

X-ARAPUCA PDE Measurements at CIEMAT

C. Palomares on behalf of the CIEMAT group

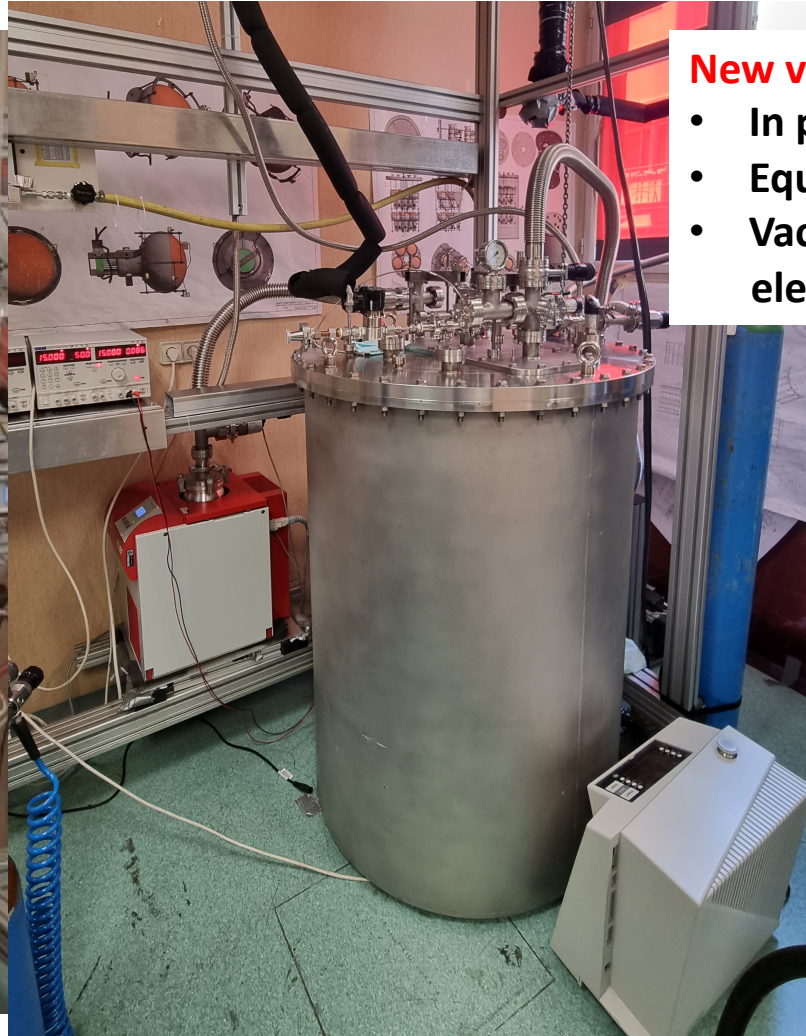
