

Status Module Design

CBM-TRD Retreat, Schloß Waldthausen
27-29 March 2019

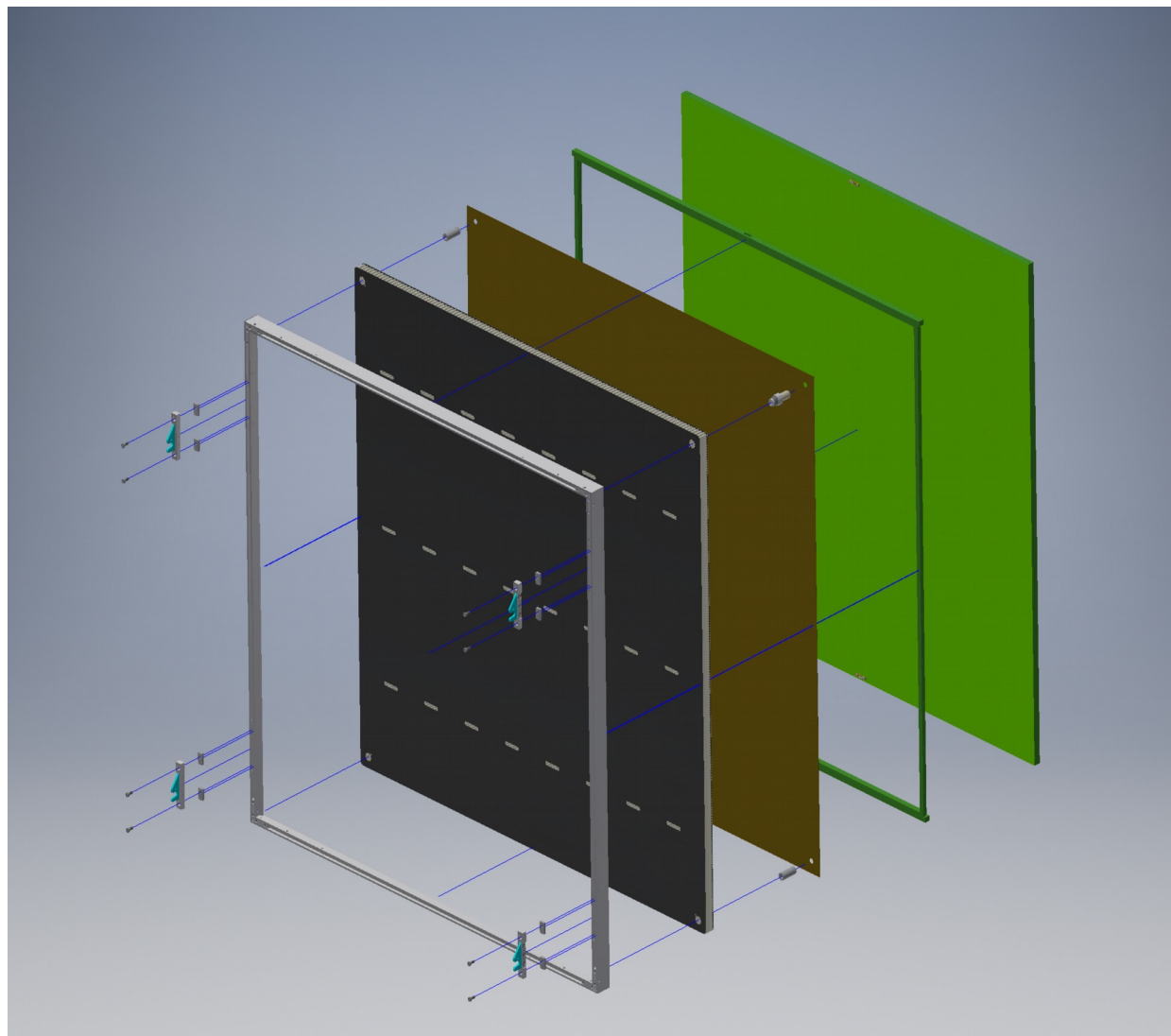
Philipp Kähler

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• **Module design:
large 2015-types,
proofs and evolution**

- Aluminium frame, mounting clamp
- Honeycomb
- Padplane and connectors
- Gas vias
- Wire ledges
- Entrance window

