
Contribution ID: **148** Type: **not specified**

# Development of the CBM Silicon Tracking System

*Wednesday, October 15, 2014 2:00 PM (20 minutes)*

The Compressed Baryonic Matter (CBM) experiment at FAIR will explore the phase diagram of strongly interacting matter at the highest net-baryon densities in nucleus-nucleus collisions with interaction rates up to 10 MHz. As the core tracking detector of CBM the Silicon Tracking System (STS) will be installed in the gap of the 1 T super conducting dipole magnet for reconstruction of charged particle trajectories and its momenta. The requirement on momentum resolution, $\Delta p/p = 1\%$, can only be achieved with an ultra-low material budget, imposing particular restrictions on the location of 2.5 million channel front-end electronics dissipating 40 KW in the fiducial volume of about 2 m3. The concept of the STS is based on a modular structure containing 300 µm thick double-sided silicon microstrip sensors read out through ultra-thin multi-line micro-cables with fast self-triggering electronics. As central building blocks the modules consisting of each a sensor, micro-cable and front-end electronics will be mounted with lightweight carbon fiber support structures onto 8 detector stations. At the station periphery infrastructure such as power and cooling lines will be placed. The status of the STS development is summarized in the presentation, including an overview on sensors, read-out electronics, prototypes, and system integration.

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**Session Classification:** Parallel Tier 4