

CYGNO General Meeting

13/11/25

Collaboration Meeting

- Annual Collaboration Meeting will be held on 17-19 December in Clusone (Clüsù), an “historical mountain city” in the north of Italy close to Milan and Bergamo;



Papers

- Saturation paper: submitted new version;
- FC paper: submitted to arXiv and journal;
- CMOS paper: to the collaboration
- Digitization paper: to the collaboration (JINST seems fine);
- Methane paper: to be submitted asap to PRL-B
- 3D paper: published: <https://doi.org/10.1140/epjc/s10052-025-14965-6>
- NID paper: new version sent to reviewers;

Highlights from DRD1 Coll Meet

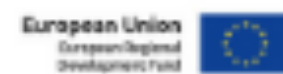


DRD1 COLLABORATION MEETING

06-10 OCTOBER
2025 **WARSAW**

Organised by:

ASTROCENT  NICOLAUS COPERNICUS
ASTRONOMICAL CENTER
OF THE POLISH ACADEMY OF SCIENCES

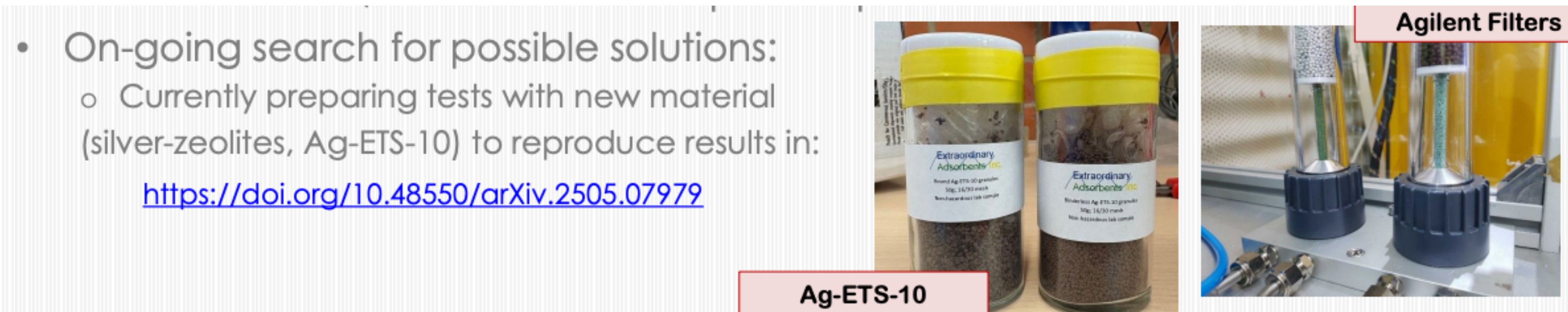


High pressure operation of MPGD in CAPA

- https://events.camk.edu.pl/event/124/contributions/1197/attachments/784/2150/DRD1-warsaw_tdafni.pdf
- Working to Radon reduction:
 - Agilent (for O₂ and H₂O)
 - SAES MicroTorr (O₂ and H₂O)
 - 5Å molecular sieve <https://arxiv.org/pdf/2505.07979>
 - Custom-made O₂+H₂O+Rn filter (developed by U. Birmingham)
 - Activated carbon filters
- (best results in open loop, high flow)