July 2023

CIEMAT SETUP for the measurement of X-A PDE



Vessel
300 L ↔ 500 L

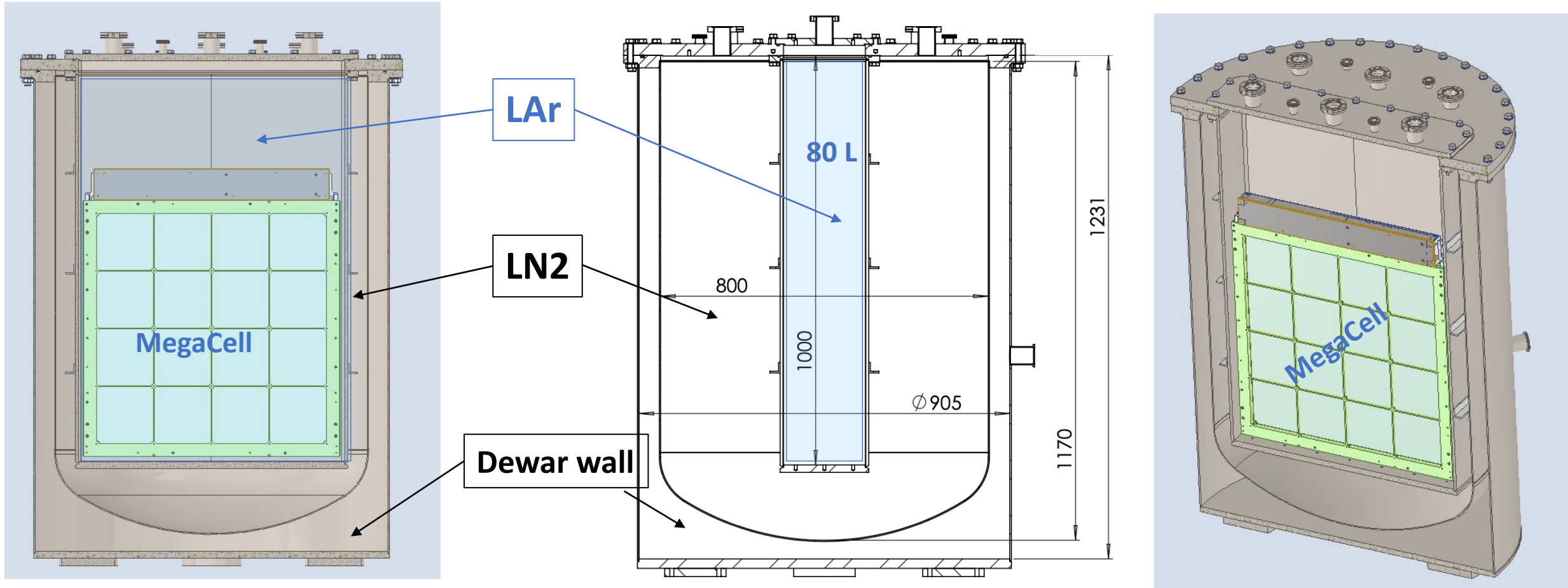
