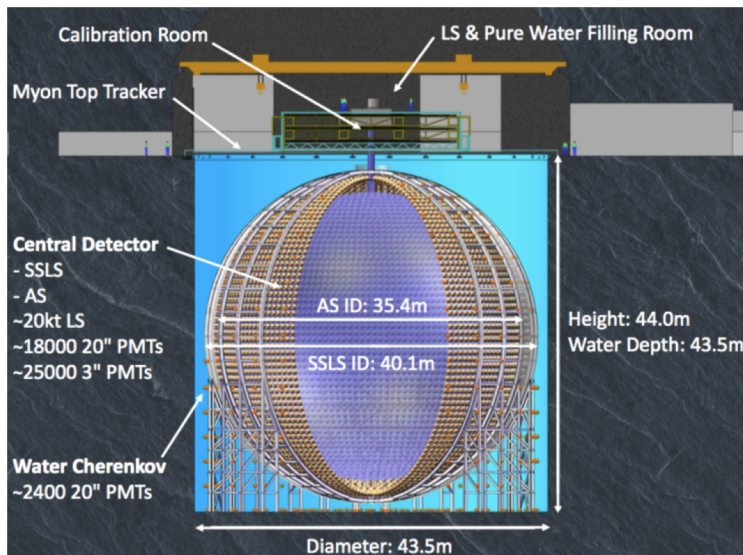


The Filling System Slow Control for the JUNO Experiment

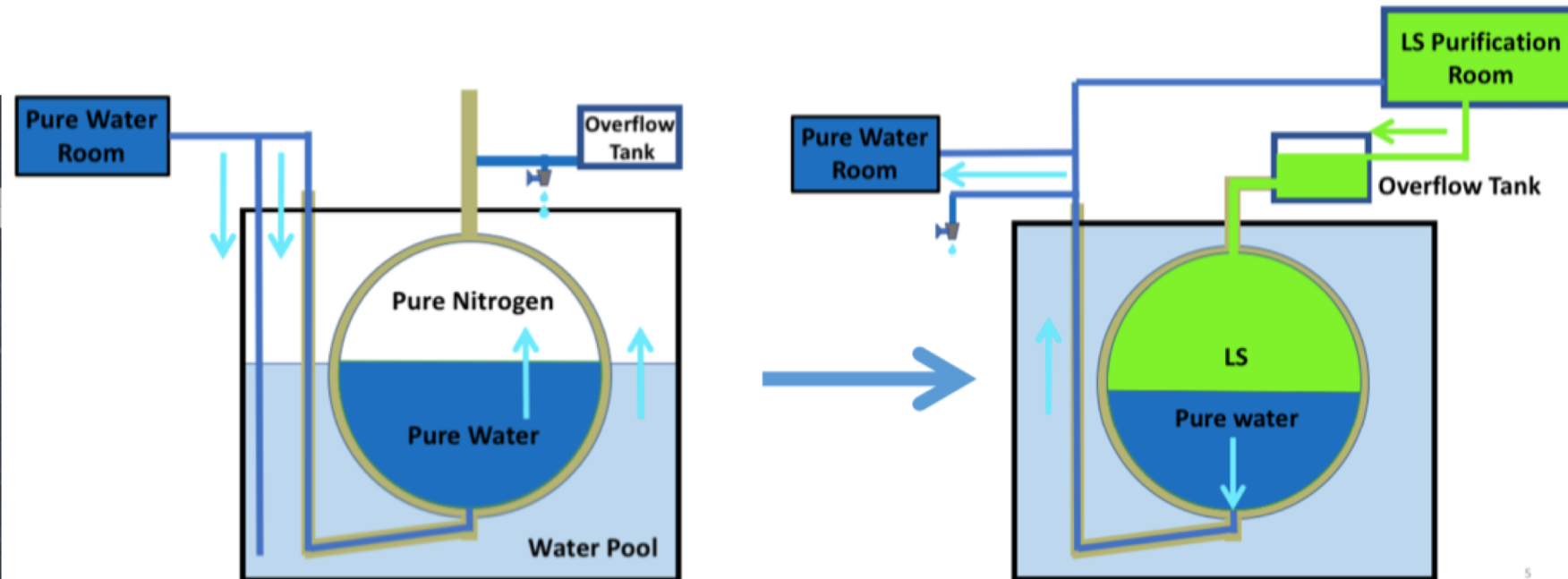


Hans Th. J. Steiger, on behalf of the JUNO Collaboration

The Planned Filling Procedure for the Detector



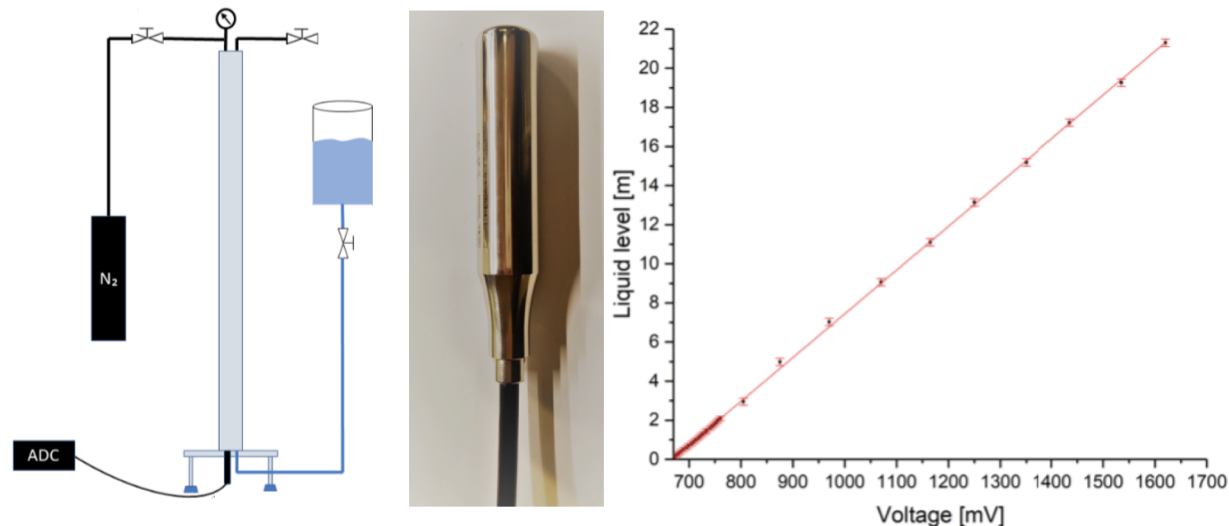
Schematic view of the JUNO (Jiangmen Underground Neutrino Observatory) detector.



Nitrogen / Pure Water Exchange

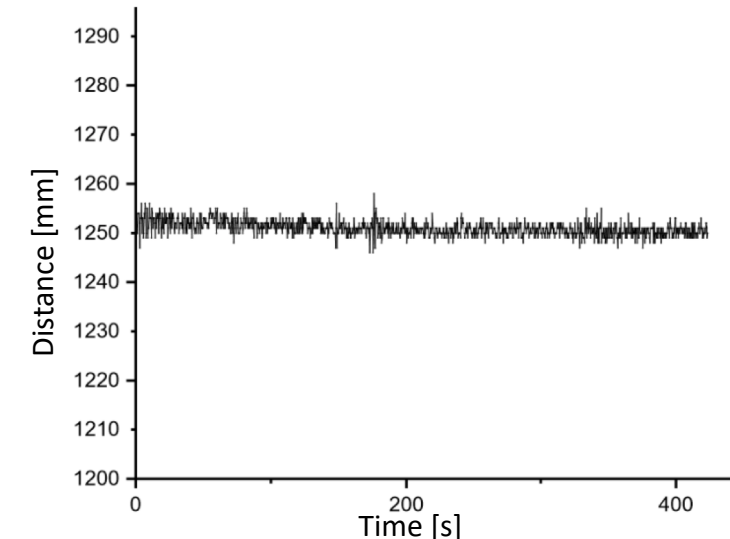
Pure Water / Liquid Scintillator Exchange

Sensor Development for the Slow Control System



Hydrostatic Pressure Sensors Test Facility

- Different hydrostatic pressure sensors are tested with respect to precision, time stability, material compatibility with ultra pure water and LS as well as there radioactivity is measured in a low background gamma screening facility.
- Sensors with different range and precision provided by SISEN Automation have been tested so far and a precision of ± 5 cm and linearity over the sensor range were demonstrated.



IR Laser Level Measurement System

- The amplitude of a 905 nm laser diode is modulated with high frequencies. This frequency is also modulated to allow absolute distance measurements.
- By the usage of diffusor lenses the influence of vibrations on the liquid's surface could be eliminated.
- The laser system demonstrated fill height measurements of water and LS in acrylic glass vessels with a precision of ± 4 mm.

Thank you for your Attention!