



Contribution ID: 41

Type: **not specified**

## The Micro-Vertex-Detector of the CBM-Experiment

*Thursday, 6 September 2012 09:15 (45 minutes)*

The Compressed Baryonic Matter Experiment (CBM) will explore the phase diagram of hadronic matter in the regime of highest baryon densities. Nuclear fireballs created in heavy ion collisions of 8-45 AGeV beam energy will be studied with numerous probes, among them open charm and light vector mesons.

Reconstructing those rare probes 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 radiation tolerance of  $>10^{13} \text{ n/cm}^2$  and a time resolution of few 10  $\mu\text{s}$ . The detector station must combine an active cooling of the sensors

( $\sim 1\text{W/cm}^2$ ) with a material budget below few 0.1% radiation length.

To match those requirements, we rely on the CMOS Monolithic Active Pixel Sensors provided by the IPHC Strasbourg. The highly granular and  $50\mu\text{m}$  thin sensors will be mounted on a cooling support made from CVD diamond. The readout of the sensors will be done by means of ultra-thin flex print cables. We discuss the concept of the CBM MVD and report about the status of sensor R&D and our prototyping

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**Session Classification:** Talks