Contribution ID: **109** Type: **Poster**

The mRICH detector for the mCBM prototype Experiment

Monday, September 15, 2025 3:50 PM (1 hour)

The CBM (Compressed Baryonic Matter) experiment to be built at the future FAIR facility in Darmstadt, Germany aims to investigate the QCD phase diagram at high-net baryon densities and moderate temperatures. The FAIR accelerator will provide high-intensity heavy-ion beams for this fixed target experiment. To ensure the best operability of CBM at day one, a prototype of CBM has been set up, including scaled-down versions of almost all the detectors later to be employed in the final CBM setup. One main goal of this prototype, called mini-CBM (mCBM), is to establish the free-streaming readout scheme envisioned for CBM. To test this scheme,
several beam times were carried out during 2024. This contribution will focus on the mRICH detector, being part of mCBM. The mRICH is a proximity-focusing RICH detector that employs the same readout electronics as the planned RICH detector for the final CBM experiment. Particular emphasis is placed on the mRICH performance observed during the recent campaigns. Furthermore, this discussion covers the status of buffer studies currently underway to mitigate the risk of data loss due to buffer overflow on the free-streaming readout setup.
*Work supported by BMBF (05P24PX1)

Author: DESHMUKH, Abhishek Anil (Bergische Universität Wuppertal(BUW))

Presenter: DESHMUKH, Abhishek Anil (Bergische Universität Wuppertal(BUW))

Session Classification: Poster Session

Track Classification: R&D on Cherenkov light imaging systems for future experiments