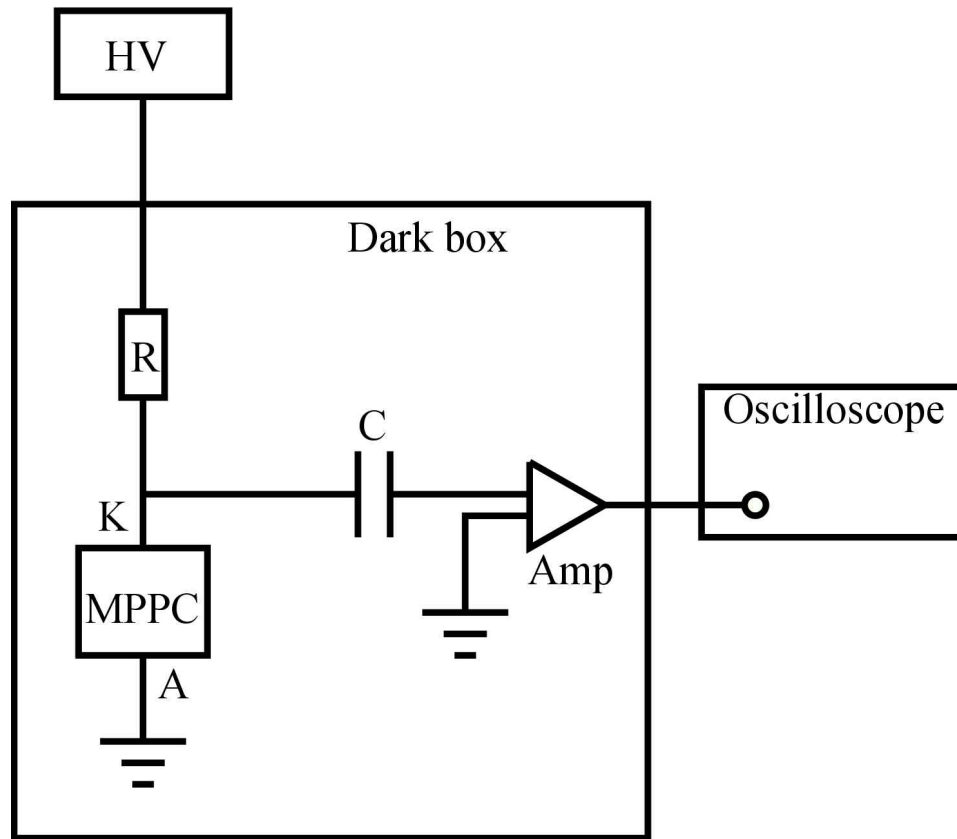
Experiment

Observe Geiger-mode



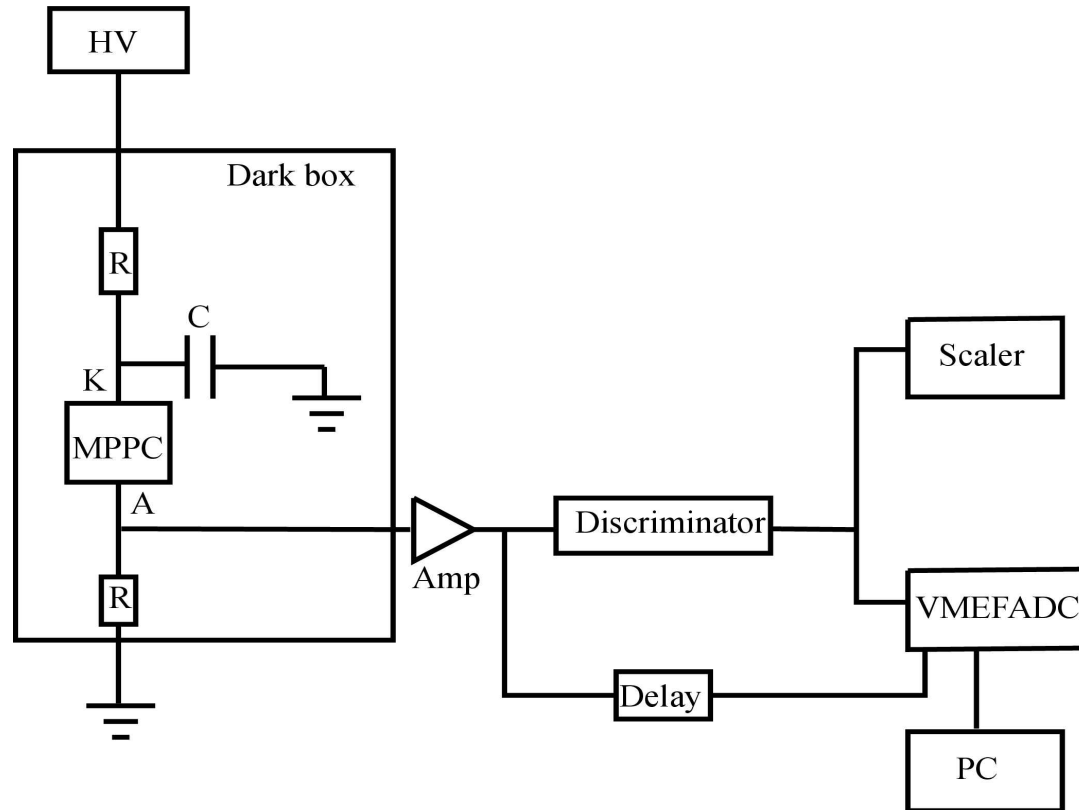
Experiment

