

Project information

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Deliverable information

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Deliverable responsible	GUF
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Type (e.g. Report; other)	Report
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Document information

Version no.	Date	Author(s)	Comment
1	22/01/24	Christian Müntz	

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The MIMOSIS tracker

During the funding period of this project the **CBM MVD Technical Design Report** has been prepared, submitted and finally approved by FAIR. Find above the download page, see figure 1.

This report presents the technical concept and design of a high-precision tracking detector placed in the vacuum in immediate neighborhood of the (fixed-) target. The detector employs Monolithic Active Pixel Sensors in CMOS technology, featuring 50 μm thickness, high granularity, large area and outstanding radiation hardness. Besides R&D on sensor development the report describes in detail sensor integration techniques required to build ultra-low material budget detector stations with the CMOS sensors called MIMOSIS, operating in vacuum. Highly heat-conductive Thermal Pyrolytic Graphite has been identified as carrier material for the self-supporting planar detector stations, providing both, mechanical stability with low material budget, and efficient heat evacuation. The concept has been validated with a dedicated demonstrator called PRESTO, which serves as starting point for further improvements w.r.t. material budget and sensor integration, reported in task 7.2.



Figure 1: Title page of the CBM MVD TDR, submitted December 2011.
https://edms.cern.ch/file/2738980/LATEST/MVD_TDR*.pdf