Test of the Electron-Neutron Detector in Laboratory

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outline

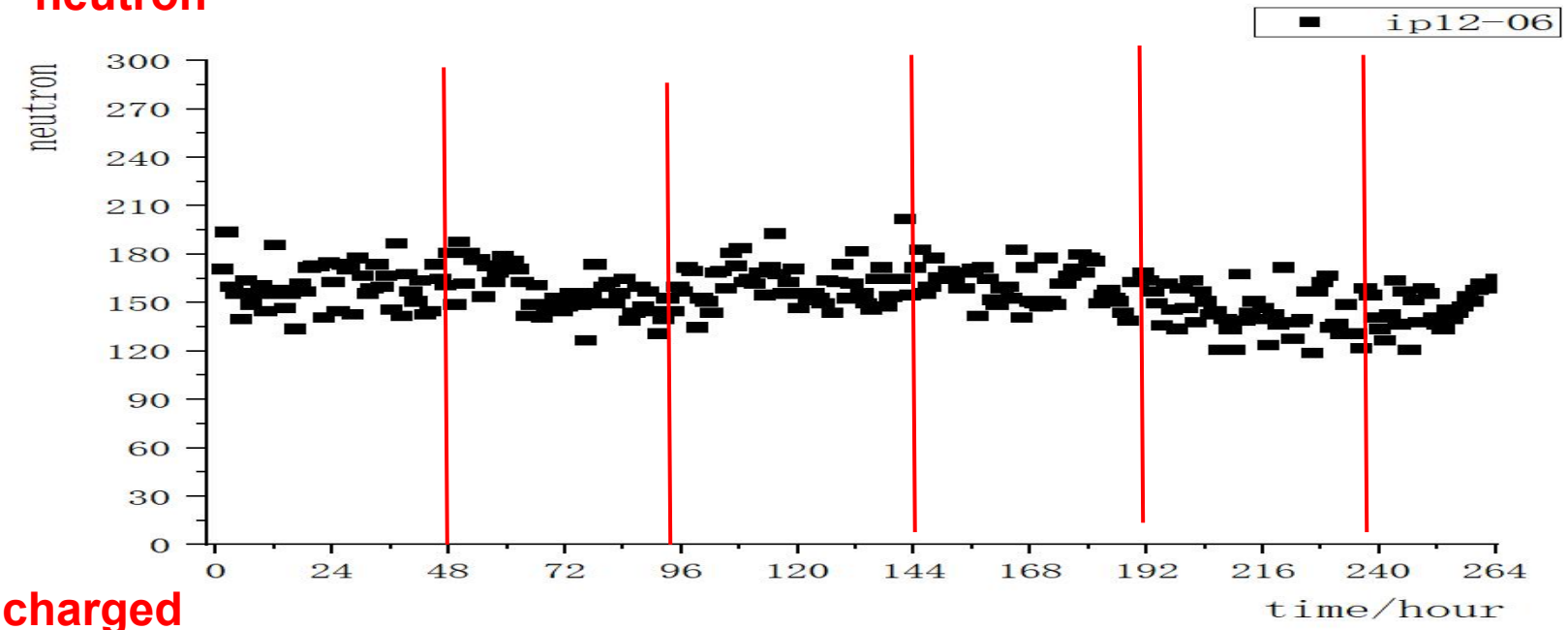
1. experimental Setup
2. data analysis and results
3. summary

