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The JUNO Calibration Strategy and Simulation

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1. Introduction of JUNO

■ JUNO

Location : Kaiping, Jiangmen in South China,

Multi-purpose experiment : neutrino mass ordering determination、 neutrino oscillation parameter measurement、 solar neutrino detection

■ JUNO central detector (CD)

Acrylic sphere : filled with liquid scintillator(LS);

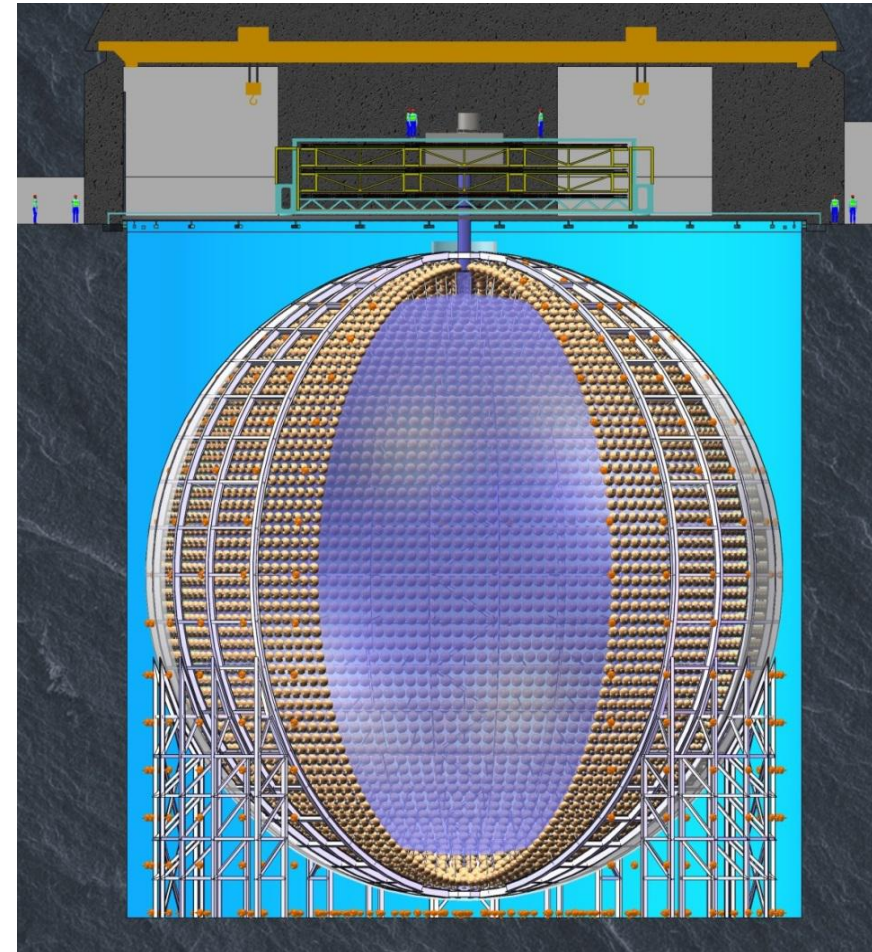
Diameter : 35.4 m ;

PMT : ~ 43 k photomultipliers

■ Requirements:

