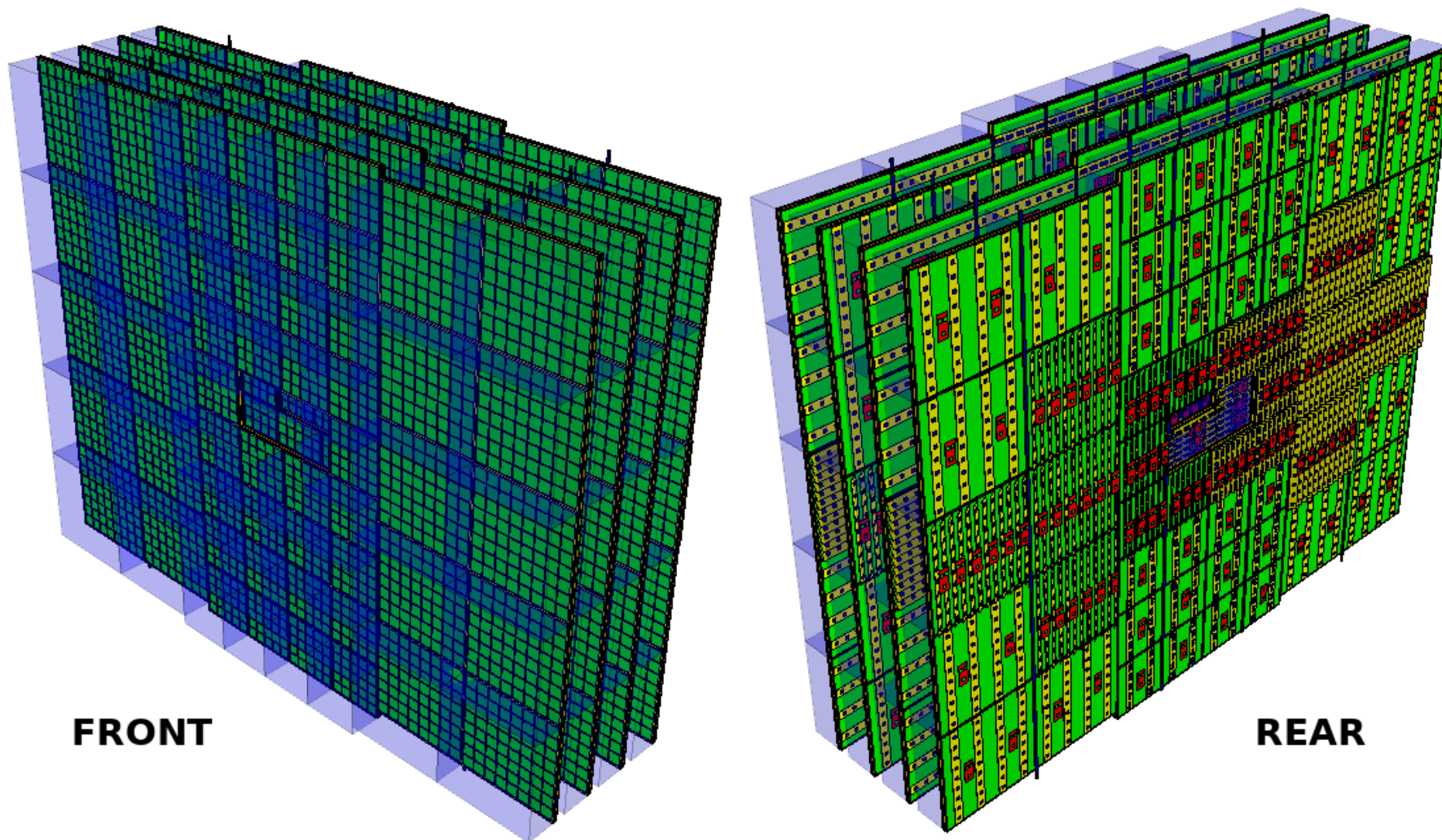


Detector Infrastructure: Support Structure

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

Philipp Kähler

Institut für Kernphysik, WWU Münster



Radiator PE-foam **Detector** MWPC, symm. amplification + drift, cathode-pad readout, Xe/CO₂ 85:15

Max Acceptance $1.15 < \eta < 3.65$, 2π **Readout** ~330k channel, self-triggered

