

# Preliminary Time Resolution for NDL LGAD sensor

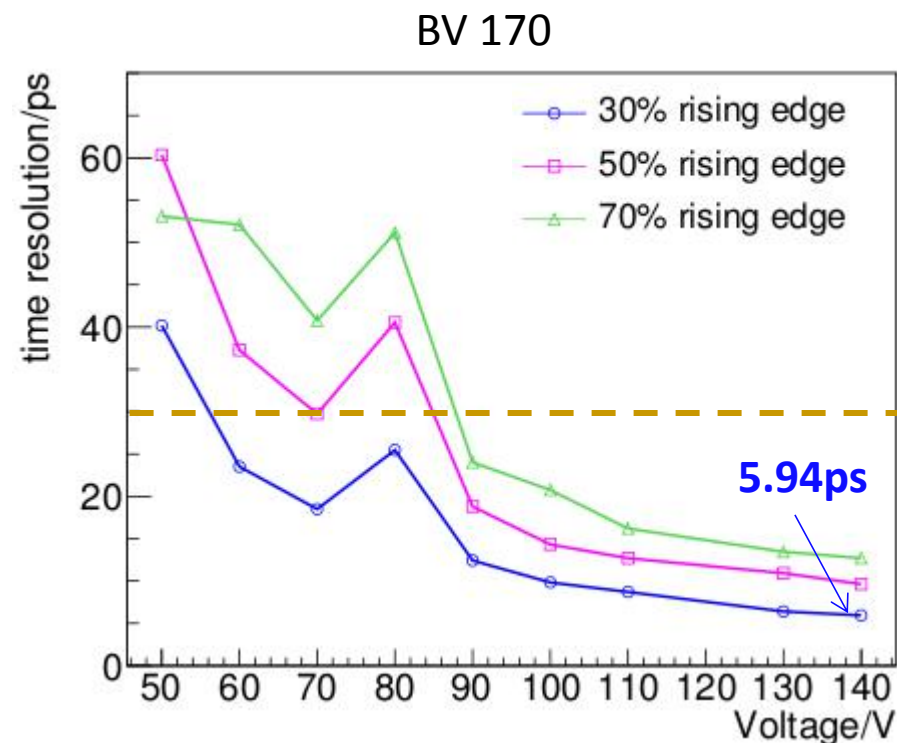
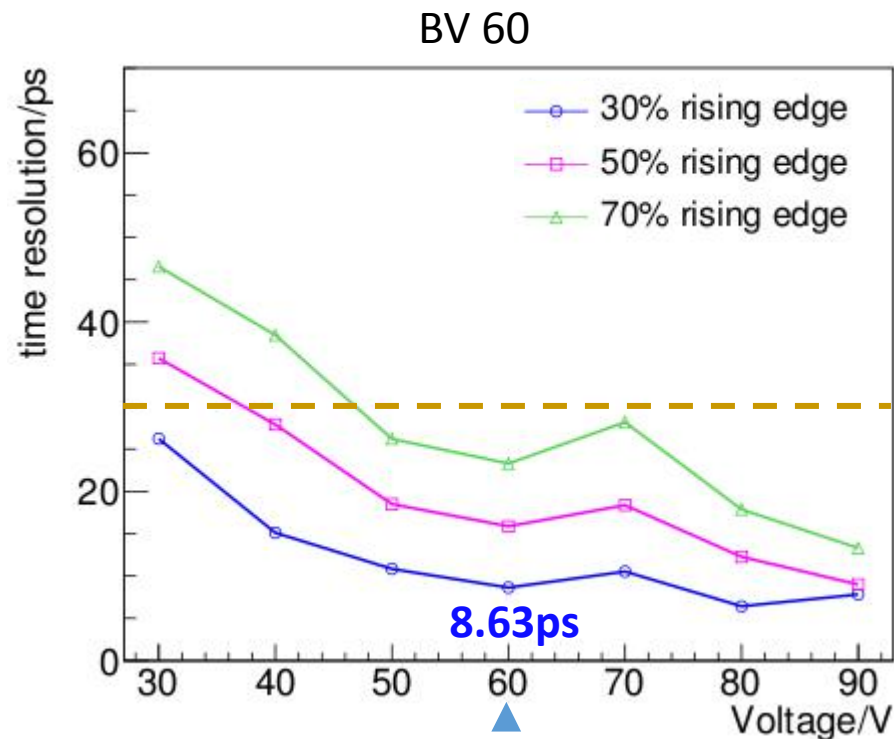
Suyu Xiao