Overall energy resolution: $3\% / \sqrt{E}$

Energy nonlinearity: $< 1\%$



JUNO

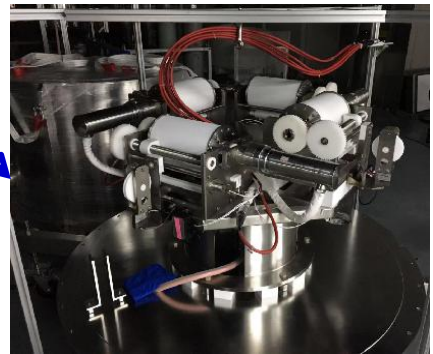
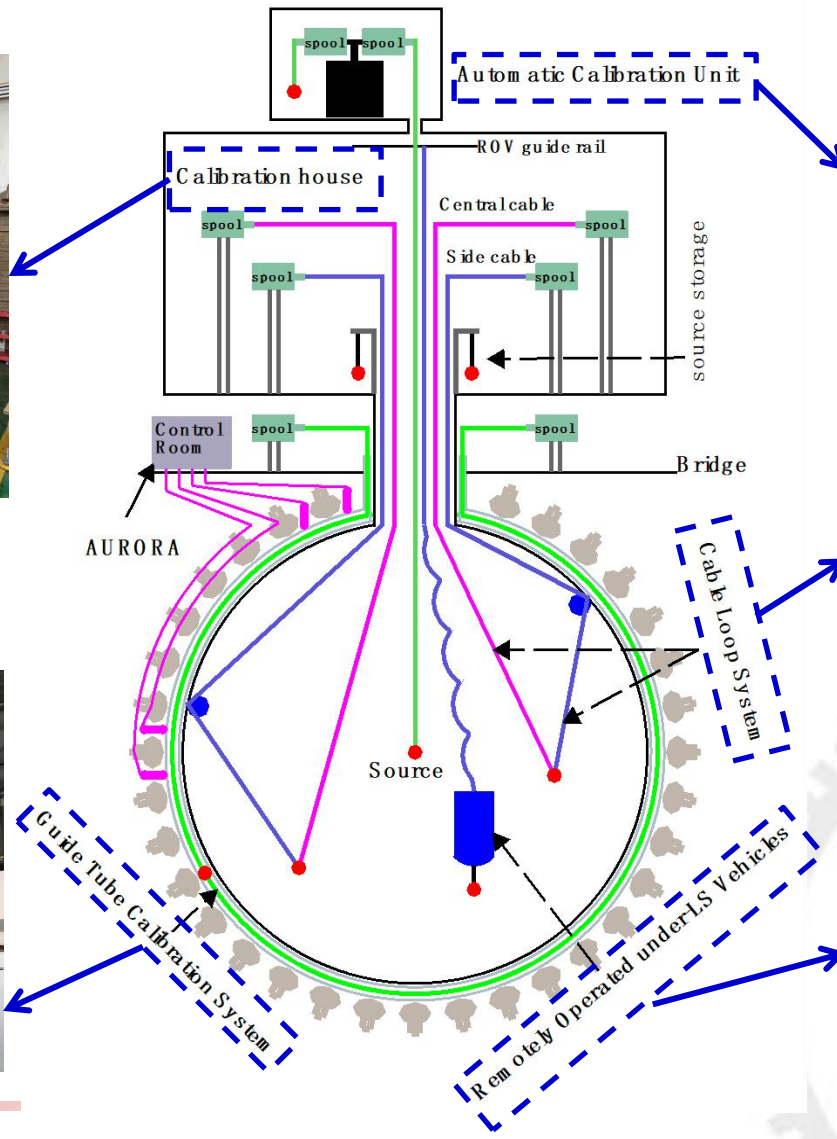
2. Calibration Subsystems