- **Modules mounted from the front**

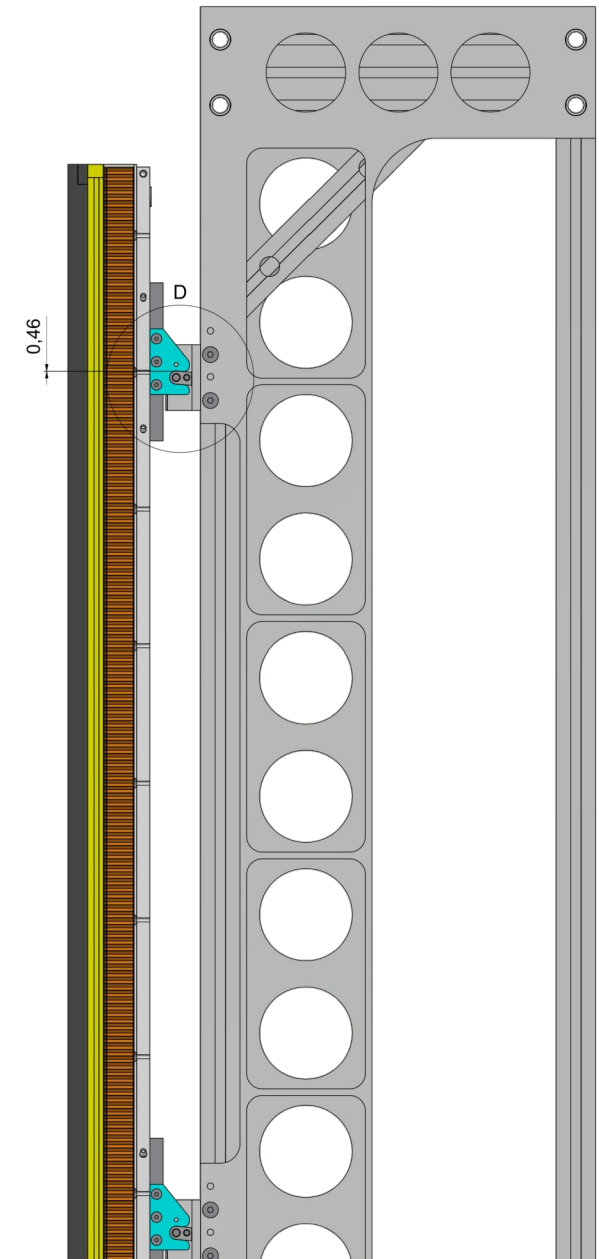
- Working platform in front of a layer
- Grip / clamp mechanism for handling
- Full fixation from rear or by tool
- Cabling for complete layer from backside

- **Distances and alignment**

- 2 mm spacing between modules
- Mechanical alignment sufficient? Laser instrument needed?

- **Radiator mounting**

- Desired: on Alu frame of the module
- Weight: 4.8 kg (large)