High pressure operation of MPGD in CAPA

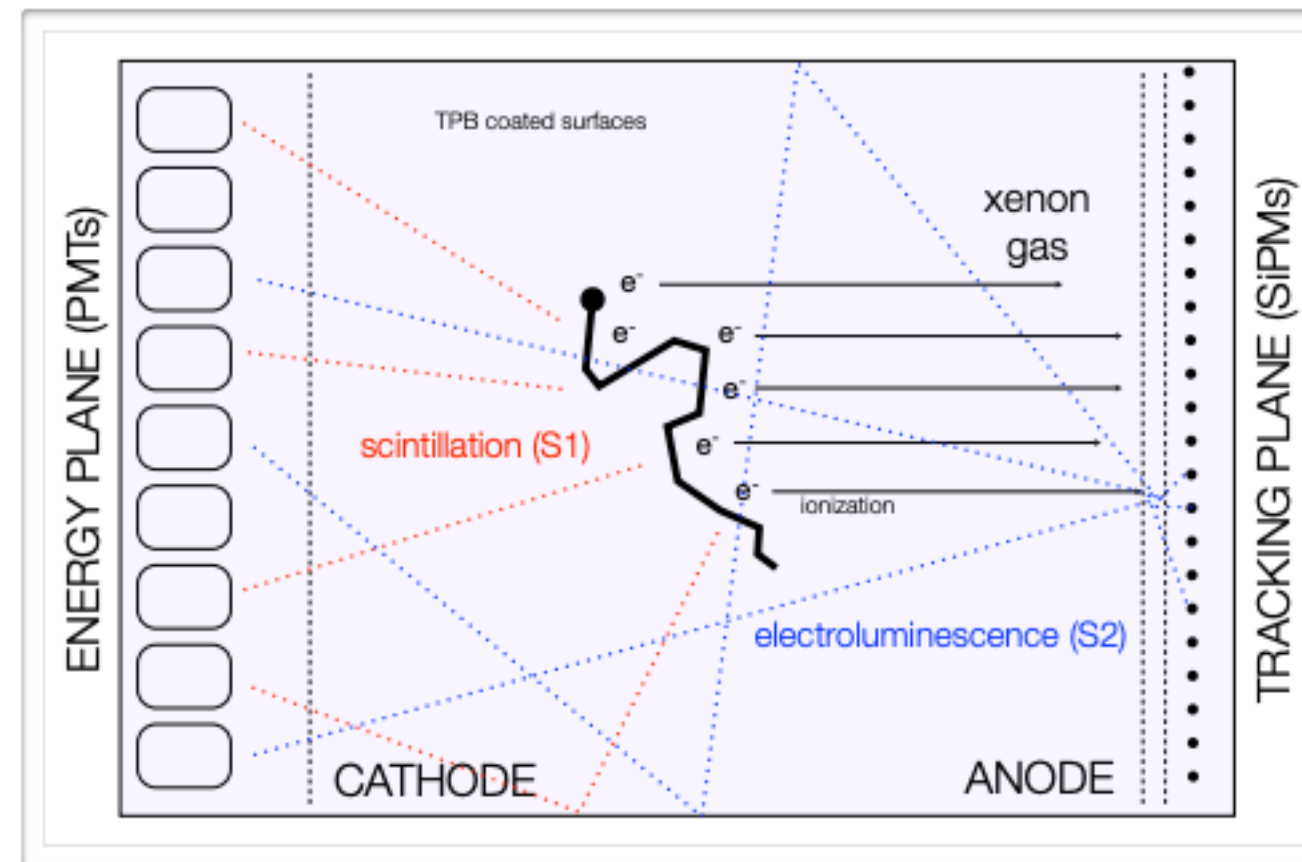
- Now trying with silver-zeolites <https://arxiv.org/pdf/2505.07979>



