ePIC Aerogel Test Facility Overview

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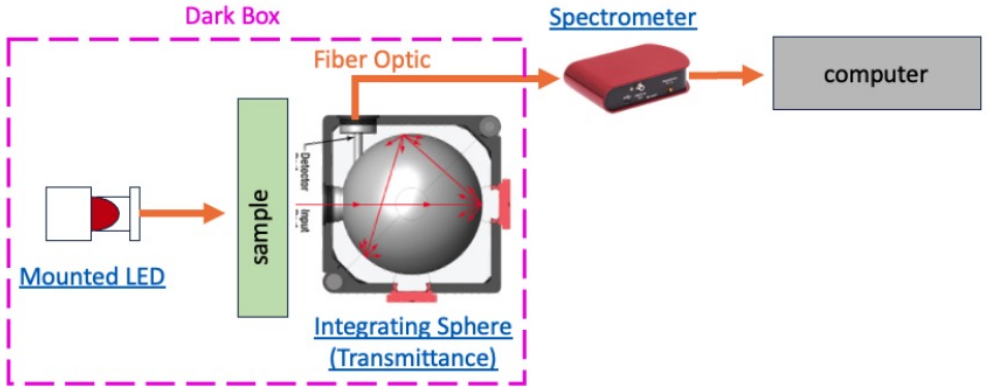
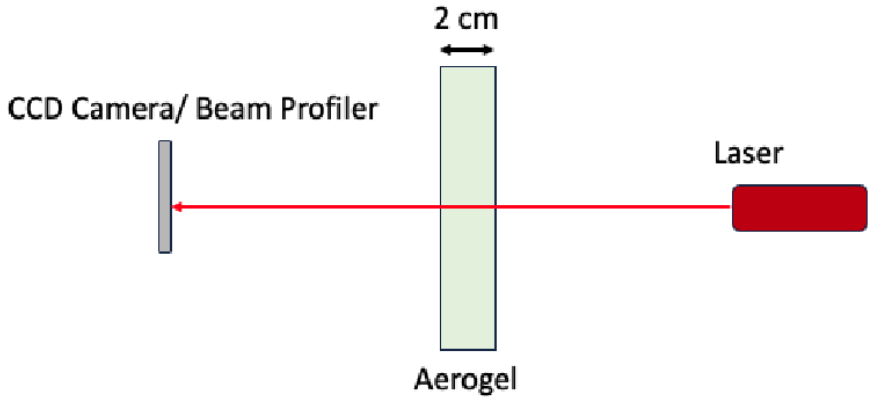
Test Facility and Measurement Setup

- Link to full proposal
- Mission Goal
  - Build, commission, and operate an Aerogel QA/test facility at Temple University
  - Facility is envisioned as a general aerogel test facility that other RICH detector collaborators could use, e.g. dRICH
- Facility will be built around existing Temple infrastructure including
  - A large optical table, gas supply lines, large humidity-controlled storage boxes, computer setup
  - All contained within a dedicated cleanroom environment

Measurement Setup

- Transmittance and Reflectance
  - Makes use of LEDs and spectrometer to provide wavelength dependent measurements over the area of the aerogel tile
  - System will be validated on small aerogel sample using monochromator in Temple's Chemistry department.
- Forward Scattering
  - Uses a few lasers and beam profiler to measure the angular broadening – sensitive to inhomogeneities in tile density





Workforce and Costing

❑ Workforce

- A dedicated senior scientist and graduate student, provided by Temple University will be assigned to building and commissioning the setup.
- Temple's College of Science and Technology (CST) undergraduate research program will provide paid undergraduates, who will be used to carry out routine QA measurements
- Excellent educational and training opportunity that has undergraduate students directly contributing to the EIC

❑ Costing

- Temple University will be providing as an in-kind contribution the infrastructure for the facility to be built, the equipment and components needed for the aerogel QA measurements, and the workforce to build, commission, and operate the test facility
- Total in-kind contribution estimated to be more than $130k