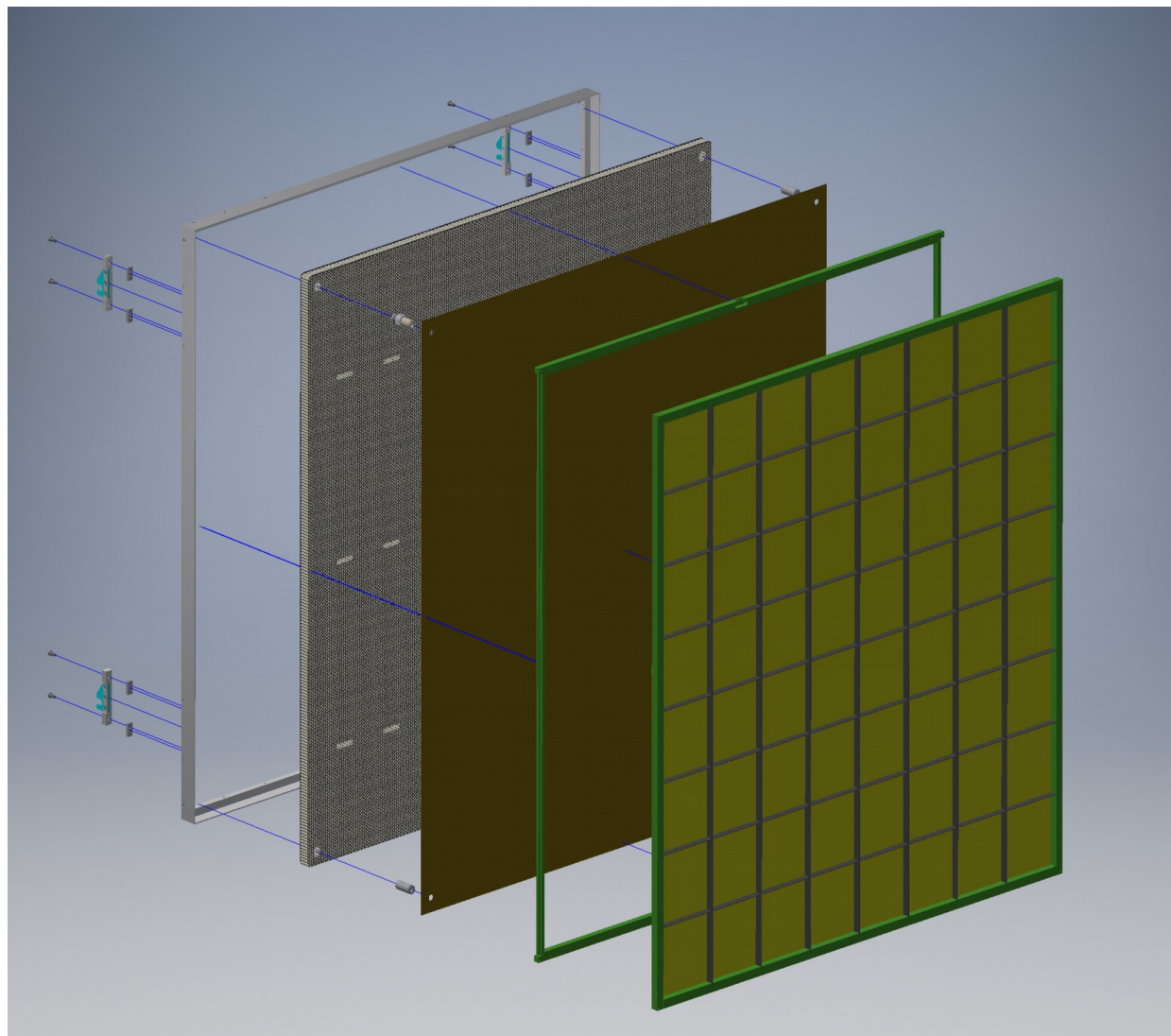
- Gas interconnections



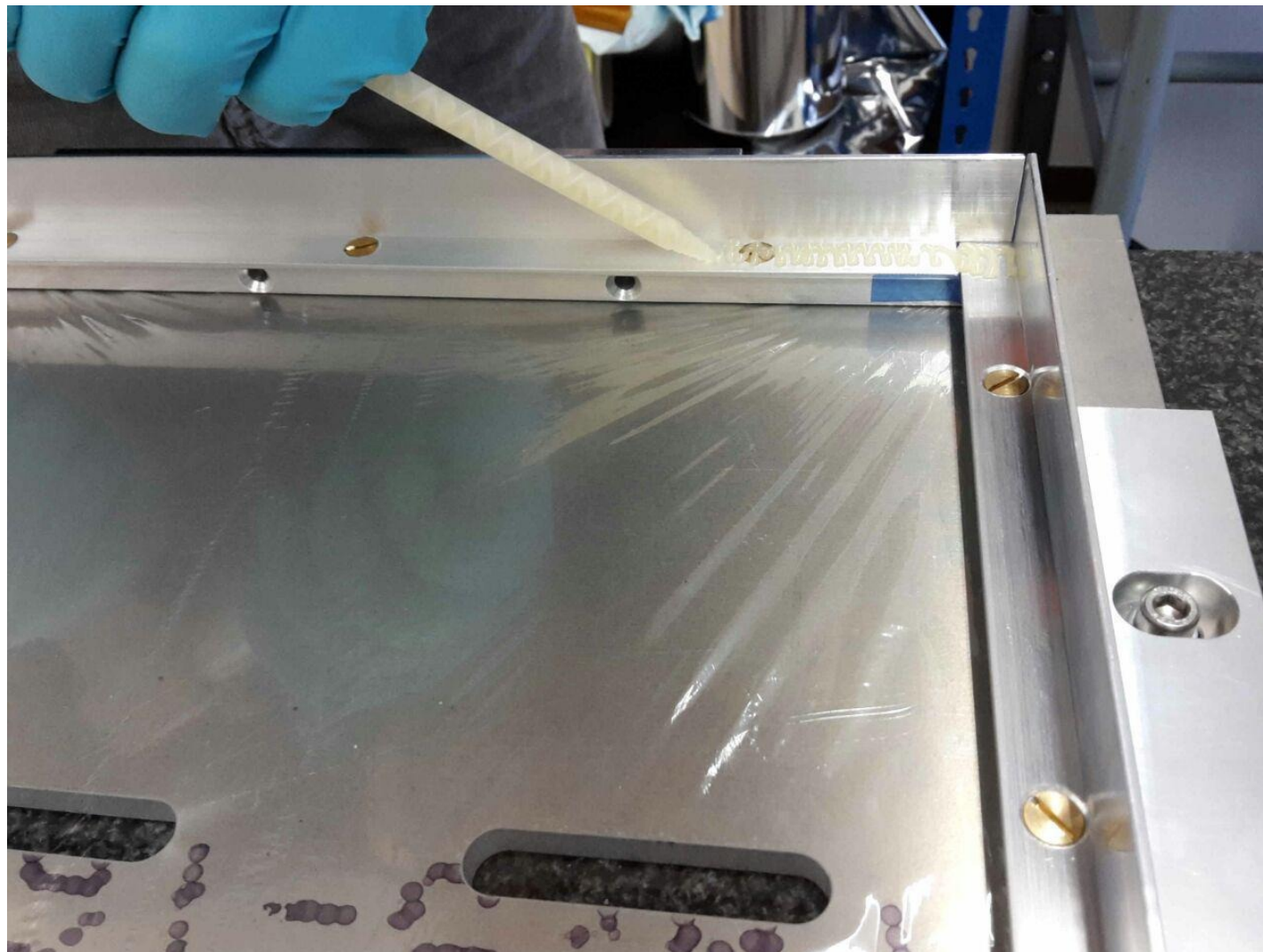
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- **Changes to 2015:**
 - Mounting clamps to support structure

