

Design overview

The SCCELL ND is a patent pending novel concept of liquid scintillator cells developed in collaboration with CIEMAT. The cell admits any kind of liquid scintillator (EJ309, BC501A, ...), although has been most extensively used with EJ301.

- Customizable active volume.
- Customizable for required PMT diameter
- Liquid expansion volume up to 10% of total volume.
- Material: Aluminum or carbon fiber.
- Sealing: resin (fixed) or mechanical (detachable)
- Quartz or Borosilicate window

The cell can be installed in a support frame using the screws placed in the output flange.



Specification

- Active Area $\varnothing 200\text{mm}$, $\varnothing 200\text{mm} \times 50\text{mm}$ of active volume.
- Quartz window for PMT coupling.
- Total liquid volume 1.6 l
- Liquid Scintillator: EJ301
- Liquid expansion volume of 10%
- SMA 905 fiber port
- PMMA lens from the $\varnothing 200\text{mm}$ to $\varnothing 128\text{mm}$

Contact Information

Telephone: +34 943 12 72 85 | Mail address: scientifica@scientifica.es | Web: <http://www.scientifica.es>

Functional highlights

- Admits different types of scintillator liquids.
- Novel expansion chamber solution (Patent Pending).
 - Zero bubbles and any orientation design.
 - Easier maintenance procedures: liquid replacement, cleaning, ...
 - Operation Temperature Range: 5° - 40°
- PMMA lenses for light collection for different diameters coupling and lambertian reflector.
- Special reflective paint inside the cell and outside the PMMA lenses.
- Optical fiber port for calibration purposes.
- Mu-metal shield available for different PMT models.

Applications

- Neutron Spectrometry.

References

SCCELL ND is being used in:

- MONSTER for DESPEC* project by CIEMAT and University of Jyväskylä

*MOdular Neutron SpectromeTER for DEcay SPECTroscopy