from IHEP ATLAS Group

2019.5.23

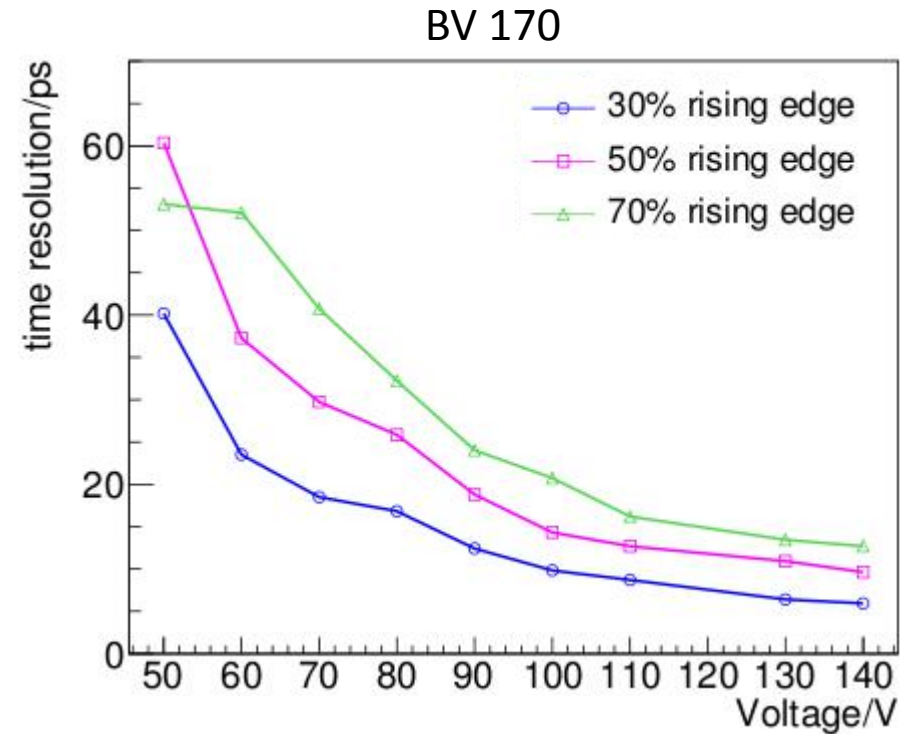
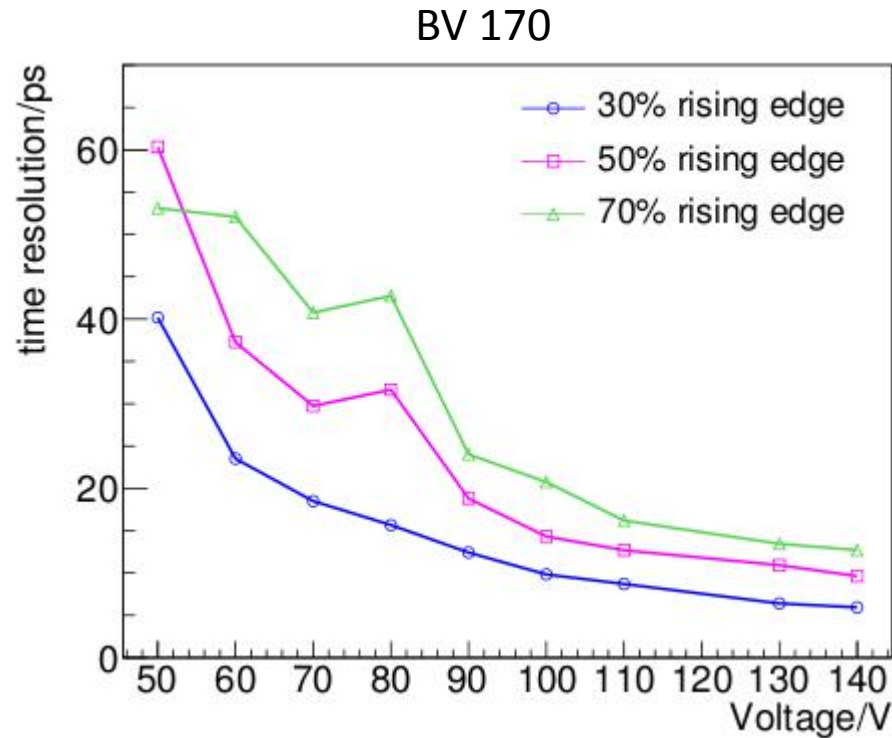
# Preliminary time resolution

--- last week



- 30ps(dark-orange dashed line) resolution can be achieved.
- BV60 works well when 60V is applied.
- BV170 has better time resolution with voltage going higher(up to 140V).
- Lower rising edge threshold leads to better time resolution.