Calibration house



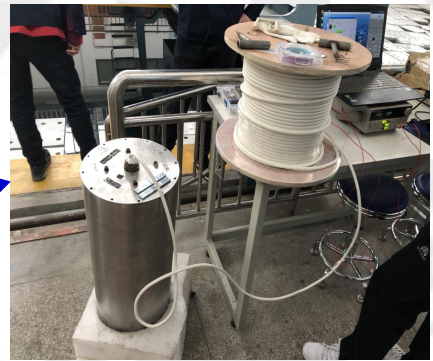
GTCS



ACU

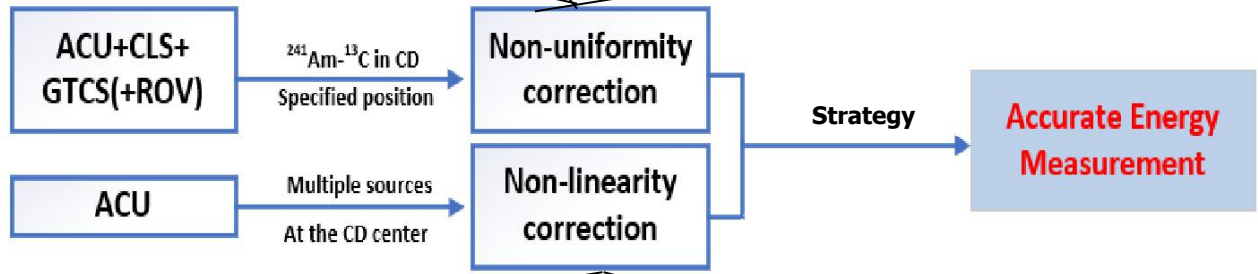
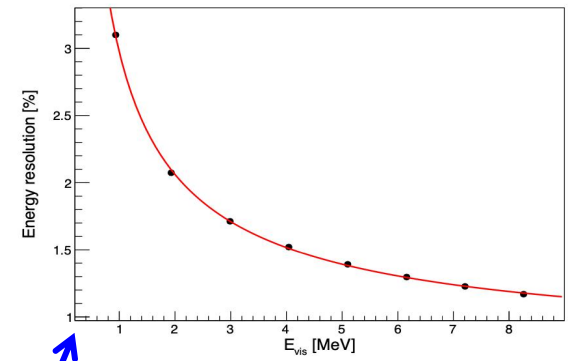
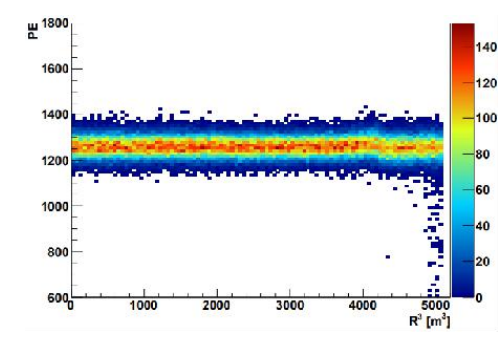
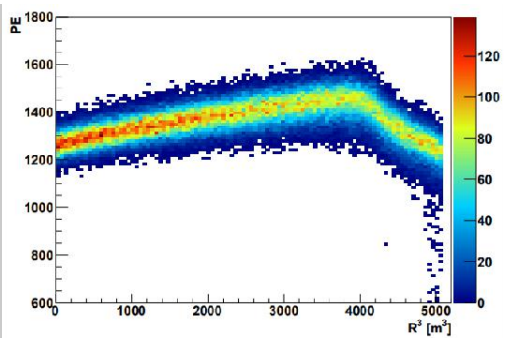
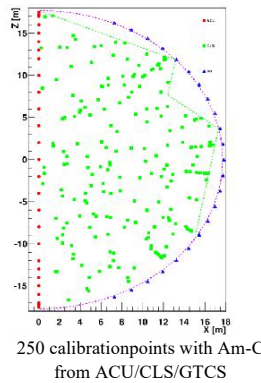


CLS

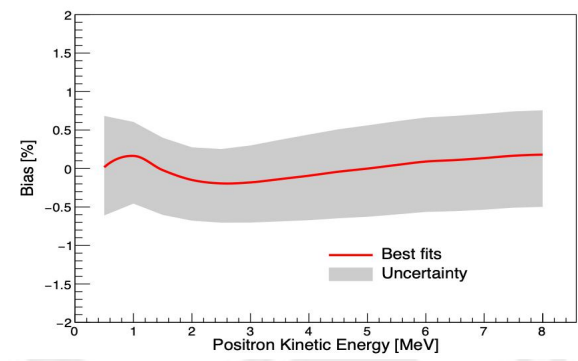
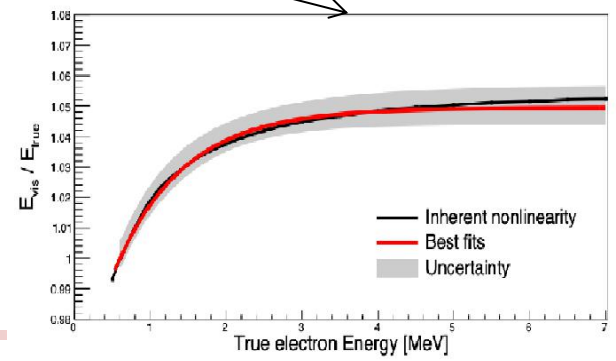
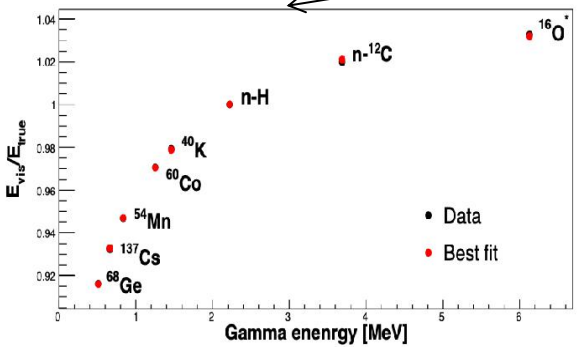


ROV

3. Simulation of Calibration Strategy



The energy resolution < 3.0%.



Bias < 0.1%