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Radiation monitoring system for CBM

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A compact radiation-hard monitoring module based on metal foil detectors (MFDs) is being developed for the CBM experiment at FAIR/GSI (SIS-100) in fixed-target mode (Au+Au, 2–11 GeV/n). The baseline detector is a 5-mm-thick module built as a 54-mm square copper frame housing a $50 \times 50 \text{ mm}^2$ foil sensor with two 1-mm-spaced HV electrodes and 50- μm foils mechanically fixed by 125- μm plastic strings. Prototype tests with an 89 cm microcable and a charge-integrator readout demonstrated stable operation and reliability.

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