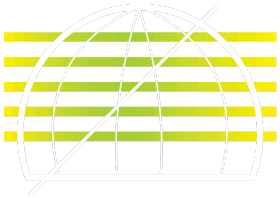

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Development of a Precise Time and Position Resolutions TOF-tracker RPC for the pi20 Beamline at J-PARC

Monday, 26 September 2022 15:20 (15 minutes)

In hadron hall at J-PARC, we plan to measure the cross sections for exclusive Drell-Yan reaction ($\pi^- p \rightarrow \mu^+ \mu^- n$) for determining the generalized parton distribution function. We are developing a TOF-tracker RPC to identify muons in this reaction. To remove background muons from decays in flight of kaons and pions, precise time resolution (˜100 ps) and precise position resolution (˜1 mm) are required. We have developed a prototype TOF-tracker RPC with an area of 500 mm $\times$ 1000 mm and a strip pitch of 5 mm. We will report the performance of the prototype TOF-tracker RPC.

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