CIEMAT SETUP for Mega-cell PDE measurement



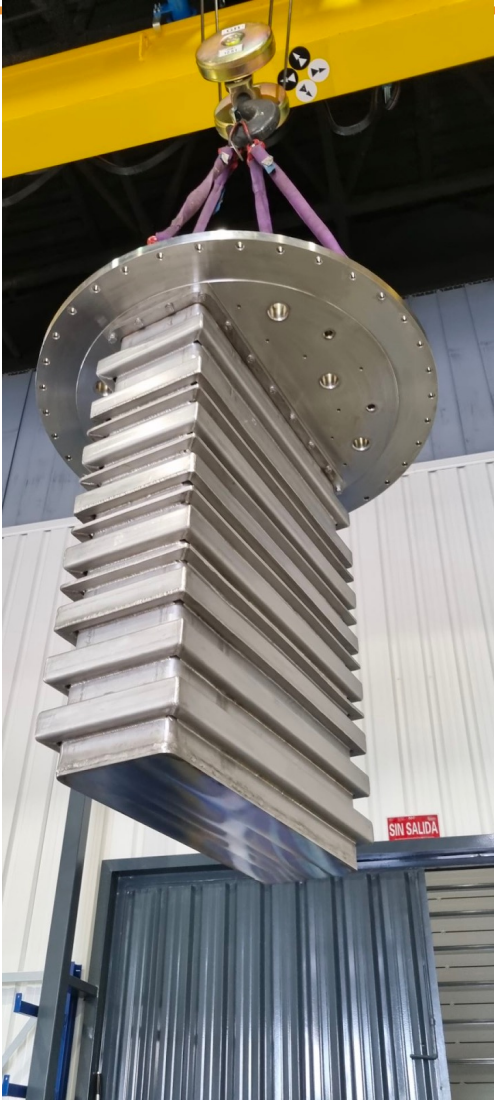
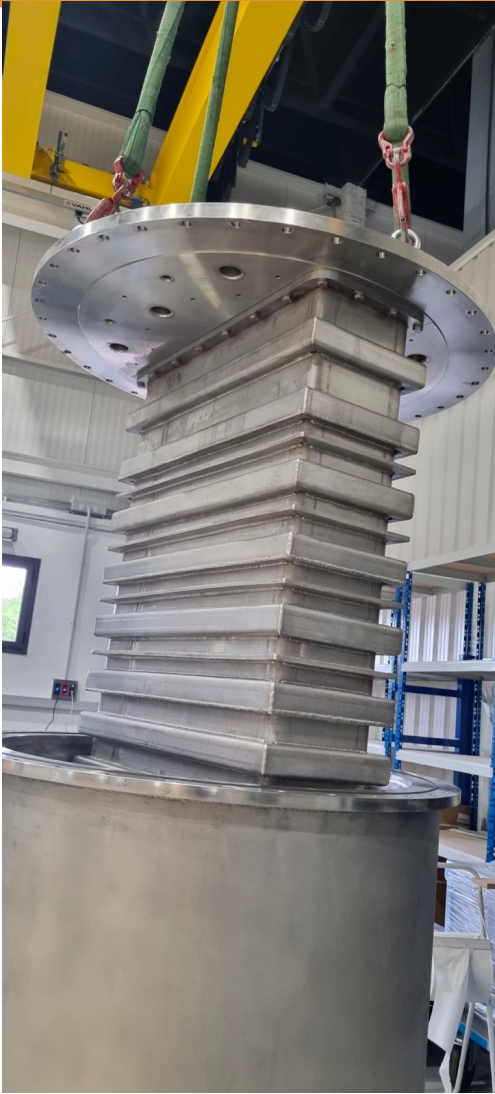
New vessel:

