

LAr R&D Progress Updates

Yichen, Milind, Aleksey, Steve

9/17/24



Lab Safety and Space Management

▶ EEI inspector training

- Job Performance Measure (JPM) in progress, including inspection on 3 tasks with a current inspector
 - ✓ *Inspection on manufacturer electrical device with no UL certificate: Done with a vacuum pump used on ATLAS robotic testing station (Passed last week)*
 - Inspection on house made electrical device: Need to find an object
 - Inspection on a hard wired device: Lab electrical safety is working on finding a suitable device

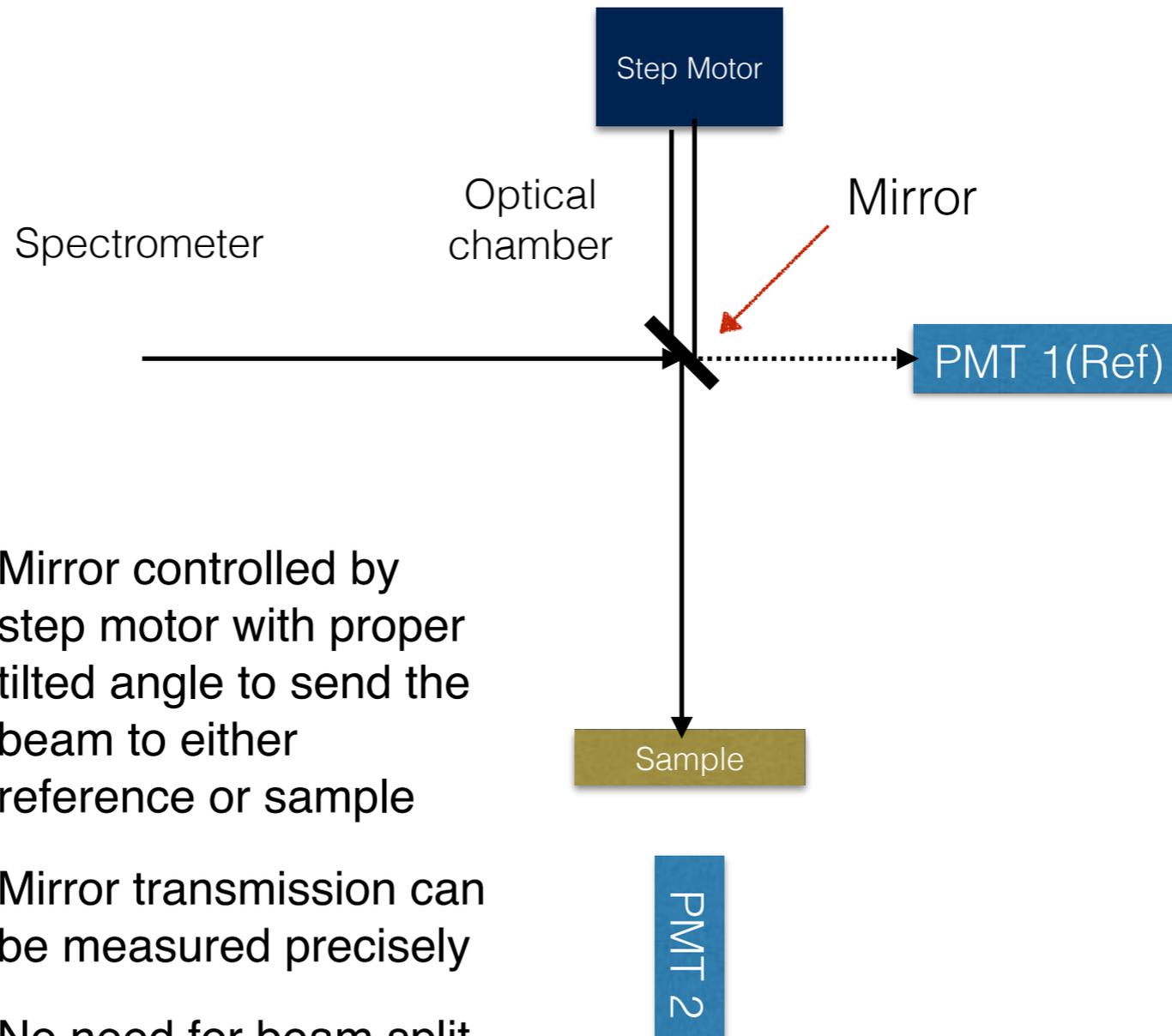
▶ 6000-gallon LN2 refill

- 4750 gallons of LN2 delivered to the tank on Monday 09/10
- Last refill was in beginning of May this year



Spectrometer refurbishment

- Mechanical modeling of the full setup
 - Took the measurement of the system and constructing the full mechanical model
 - Adding more details and finish the test chamber design with Bill
 - The current plan is to use only ONE single test chamber for all tests: Vac., Gas, Liquid



- Mirror controlled by step motor with proper tilted angle to send the beam to either reference or sample
- Mirror transmission can be measured precisely
- No need for beam split

Spectrometer refurbishment

- Bill disassembled the old sample chamber on the spectrometer
- The spectrometer support structure modeled with the measured dimensions of the cart and bench assembly
- Current dimensions of the test chamber seems to fit to the system scale
- Will add in the spectrometer and periscope structure with Ar atmosphere maintained
- Mechanical link between the test chamber and spectrometer bench needs for optical stability