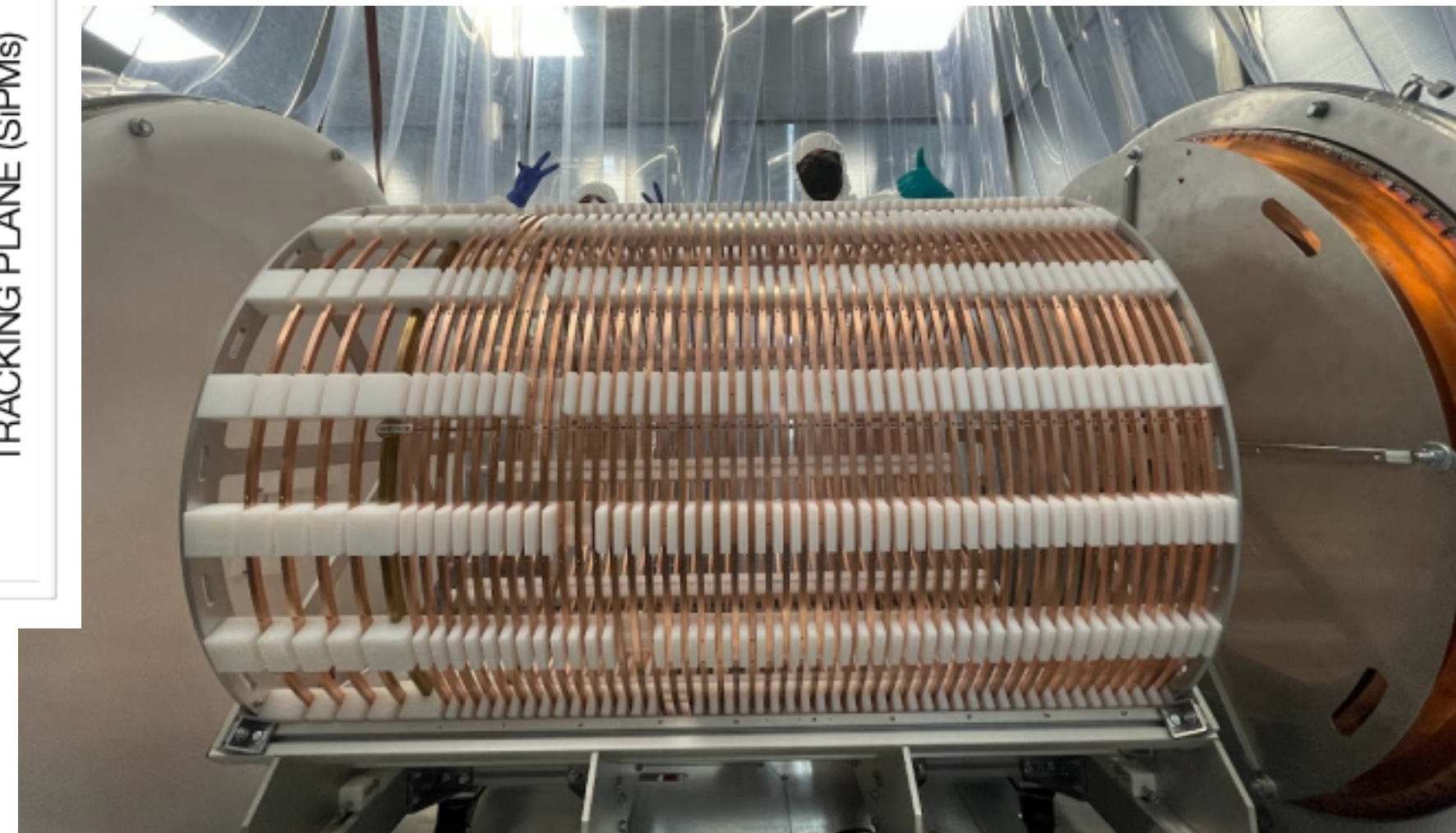
- “We show that, at room temperature, the silver-zeolite significantly outperforms activated charcoal by three orders of magnitude in radon capture, with near-complete removal of radon from the system”
- Plans to get in contact with them and see what their results will be;