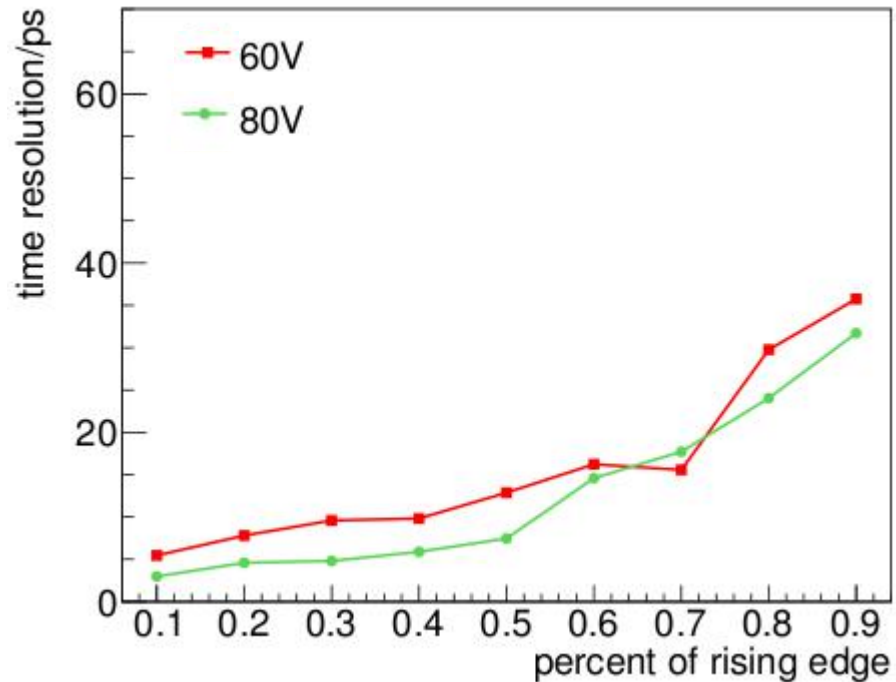
# BV170 80V study



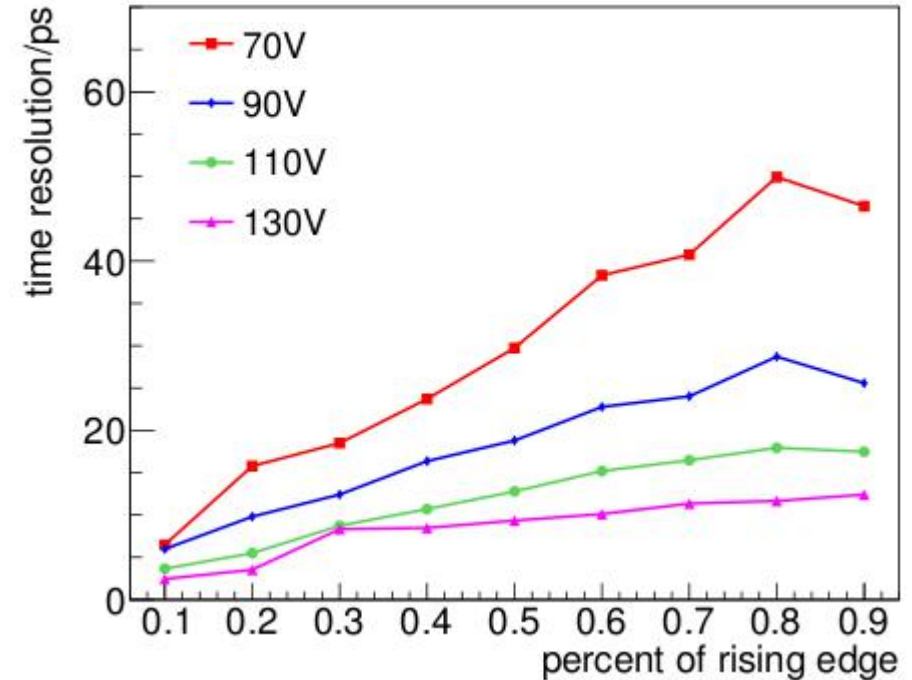
- 80V data were taken after 140V, and the data is not consistent.
- Waveform 0-14500 for left plot.
- Waveform 14500-20000 for right plot, which seems more reasonable.

# Signal threshold study

BV 60



BV 170



- 30% is set for trigger.
- Here're the results for signal. The less signal threshold, the less time resolution.