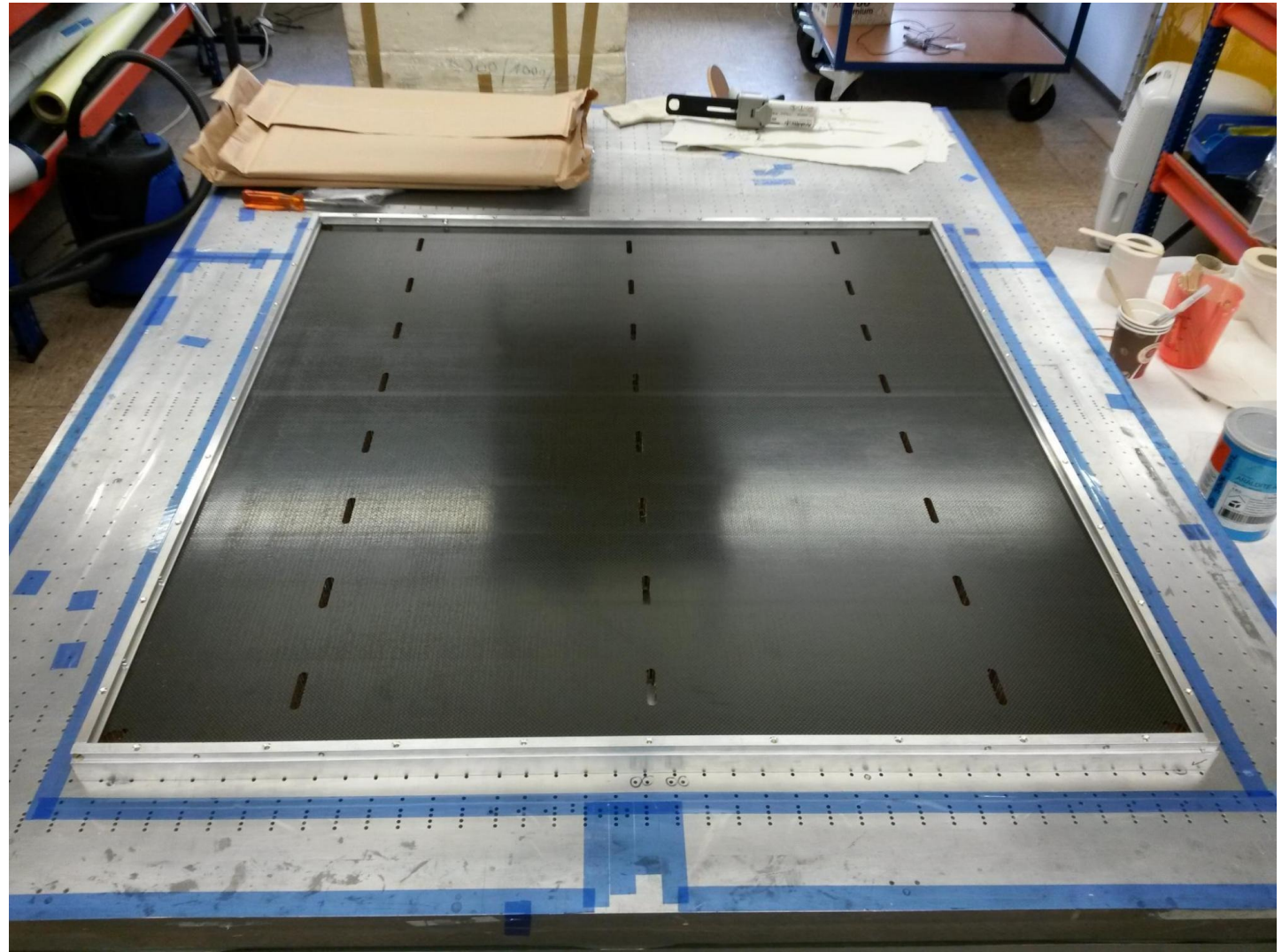


- **Alignment/positions:**

- Larger material removal
- Epoxy filling
- Precision drilling

- **FE mounting**

- Surface glueing of screw threads (ALICE-like)?

