

MAIKo active target for RI beam experiments

Tuesday, 19 May 2015 12:05 (25 minutes)

An active target system MAIKo (Mu-PIC based Active target for Inverse Kinematics.) is under development at RCNP. This system is designed to perform missing mass spectroscopy with RI beam. Missing mass spectroscopy will be a powerful method to study high-excited states of unstable nuclei above particle decay thresholds. MAIKo is based on a time projection chamber (TPC). We utilize micro-pixel chamber (μ -PIC) for the amplification and detection of the drifted electrons. μ -PIC is a kind of micro-pattern gaseous detectors developed by the cosmic ray group at Kyoto University and has high position resolution.

In 2013, the first beam test experiment was carried out to study the detector performances such as angular resolution and gas gain under high beam rate. Scattering events were also acquired to develop a tracking algorithm. The first experiment with RI beam will be proposed in this summer.

In the present talk, the detailed design of MAIKo TPC will be reported. The results of the test experiment will be also discussed.

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Session Classification: Session 6

Track Classification: Active target detectors and associated electronics