Observe noise: dark noise, cross talk, afterpulse



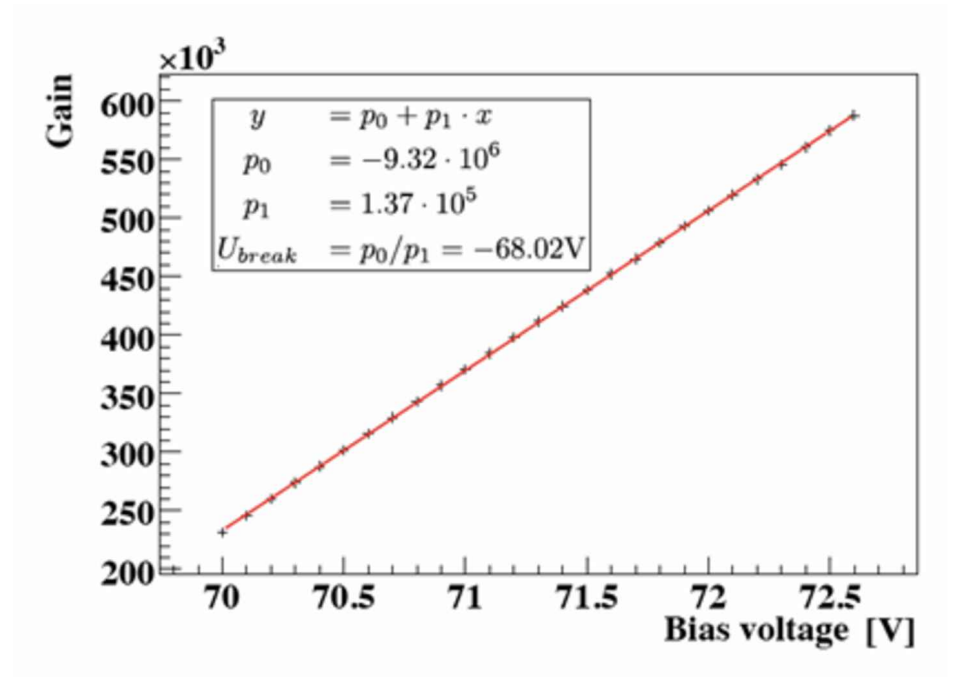
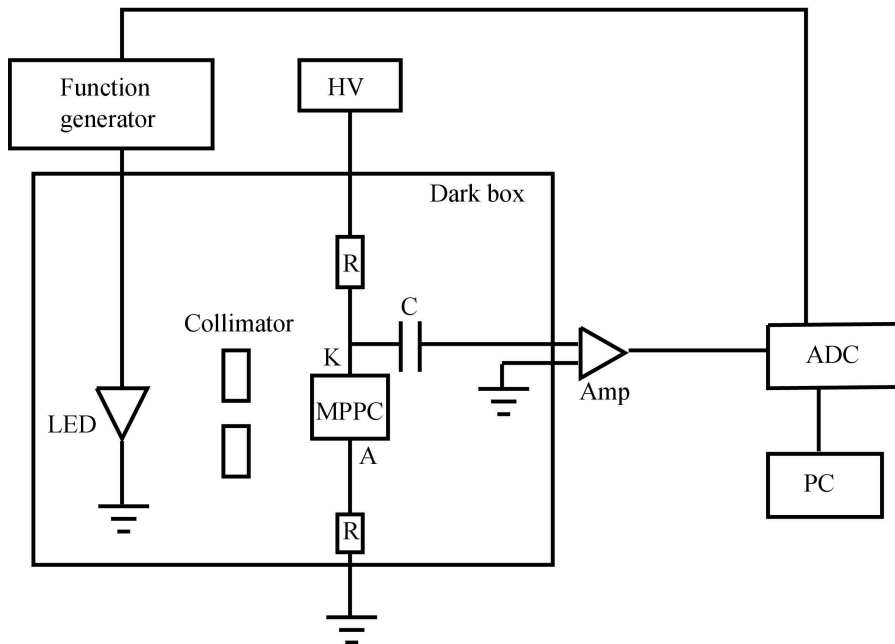
Experiment

