Contribution ID: **199** Type: **Poster new technologies**

The Reactor Neutrino Energy Spectrum Measurement with a High Pressure Gas TPC Detector

We are studying and designing a novel high pressure (~10bar, Ne+TMA=95:5) gas TPC detector based on the thick-GEM or Micromegas to detect the neutrino energy spectrum of the reactor, which will provide an input for JUNO to determine the neutrino hierarchy. By detecting the energy and scattering angle of the elastic scattering electron, which happens between the reactor neutrino and gas, we will reconstruct the neutrino spectrum of the reactor. And the mainly physics motivation of the short baseline experiment is precisely measure the energy spectrum of reactor antineutrino with a 1% energy resolution. Providing the input for JUNO (Daya Bay ~8%; JUNO ~3%). So the high pressure gas TPC is a better option with a higher energy resolution and a better track reconstruction. We prepare design a 200kg's detector, which is placed at 18m away from power plant, to study the neutrino energy spectrum, mixing angle, sterile neutrino and abnormal magnetic moment.

Session and Location

Monday Session, Poster Wall #94 (Auditorium Gallery Left)

Poster included in proceedings:

no

Primary author: Mr YAN, Wenqi (IHEP)

Presenter: Mr YAN, Wenqi (IHEP)

Track Classification: Poster (not participating in poster prize competition)