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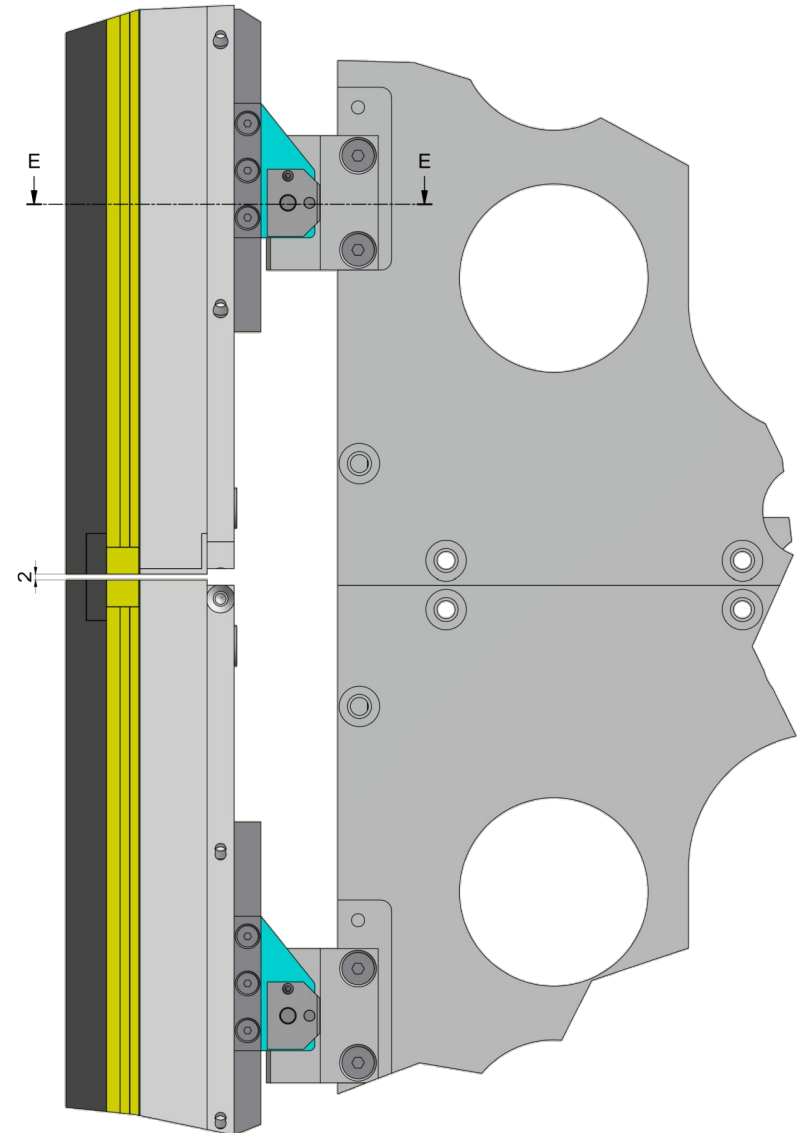
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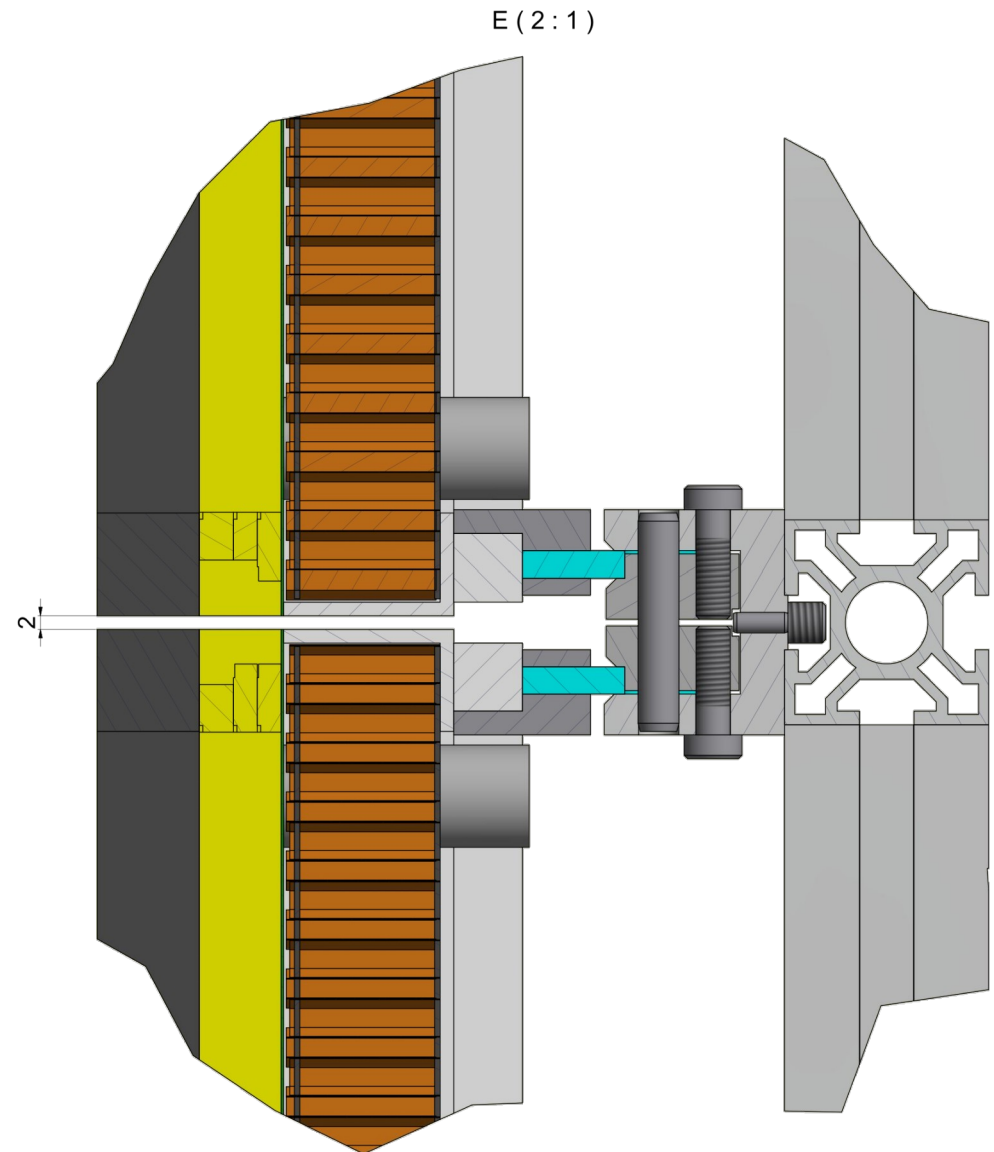
