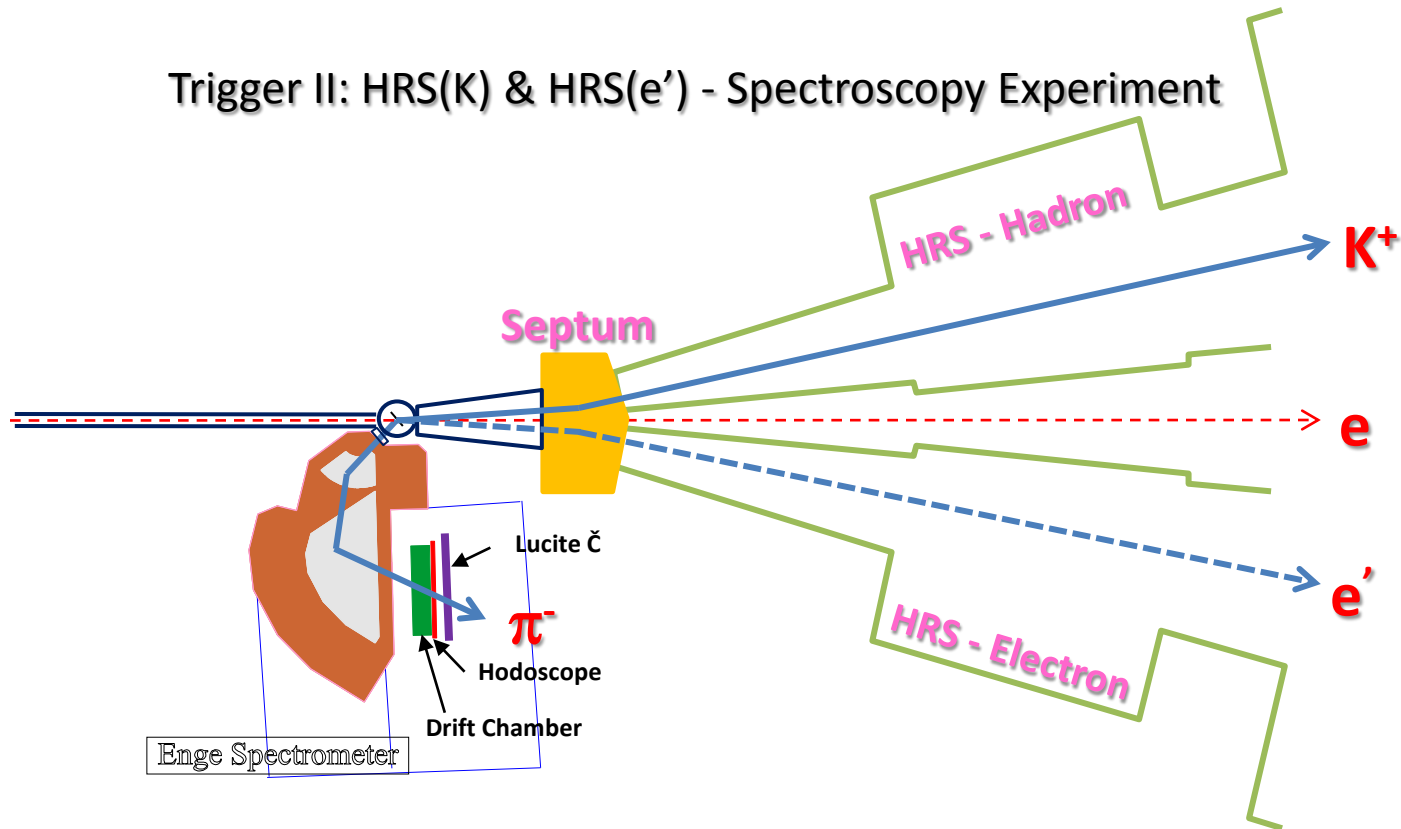


# E10-001: Study of Light $\Lambda$ -Hyper nuclei by Spectroscopy of Two Body Weak Decay Pions

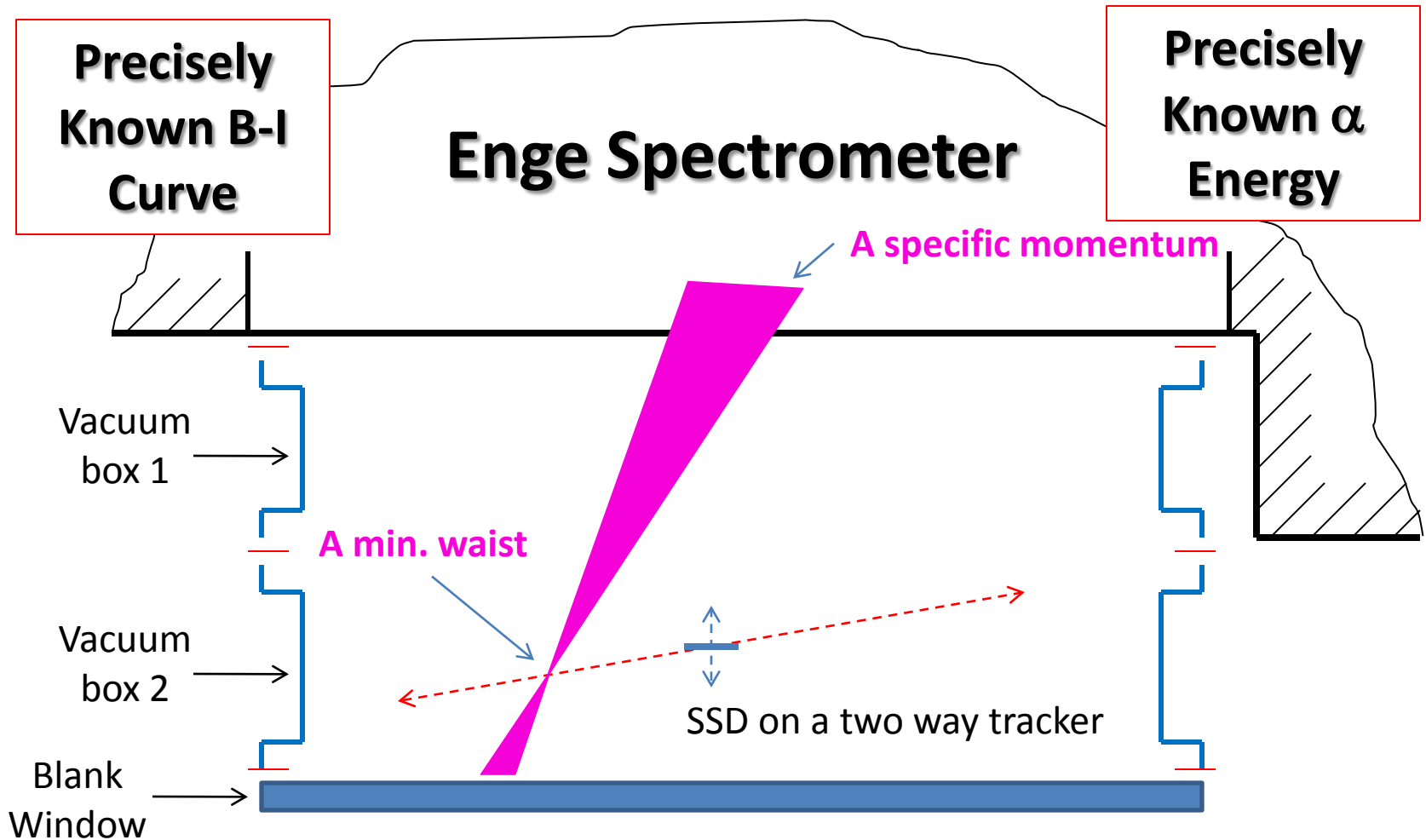
- Conditionally approved as we expected
- PAC supports our request for 5 days test in Hall A
- We have about two years to prepare Enge and the needed equipment or parts
  - Enge optics study by  $\alpha$  source (Po-210,  $5,304.33 \pm 0.07$  keV) and precise B-I measurement
  - New vacuum extension boxes with tracker and one SSD
  - New target chamber with target ladder
  - New Enge support
  - New or refurbished sieve slit plate and new vacuum connection to the Hall A target chamber