1、experimental design

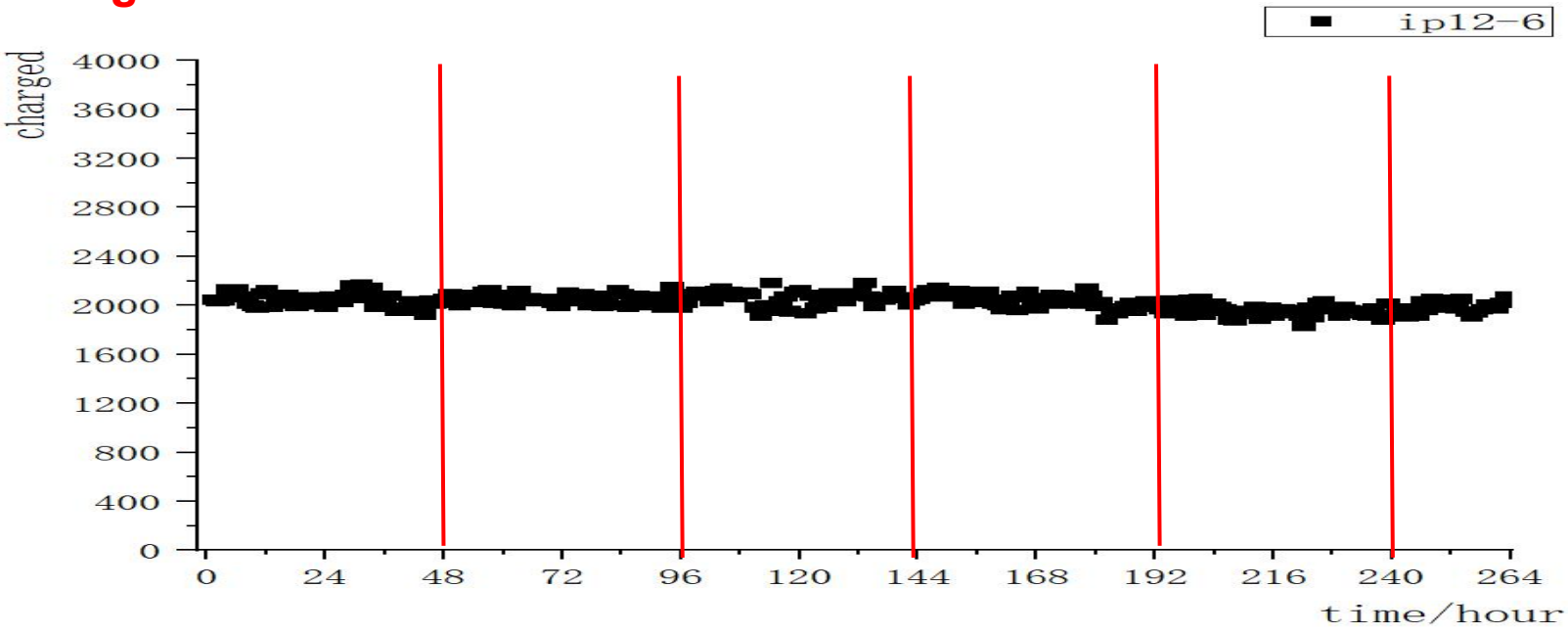
- choose three detectors

Detector number	Data period	effect
No.06 in IP12	01/28/2021-01/28/2021	normal operation
No.05 in IP11	01/28/2021-01/29/2021(period No.1)	normal operation
	02/01/2021-02/09/2021(period No.2)	Remove scintillator
No.10 in IP11	01/28/2021-01/29/2021(period No.1)	Normal operation
	02/01/2021-02/09/2021(period No.2)	Remove the cone