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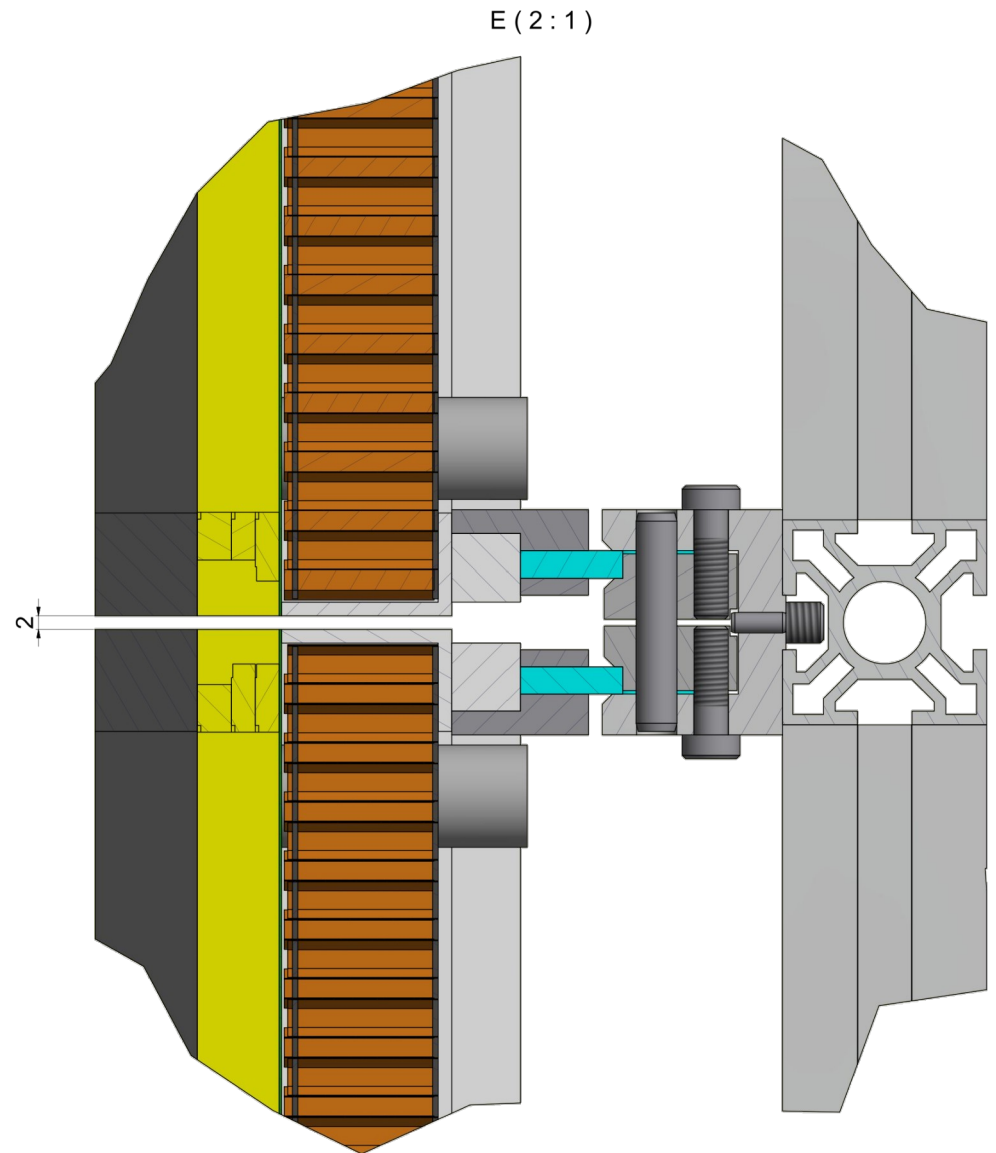
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- **Radiator mounting**