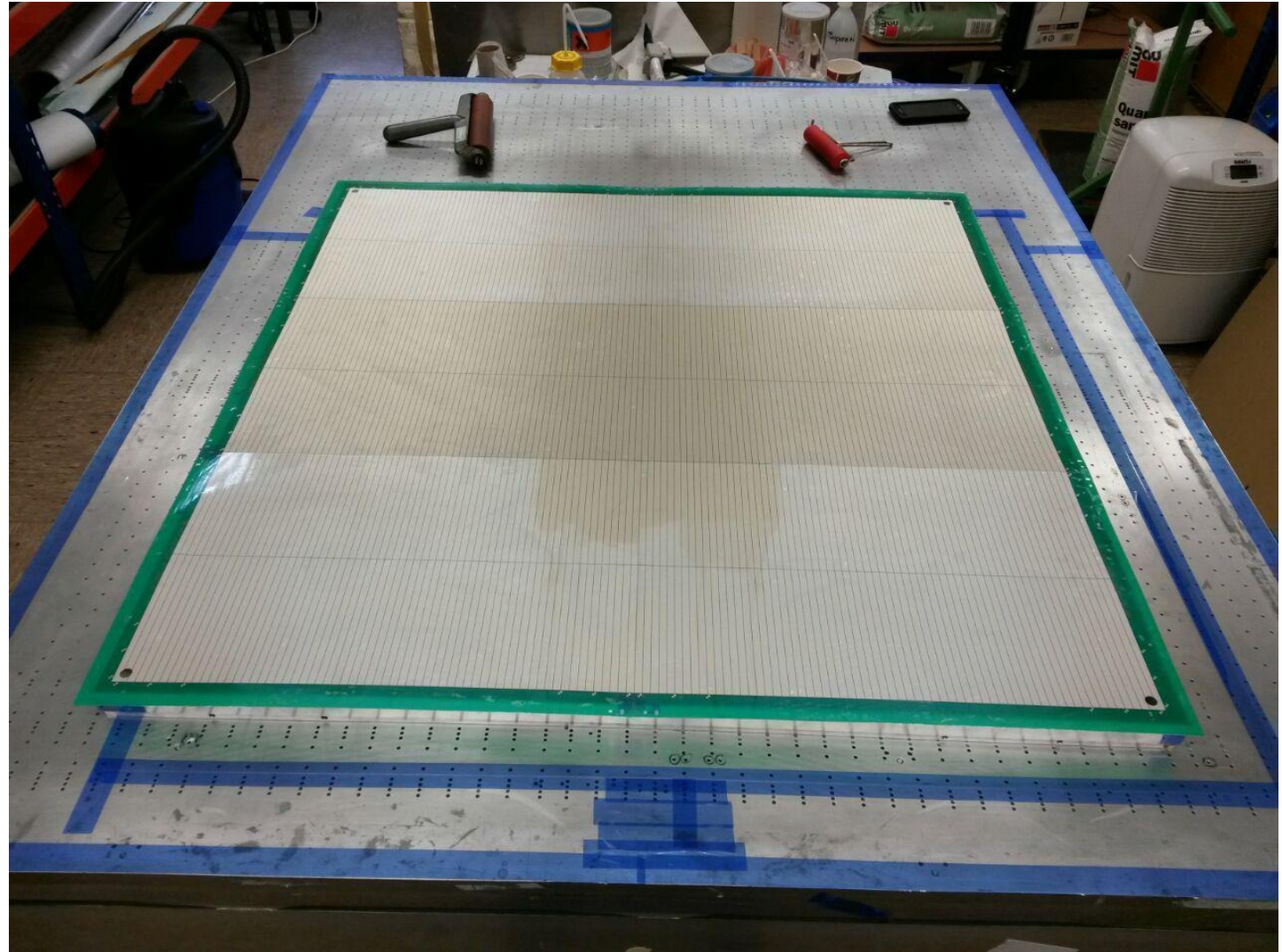


- **Parameters**

- FR4 360 μm
- Cu 27 μm
- Sn coating
- Open vias

- **Segmentation**

- “Last call” for non-segmented offers

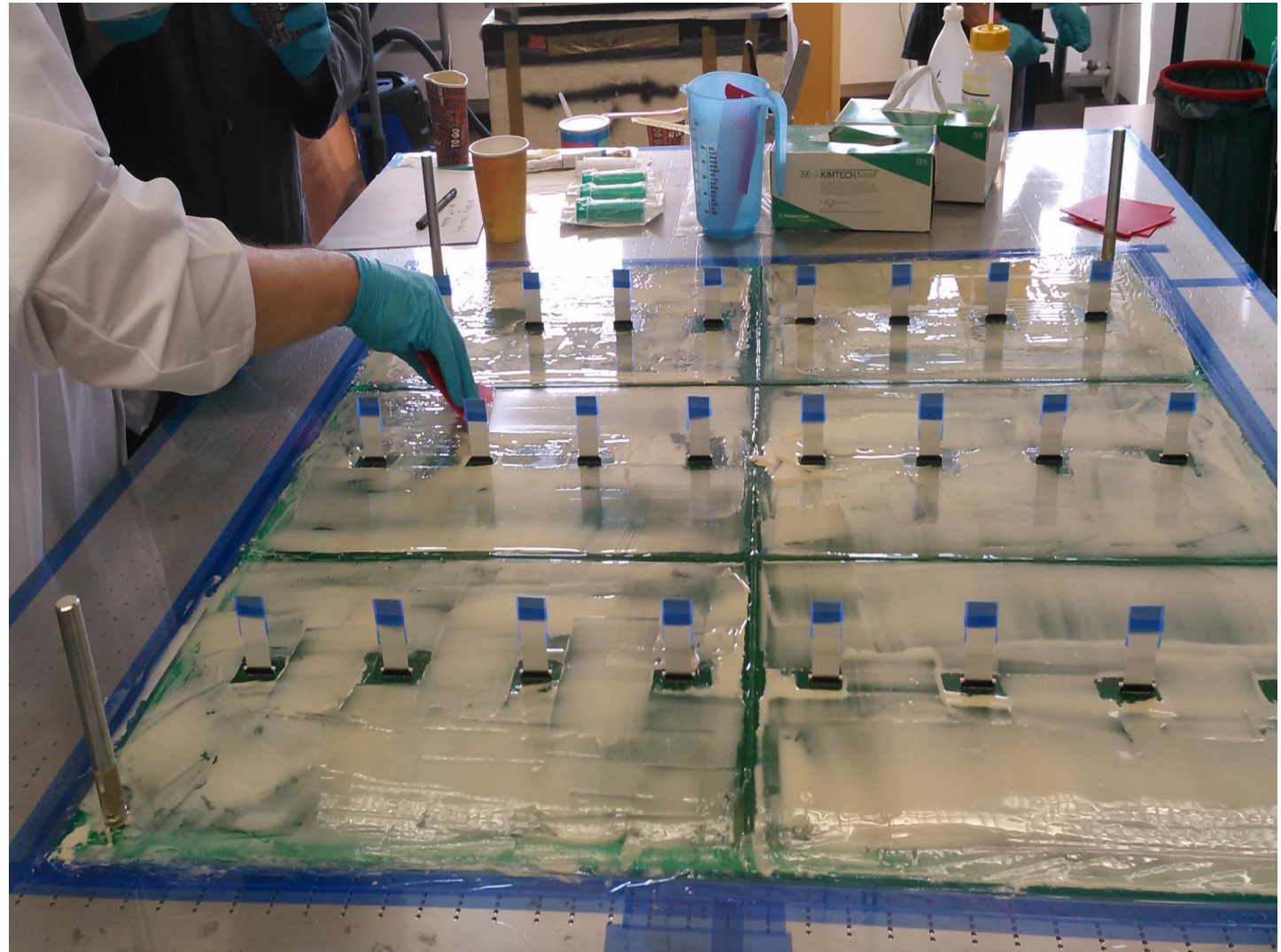


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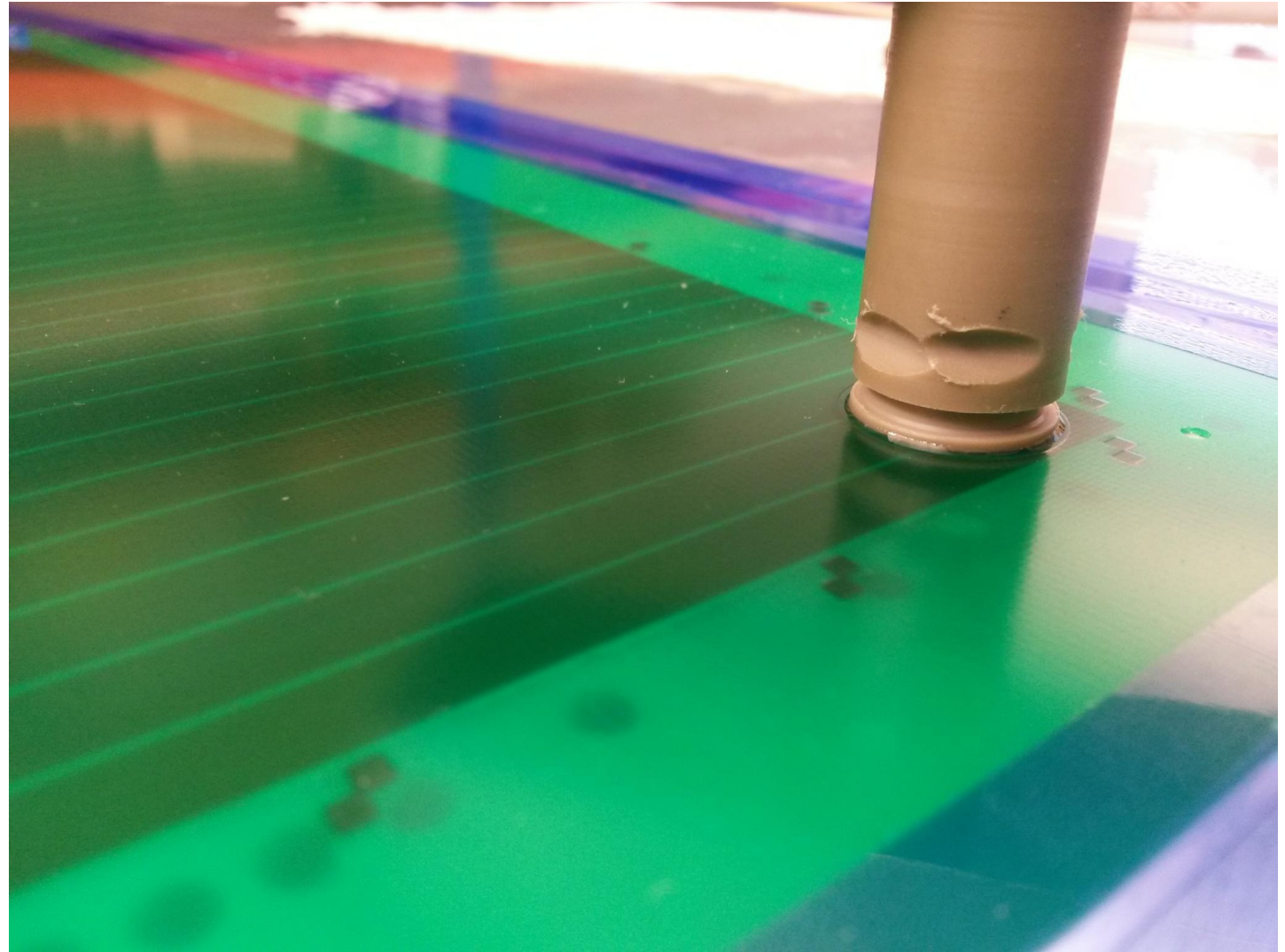


- **Gas connectors**

- Material: Peak
- To padplane:
Araldite 106
- To Honeycomb:
Araldite 112

- **Module interconnections**

- Stainless steel,
currogated tubes?



- **Parameters**

- Vetronite G11
- 3.5/3.5/5 mm and 12 mm
- Honeycomb below: reinforced by additional epoxy

