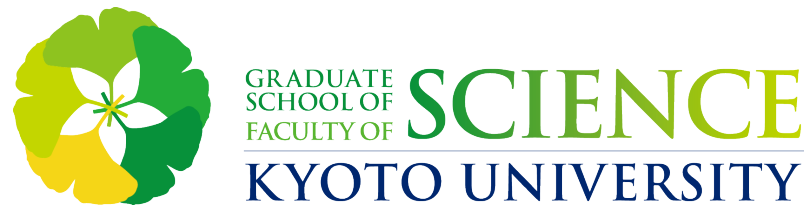


Detector tests/commissioning at ESB (HKS experiment)

T. Gogami (Kyoto Univ.)

Mar 25, 2022



https://wiki.jlab.org/tegwiki/index.php/Hypernuclear_CollaborationMeeting_2021Dec

https://wiki.jlab.org/tegwiki/images/7/73/JLab-HN-CollabMT2021_gogami_20211207_2.pdf

Detectors to be tested

HKS

- Aerogel Cherenkov (AC)
- Water Cherenkov
- TOF
- Drift chambers

**We would like to
resume AC tests**



HES

- TOF
- Drift chambers

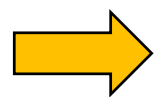
AC (7 segments x 3 layers = 21 segments)

Cosmic ray test

- # of channels
 - AC (2 PMTs = 2 ch) + trigger scintillator (2 PMTs x 2 = 4 ch)
- Trigger condition
 - AND of two plastic scintillators x 2 (4 PMTs)
- HV polarity
 - Positive for AC
 - Negative for trigger scintillators
- ADC/TDC
 - ADC (2 + 4 = 6 ch)
 - **FADC** (2 + 4 = 6 ch) ← **The first try for HKS AC**
 - TDC (2 ch)

Expected time for the HKS AC test

- Start up + procedure check (w/ cosmic rays) = 2 weeks+
 - ADC, TDC
 - FADC
 - Calibration by single photo-electron measurement (ch \rightarrow NPE)
- Cosmic ray test
 - (Statistics for 0.5—1 day of cosmic ray exposure is good enough)
 - 1 day x 21 segments = 21 days



1.5 months + spare (0.5) = **2 months**