- Desired: on Alu frame of the module
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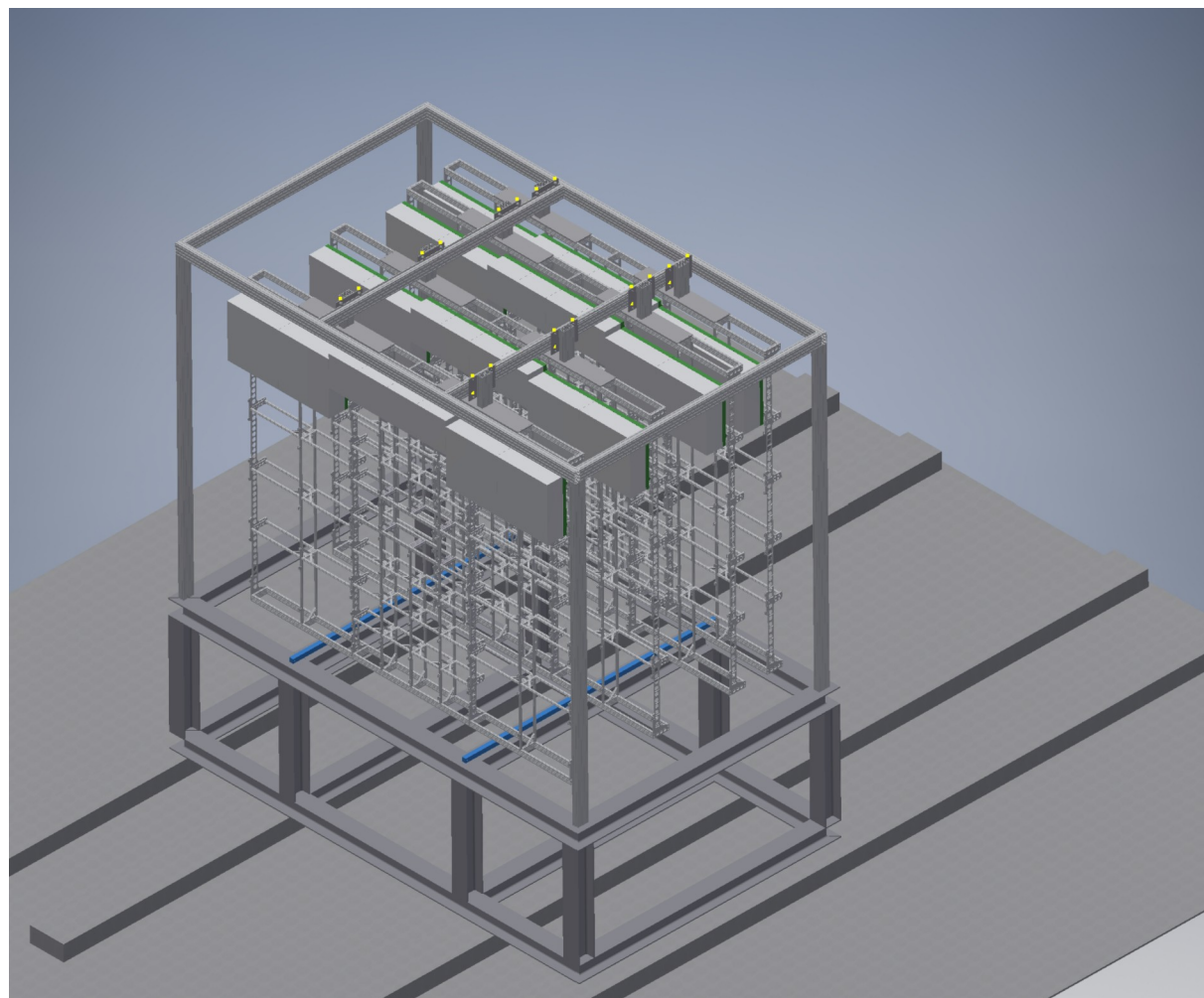
- **Variant A:**

- **Four TRD layers in a common frame**

- Internal rail system for layer separation
 - Flexible platform for access needed

- **Parameter estimation**

- TRD in z: about 4 m
 - Physics cases could require TRD removal by crane
 - About 7.5 t for support
 - About 11.5 t with detectors



- **Variant B:**

- **Four separate TRD layers**

- Separation directly on cave rail system
- Platform operating within layers

- **Parameter estimation**

- TRD in z: down to 2 m
- Total TRD removal less propable
- About 2 t for support
- About 6 t with detectors