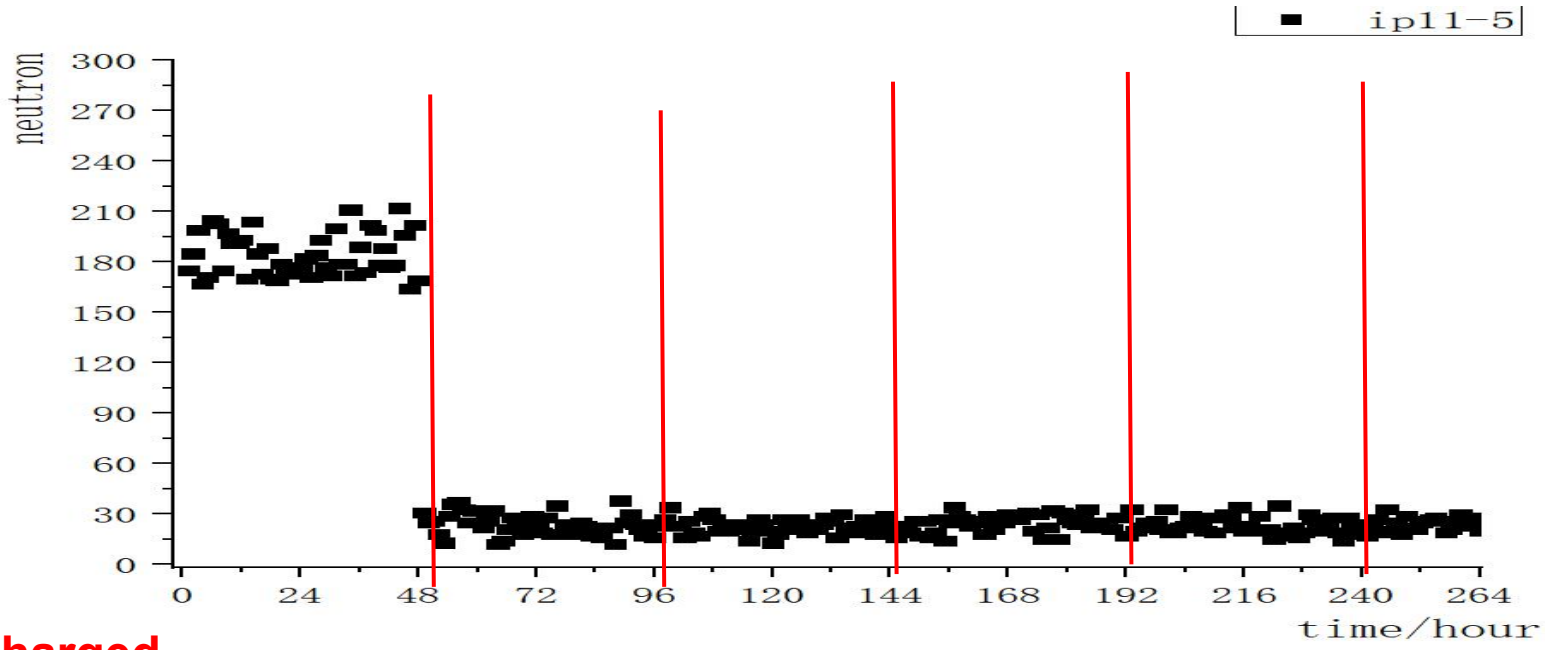
neutron



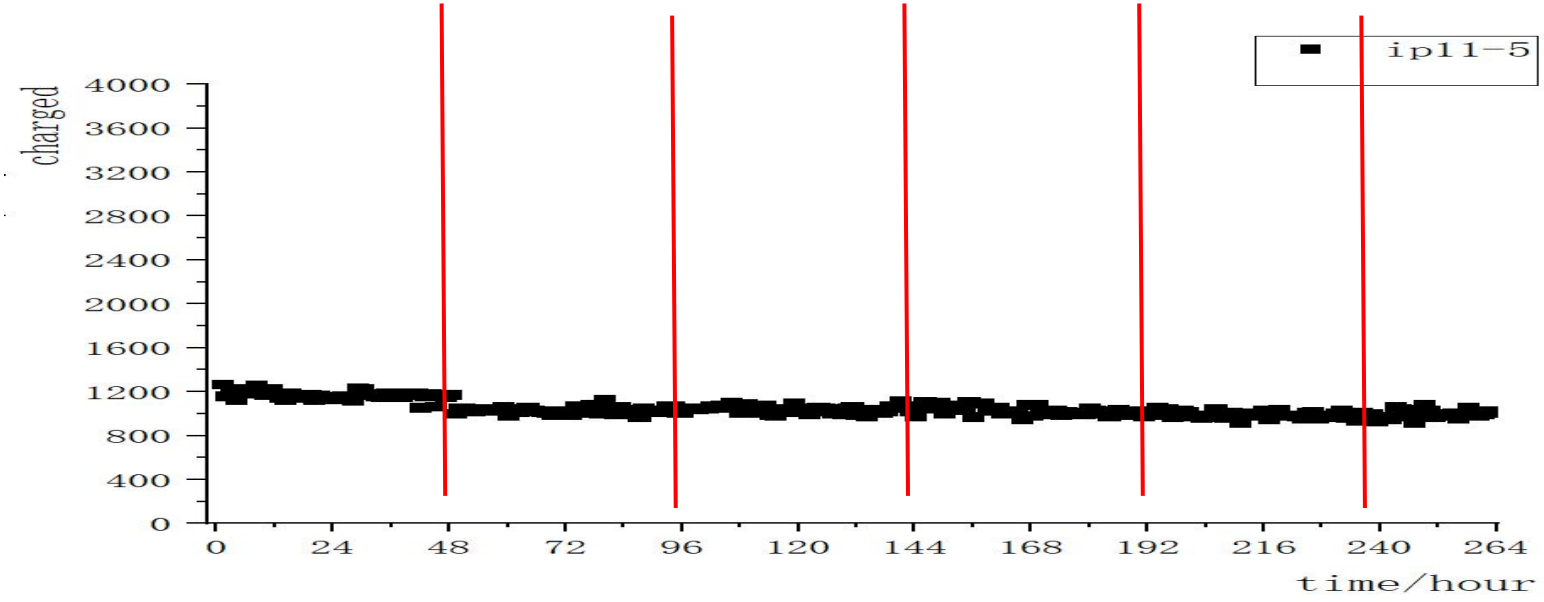
charged



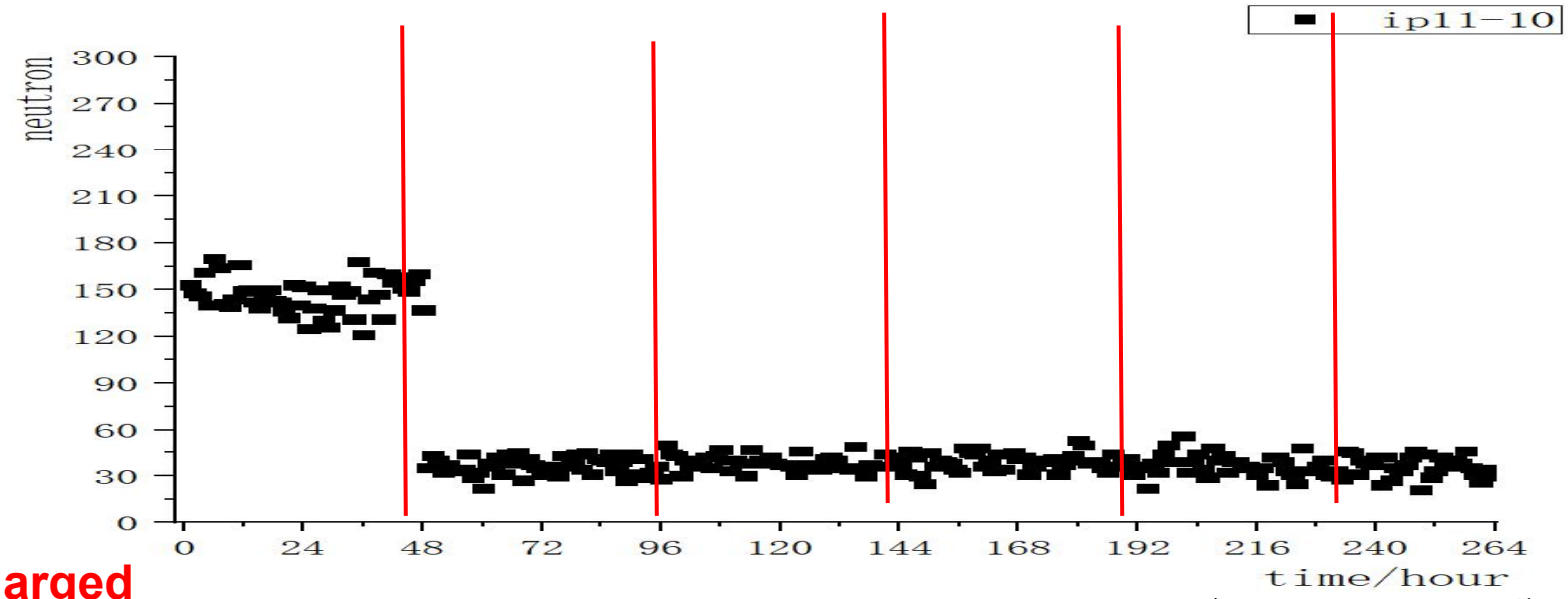
neutron Remove scintillator



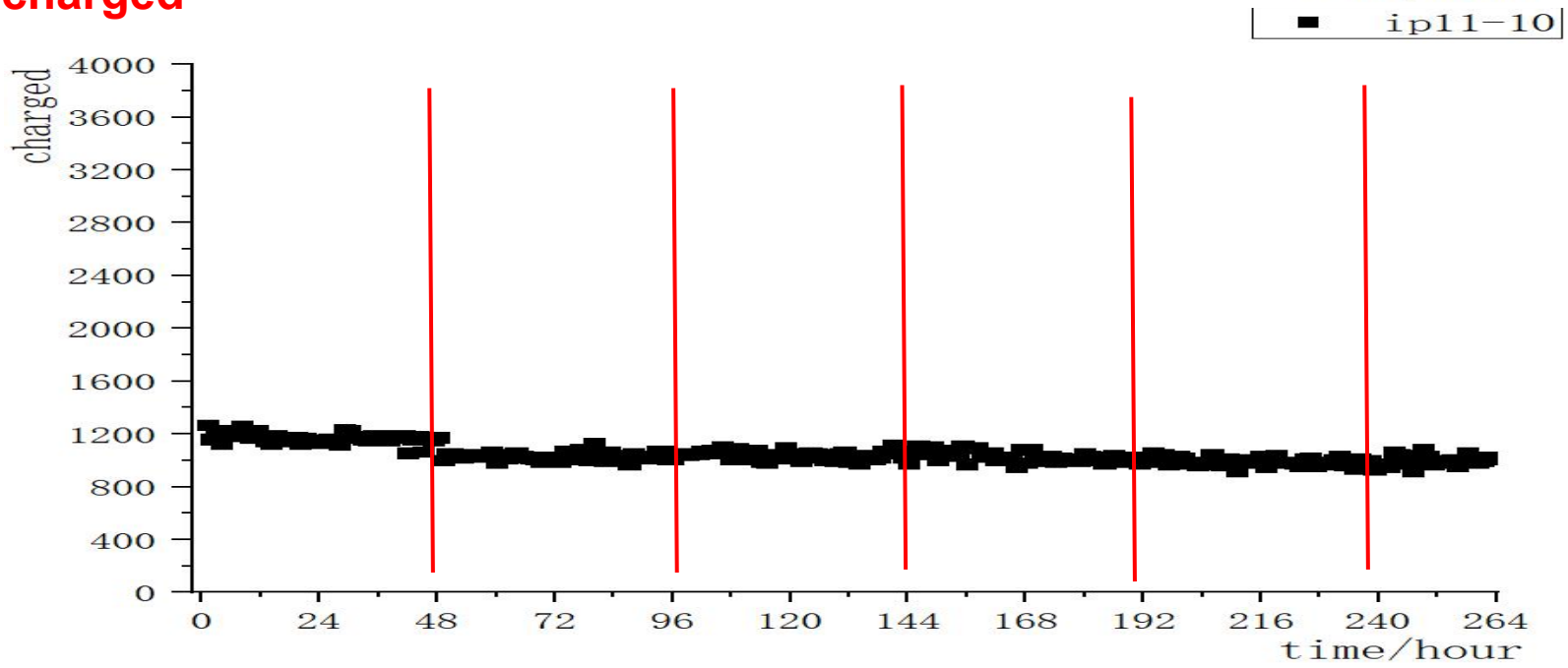
charged



neutron Remove the cnoe（**PE**）



charged



2、experimental results and analysis

Detector No. in IP11	signal type	average value/hour (period No.1)	average value/hour (period No.2)	ratio of period No.2 to No.1
05	neutron	184.1	23.5	12.9%
	charged	1170.6	1017.2	86.8 %
10	neutron	146.5	37.7	25.8%
	charged	912.9	771.4	84.5 %

3、summary

- During test of EN-detectors in laboratory, percentage of noise in counting rate of neutrons and charged particles is obtained, and function of the reflector is studied. In the near future, we will keep on test to study for optimization of performance of the detectors.

Thank You !