- In place
- Equipped (Valves, feedthroughs, etc..)
- Vacuum tested with most of the elements inside

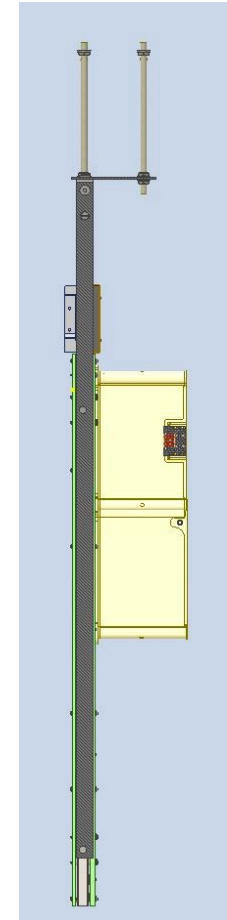
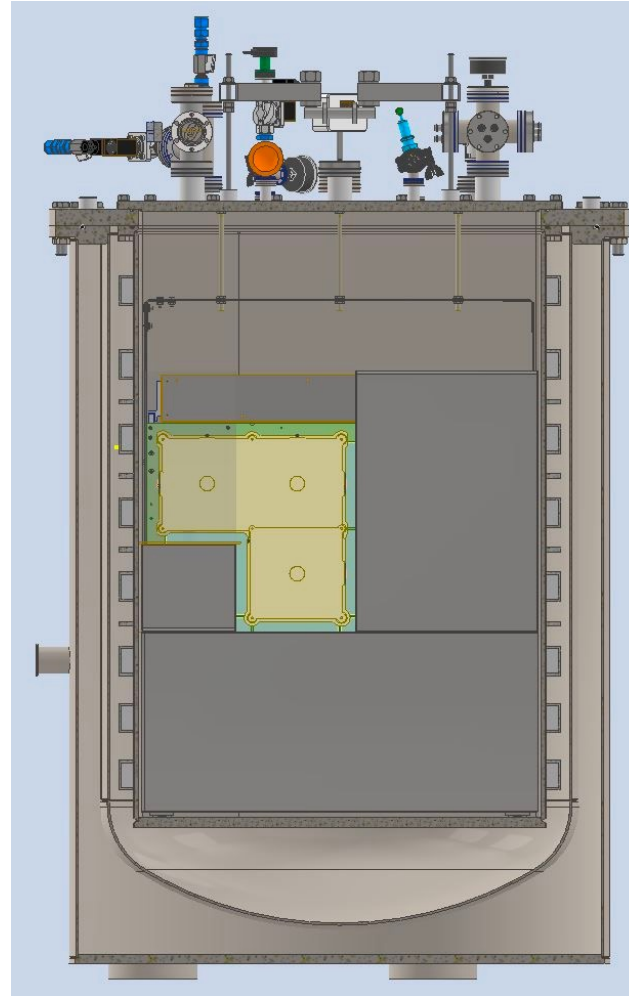
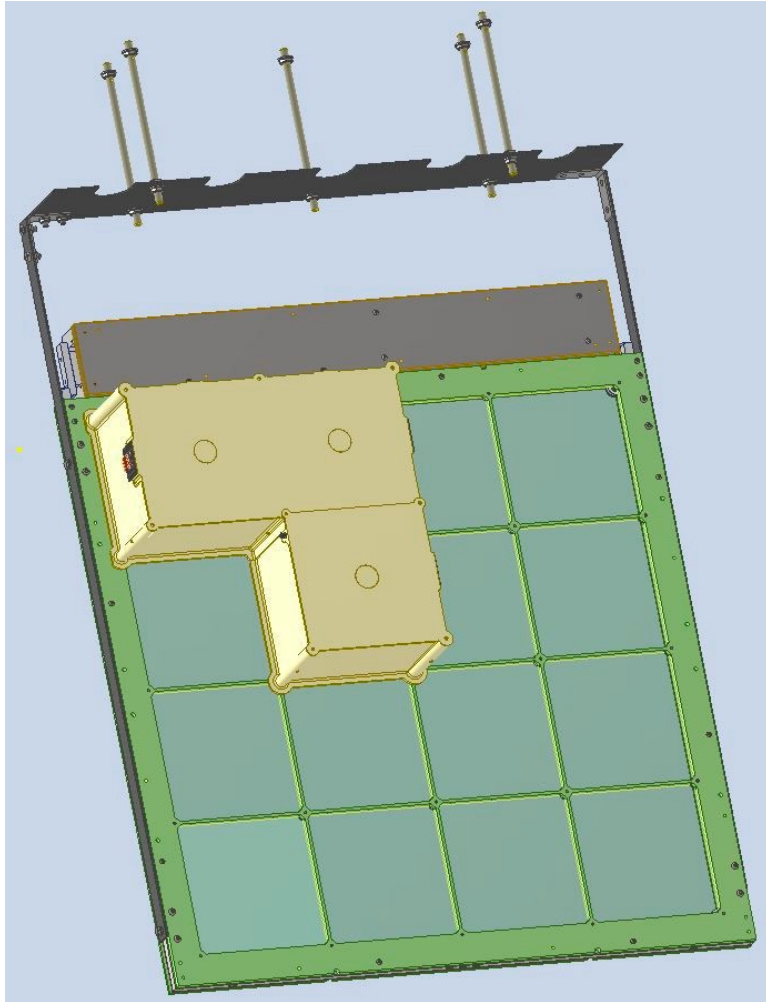
CIEMAT Setup for Mega-cell PDE measurement



