

# HAPPEX-II/ $^4\text{He}$ CryoTarget Status Report

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1. New: Safety Review of JLab Cryotargets
2. Planned Configuration & Cell Status
3. Changeover Logistics

# Planned Configuration

## *Three Loops:*

1. 20 cm Racetrack cell    10 mil windows    ( $^4\text{He}$ )  
*high-pressure loop*

Ready    (no spare)

2. 20 cm Racetrack cell    5 mil windows    ( $l\text{H}_2$ )

Ready    (no spare)

3. 15 cm Beer Can cell    3.5 mil windows    ( $l\text{H}_2$ )

Ready

+ 4 cm can, appropriate for pentaquark expt.

In addition, **auxillary targets** on ladder:

1. Al foils 20 cm apart    0.050" thick
2. Al foils 15 cm apart    0.040" thick
3. Optics target:    5 carbon foils, 5 cm apart, each 0.010" thick
4. Solid targets (5 stations):
  - (a) BeO    (for beam viewer)
  - (b)  $\text{CH}_2$     (to determine q direction), thickness of 0.050"
  - (c) Empty (no target - beam hole)
  - (d) Hypernuclear - Li, Be??
  - (e) Thick lead target with cooling??

# Logistics

## Loop 1 → Loop 2:

- gas panel - no replumbing needed
- requires 1 shift (must be a day shift)

## Loop 2 → Loop 3 (and *vice versa*):

- need to replumb; warm lines *etc.*
- requires ~ 30 hours
- could take optics target, CH<sub>2</sub>, *etc.* data while warming
- plan on trying beer can cell, or is it just backup?

## Notes:

- can't replace cell or cell block *in situ* - would need many weeks; lack of spares not a practical issue
- can swap solid targets (~ one day)