- **Properties on humidity**

- Storage of water, slow drying
- Long-term module flushing with dry gas

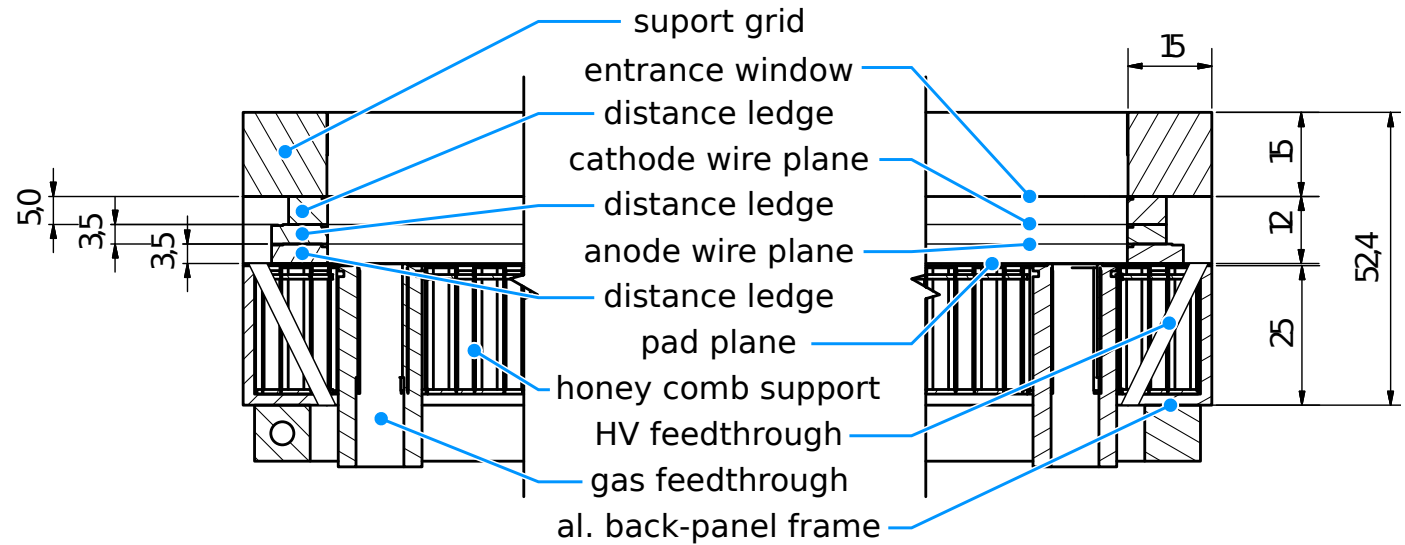


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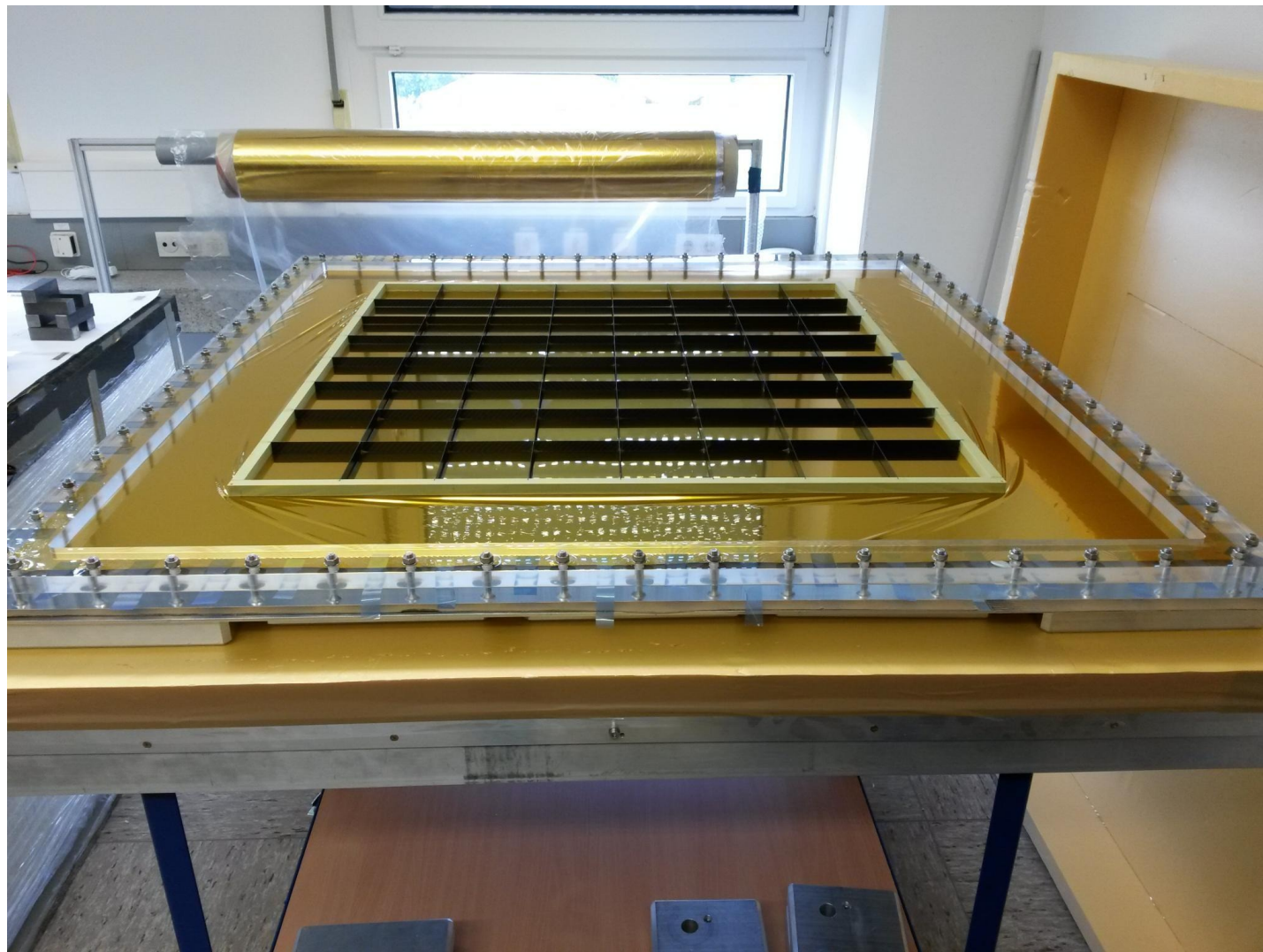


- **Parameters**

- Vetronite G11, 15 mm
- Kapton, 25 μm with Al 0.05 μm
- Carbon ledges, 0.8 x 15.0 mm²