DIPC efforts on electroluminescence detectors

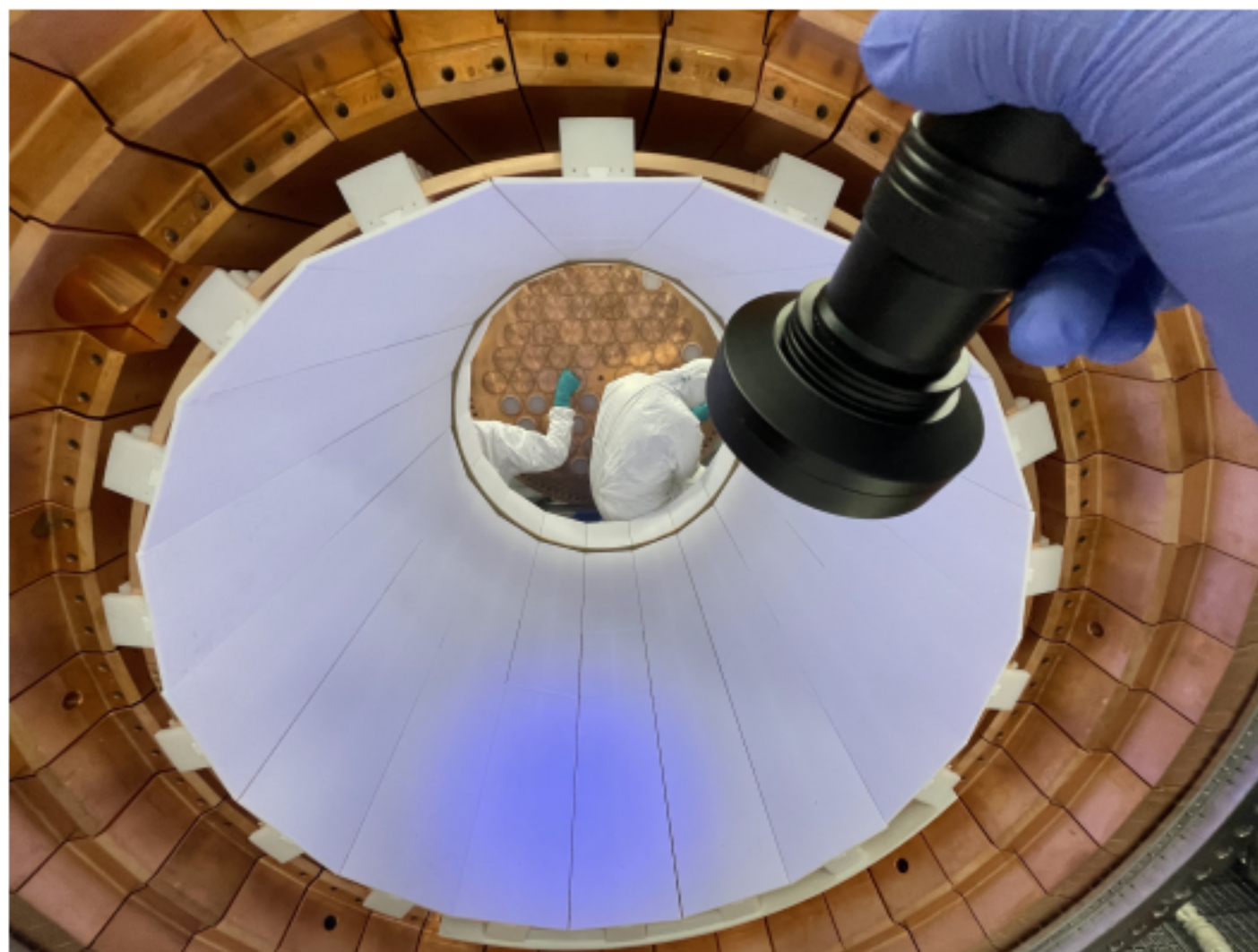
- <https://events.camk.edu.pl/event/124/contributions/1222/attachments/795/2164/DRD1.pdf>
- NEXT experiment



Copper ring based FC



Then fully covered with teflon to diffuse S1 light



Space-charge effects in simulations of large avalanche dynamics

- https://events.camk.edu.pl/event/124/contributions/1169/attachments/827/2208/DRD1_4.pdf
- Space charge effect studies in RPC lead to the development of a new class `ComponentChargedRing` added to Garfield++
- Charge densities required for significant field modification were investigated
- A gain limiting effect was observed
- It was suggested to test it on LIME data

