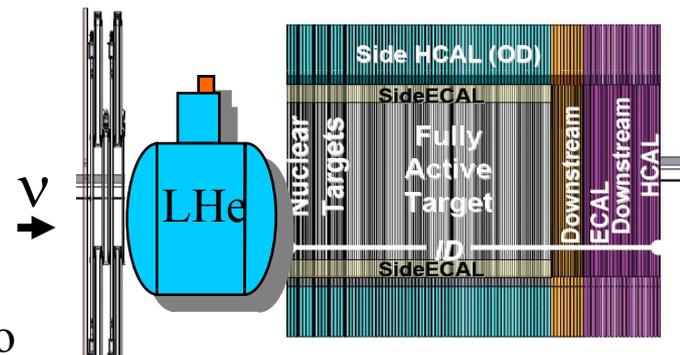


# MINERvA

## Main Injector Experiment v-A



- ◆ MINERvA is studying A dependence of neutrino interactions in unprecedented detail, from He to Pb
- ◆ Uses high intensity NuMI Beamline at Fermilab and MINOS near detector as muon spectrometer
- ◆ **Nuclear physics goals**
  - ◆ High precision measurement of the axial form factor to high  $Q^2$  and search for medium modification of f.f.
  - ◆ Studies of quark-hadron duality, complementing JLab
  - ◆ Search for nuclear shadowing of neutrino interactions
  - ◆ Precision cross section measurements and studies of final states
- ◆ **Schedule**
  - ◆ Low E anti- $\nu$  (avg E  $\sim 4$  GeV) 11/09-3/10
  - ◆ Low E  $\nu$  3/10-3/12
  - ◆ Medium E  $\nu$  (avg E  $\sim 8$  GeV) spring 2013 to about 2015



Estimated total CC  $\nu$  interactions:

Target	Fiducial Mass (ton)	Chg. Crnt Evt
Helium	0.25	0.6M
Hydro-carbon	3	8.6M
Carbon	0.6	1.4M
Iron	1	2.9M
Lead	1	2.9M
Water	0.3	0.7M

$\sim 70$  Particle, Nuclear, and Theoretical physicists from 21 Institutions

