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Results from Single Event Effect Tests with MIMOSIS-1

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The MIMOSIS CPS will equip the Micro Vertex Detector of the Compressed Baryonic Matter experiment at FAIR. It is to combine a $5\mu\text{s}/5\mu\text{m}$ space and time resolution with a peak rate capability of $80\text{ MHz}/\text{cm}^2$ and a tolerance to $> 5\text{ MRad}$ and $1\text{e}14\text{ neq}/\text{cm}^2$. Moreover, it is to tolerate $\sim 1\text{ kHz}$ relativistic Au-ions from the beam halo. A first full size prototype, MIMOSIS-1, has been produced by IPHC Strasbourg, Goethe University Frankfurt and GSI.

The cross-section for single event latch-ups and bit flips in the state machines of the sensors was measured by exposing it to a direct, intense heavy ion beam. The experimental findings are reported.

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