
# Poster:
# The 3-inch Photomultiplier System of the JUNO experiment

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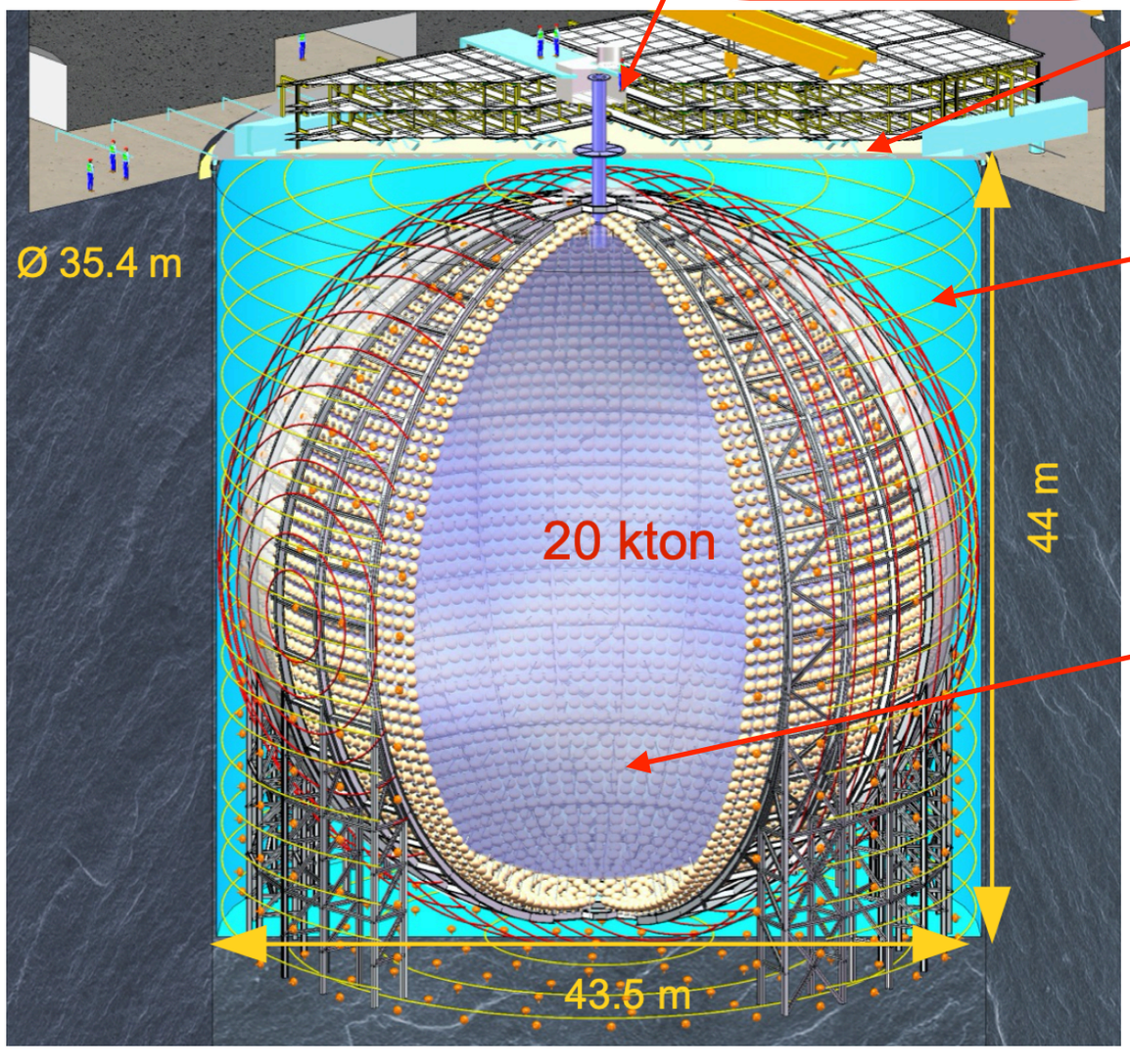
# JUNO detector design

- The experiment consists of a very large target made of 20 kton liquid scintillator detector.
- For 1 MeV, 1200 p.e. will be collected to ensure an energy resolution of 3%.




**Calibration house**

Multi-dimension calibration systems

**Top Tracker**

- Precise muon tracker
- 3 layers of plastic scintillator
- ~ 60% of area above WCD

**Water Cherenkov Detector (WCD)**

- 35 kton ultra-pure water
- 2400 20-inch PMTs
- High muon detection efficiency
- Protects CD against external radioactivity

**Central Detector (CD) - Neutrino target**

- Acrylic sphere with 20 kton liquid scintillator (LAB)
- 18000 20-inch PMTs and 25600 3-inch PMTs
- 3% energy resolution at 1 MeV.

# The 3-inch PMT system

In addition to the 18,000 20-inch photomultipliers, 25,600 3-inch photomultipliers and their readout electronics will be deployed as a complementary photodetectors array in the Jiangmen Underground Neutrino Observatory.


- Complementary independent readout
- Precision calorimetry
- Improve inner-detector muon reconstruction resolution
- Improve particle discrimination
- Detection of neutron spallation
- Measurement of solar parameters
- Measurement of supernova high events rate

# The 3-inch PMTs system