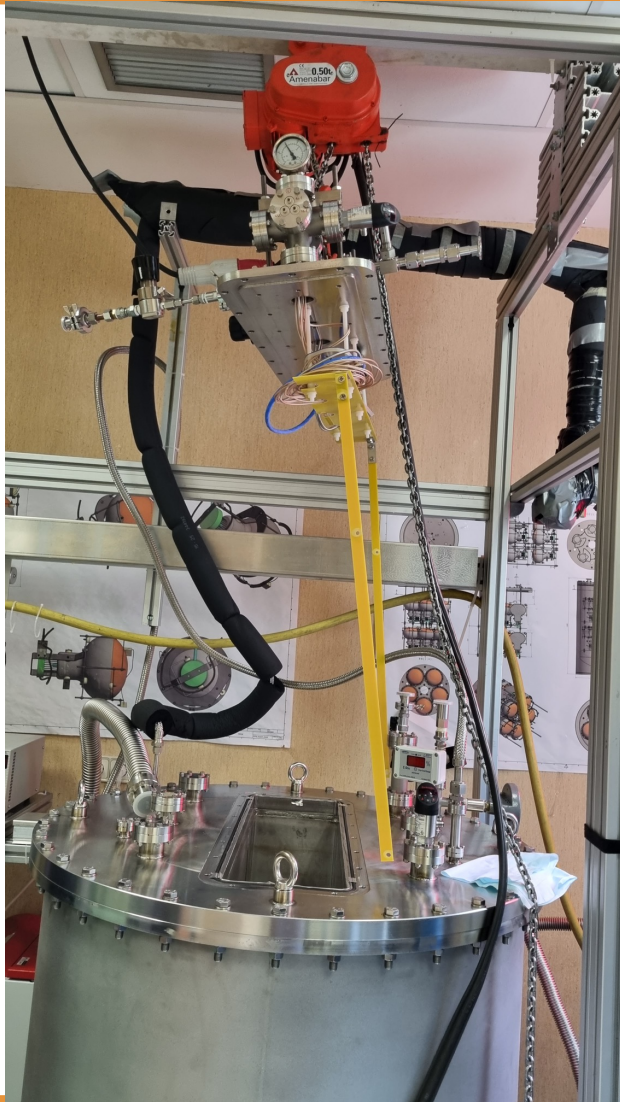
80 L cassette vessel



Mega-cell support and black box

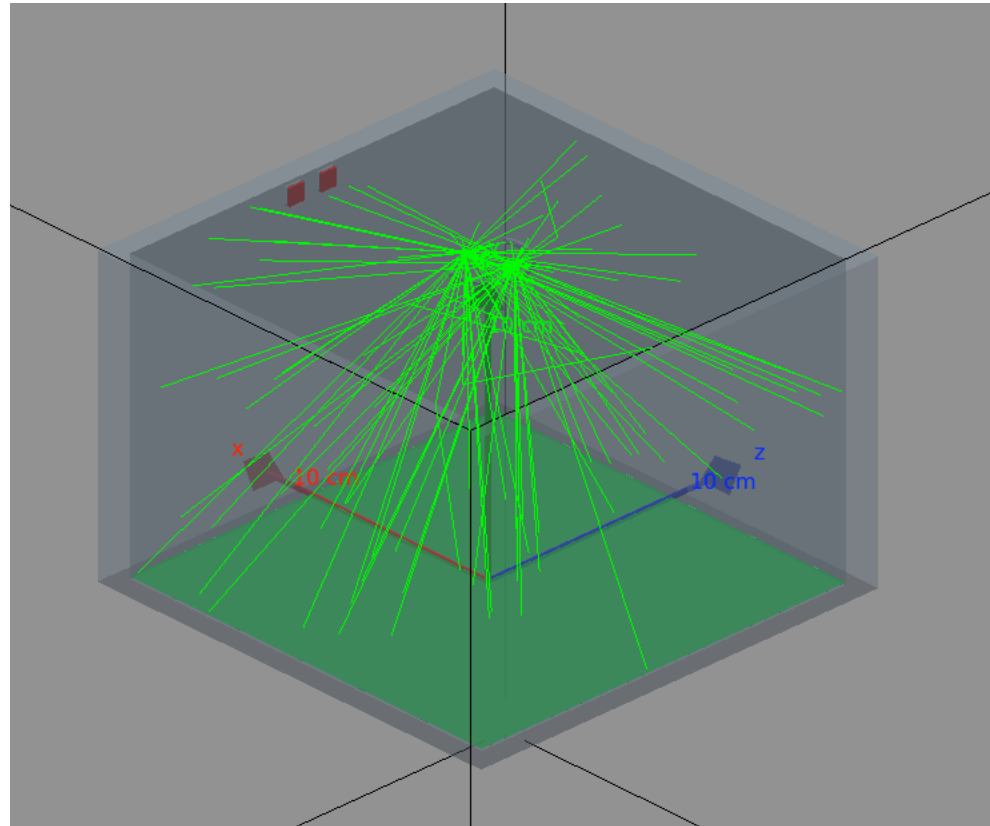


Mega-cell support and black box



Simulation of Setup

Used for setup design (black-box): Ref. SiPMs positioning, distance source-MC, etc...
Essential for the analysis: Fraction of generated light hitting the MC and Ref. SiPMs

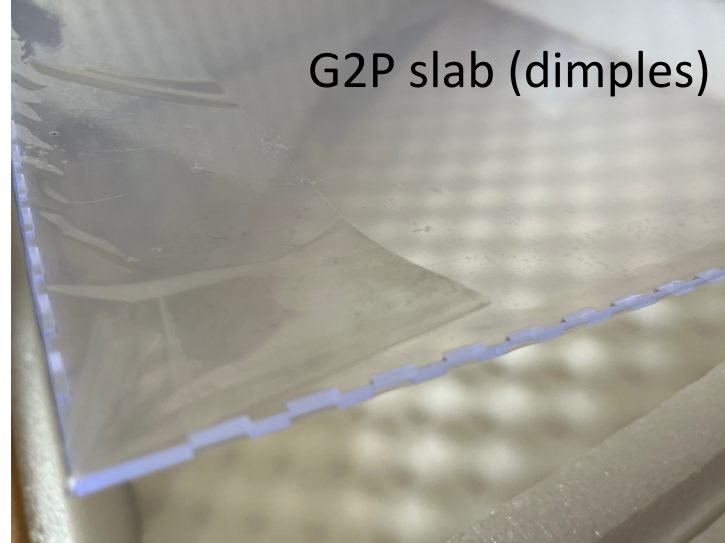


Mega-cell ready for assembly

18 coated ZAOT filters

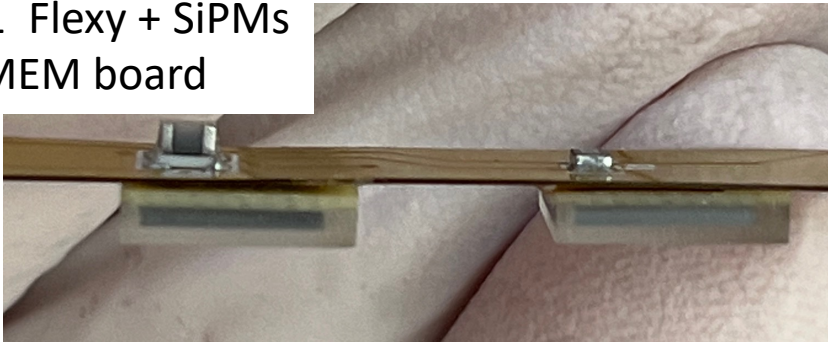


G2P slab (dimples)



MC frame (mechanics) and cables from flexy to DMEM will arrive Tomorrow

9 + 1 Flexy + SiPMs
1 DMEM board



Electronics box



Mega-cell ready for assembly

2 possible schedules depending on the Mega-cell assembly dates and on the availability of engineers.

Schedule 1

- Week 30 (24-July): Mega-cell assembly
- Week 34 (21-Aug): Vacuum – electronics tests
- Week 35 (28-Aug): Beginning of Data taking

Schedule 2

- Week 28 (10-July): Mega-cell assembly
- Week 29 (17-July): Vacuum – electronics tests
- Week 30/31 (24/31-July): Data taking

A clean environment has been prepared in the lab for the Mega-cell assembly

