

## **Beam test study of the MRPC-based T0 detector for the CSR external-target experiment**

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A new T0/Trigger detector based on multi-gap resistive plate chamber (MRPC) technology has been constructed and tested for the external target experiment (ETE) at HIRFL-CSR. It measures the multiplicity and timing information of particles produced in heavy-ion collisions at the target region, providing necessary event collision time (T0) and collision centrality with high precision. Monte-Carlo simulation shows a time resolution of several tens of picosecond can be achieved at central collisions. The experimental tests have been performed for this prototype detector at the CSR-ETE. The preliminary results are shown to demonstrate the performance of the T0/Trigger detector

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