



Contribution ID: 114

Type: **not specified**

The Micro Vertex Detector of the Compressed Baryonic Matter Experiment at FAIR.

The Compressed Baryonic Matter Experiment (CBM) is one of the core experiments of the future FAIR facility at Darmstadt/Germany. The fixed-target experiment will explore the phase diagram of strongly interacting matter in the regime of highest net baryon densities with numerous probes, among them open charm. Open charm reconstruction requires a vacuum compatible Micro Vertex Detector (MVD) with unprecedented properties. Its sensor technology has to feature a spatial resolution of $<5\mu\text{m}$, a non-ionizing radiation tolerance of $>10^{13}$ neq/cm², an ionizing radiation tolerance of 3 Mrad and a readout time of few 10 μs /frame. Thinned Monolithic Active Pixels Sensors, developed at IPHC Strasbourg, are promising candidates, if integrated in an ultra-thin detector, employing high-performance materials such as thermal CVD-Diamond. After the prototyping phase, we focused on finalizing the MVD layout and studying its performance. We are also progressing with an upgrade of the read-out chain and addressing the pre-integrations activities. The above mentioned activities are the subject of this contribution.

Invited Talk (yes/no)?

NO

Primary author: KOZIEL, Michal (Goethe-Universität Frankfurt(UFfm-IKP))

Presenter: KOZIEL, Michal (Goethe-Universität Frankfurt(UFfm-IKP))