Energy calibration and slow control monitoring at RENO

June Ho Choi (Dongshin University)

For RENO collaboration

Calibration System

Energy calibration

Energy scale Uncertainty

- Calculation Method
  - Calculate the mean and error of Neutron H capture & \( ^{60}\text{Co} \) source data point
  - \( X \text{ axis} (\text{MeV}) \) : Average of n-H capture & \( ^{60}\text{Co} \) data point
  - \( Y \text{ axis} (\text{n.p.e}) \) : Error weighted Mean of n-H capture & \( ^{60}\text{Co} \) data point
  - Draw the error band by using \( 1\sigma \) error of Ge & n-Gd capture

Component of SCM System

- Gas Concentration – CO2 & O2
  - KCD-HP500 : CO2 concentration measurement using IR absorption
  - Honeywell XCD : O2 concentration
- Water Level
  - Using ultrasonic sensor with RS232 interface
- Detector Temperature
  - PT-100 thermocouple
- Humidity & Temperature
  - HTM420R
- PMT HV Adjustment & Monitor

PMT HV control system

PMT HV monitoring system