- **TR efficiency and Shadowing**

- Significant higher TR photon efficiency
- Shadowing below 9%

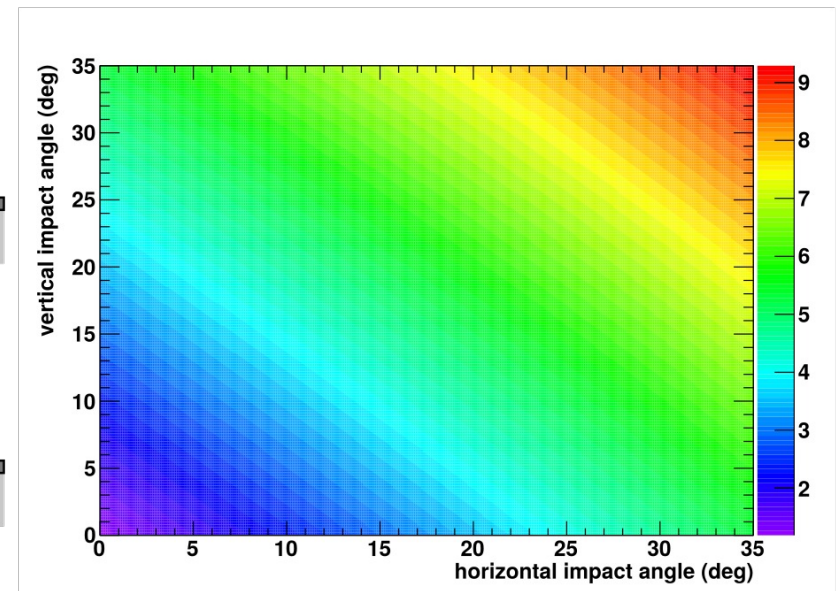
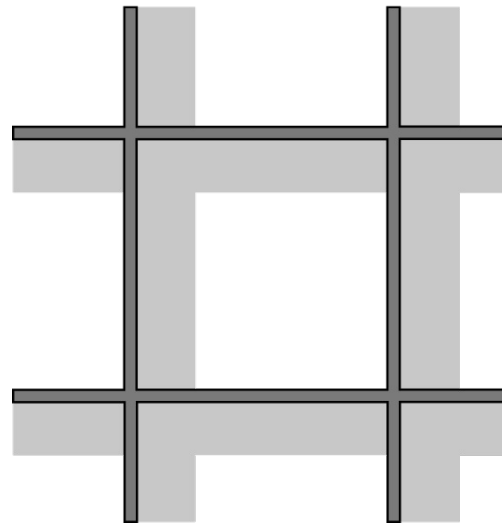


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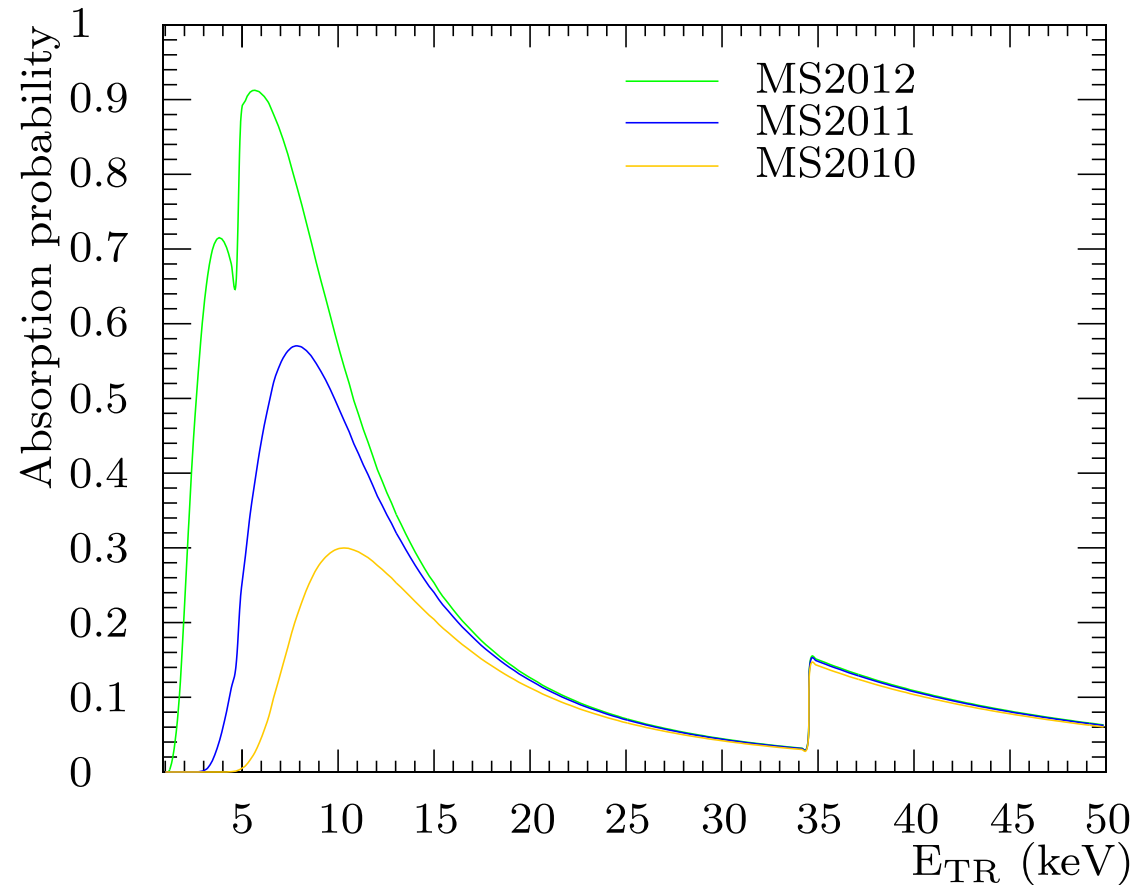


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TR absorption: Absorption in detector x transmission in entrance region, MS2010: 16 mm Rohacell HF71, MS2011: 8 mm Rohacell, MS2012: Kapton

