Goals of the Workshop

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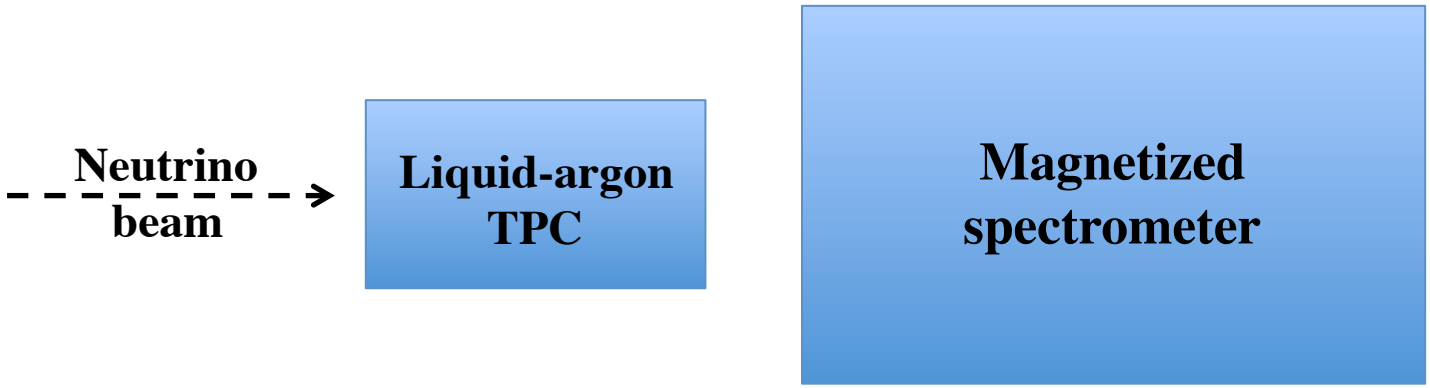
Near Detector System

- Need the near-detector system to measure
  - Fluxes and energy spectra of beam ν_μ, $\bar{\nu}_\mu$, ν_e, and $\bar{\nu}_e$
  - Interaction cross sections and nuclear effects
  - Relative detector response and efficiency
  - Background
  - Beam stability
- Requirements
  - Excellent lepton-tagging efficiency and energy resolution
  - Excellent hadronic-shower energy resolution
    - Good neutron tagging efficiency and energy measurement would be great
  - Identical target material as the far detector
  - Similar detector response and performance as the far detector

Status of Near Detector System Design

- After the March workshop and May collaboration meeting, settled on
  - Location of near site at z = 574 m
  - The hybrid-detector concept:



- Consists of
  - A relatively low-mass fast tracker
    - can be a combination of different technologies
  - Muon detectors
  - Calorimeters
  - A magnet

Agenda of June Workshop

- Status and progress in establishing scientific requirements for designing the near-detector system
- Status and prospects of different detector technologies for the near-detector system
  - Liquid-argon TPC
  - Gaseous-argon TPC
  - Straw-tube tracker
  - Scintillator tracker
  - Calorimetry
  - RPC (?)
- Thoughts on magnet and space requirements
- How to work together?
- Develop a plan for moving forward

Goals of June Workshop

- Get some idea about
  - Target mass of the liquid-argon TPC
  - Pros and cons of different technologies for the downstream tracker
  - Minimal size or dimensions of the downstream tracker
  - Analysis magnet
  - Dimensions of the experimental hall
- Come up with a baseline design for carrying out more focussed studies
  - Caveat: the baseline design is subject to change
- Form interest groups
- Establish milestones