Observe noise: cross talk and afterpulse



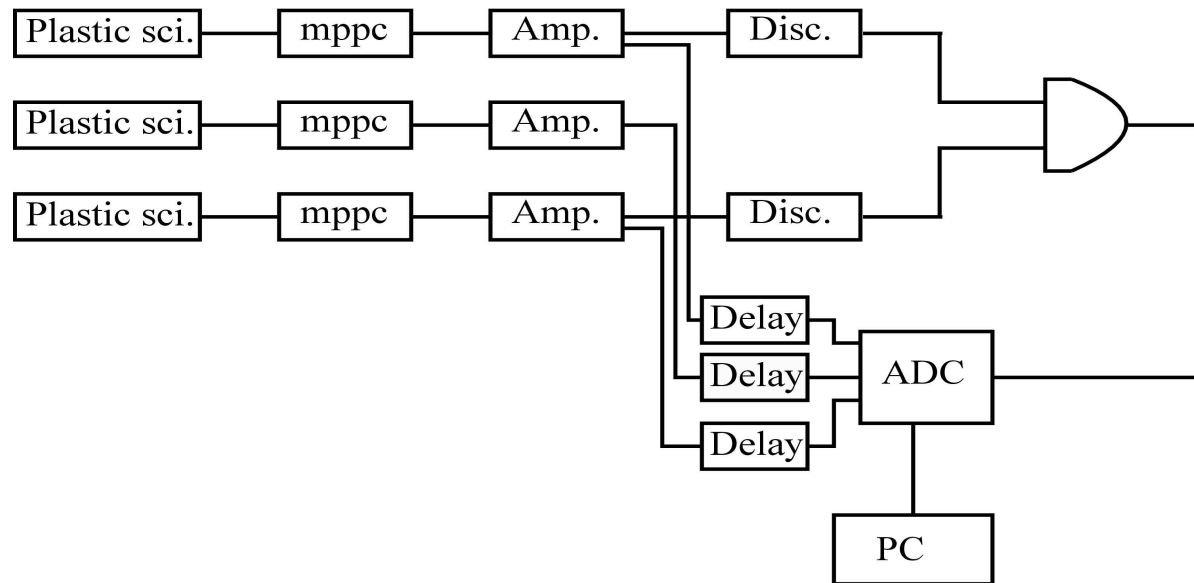
Experiment

PDE



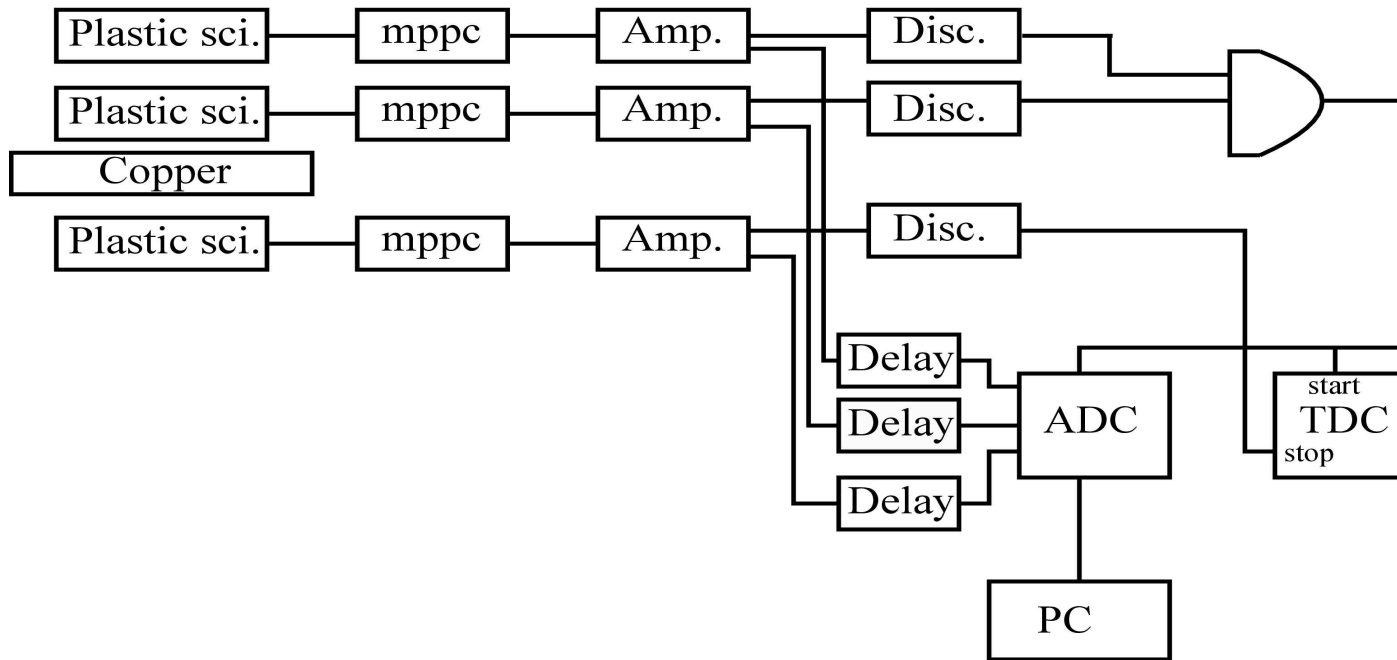
Experiment

Light yield with cosmic



Experiment

Cosmic flux



Need equipment

Name	Number	IFIRSE (already)	need support
Function generator	1	✓	—
Oscilloscope	1	✓	—
Amplifier	6 channels	✓	—
Discriminator	6 channels	✓	—
Gate & delay generator	1	✓	—
Lemo cable	30	✓	—
Coincidence	1	✓	—
Logic FAN in/FAN out	1	—	6 channels
Linear FAN in/FAN out	1	—	6 channels
PCB	1	—	1
EASIROC Nim module	1	—	1
VMEFADC	1	—	1
PC	1	—	1
Lan cable	2	—	2
network hub	1	—	1
Analogy Discovery	1	—	1

Time

- 1 week DAQ setup
- 1 week MPPC Characteristics
- 1 week high yield

Thanks for your attention