  - Detectors and supports
- We need supports from Hall A and C, and Engineering Group

# Hall A Experimental Layout



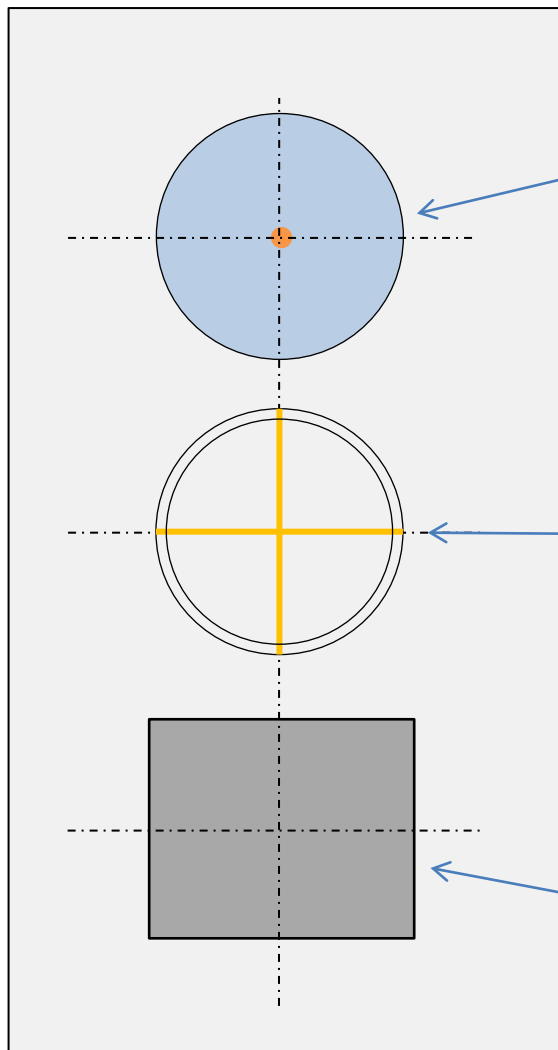
Trigger I: HRS(K) & Enge( $\pi$ ) - Decay Pion Experiment

# Enge Optics Calibration



Vacuum box 2 is in place for experimental detectors

# Source, Target and Calibrations



Po-210 or Po-208  $\alpha$  source with precisely known position with respect to Enge.  
(Survey & optics study)

An open pocket with two crossing wires with precisely known position with respect to the position of the source. This is used to determine the precise beam spot position in the Enge optics.

Experimental target:  ${}^7\text{Li}$