

Progress of high time resolution MRPC

Future electron-positron Higgs factories, such as CEPC, will provide unique opportunities to examine the Standard Model and search for new physics with much higher precision than the LHC. To fully exploit the physics potentials of these future colliders, the precise time-of-flight (TOF) measurement is essential. Multigap Resistive Plate chamber is a kind of gas detector, which has good time resolution and good efficiency. MRPC has been broadly adopted to construct the Time of Flight (TOF) systems in High Energy Physics experiments, such as STAR, ALICE, and CBM. We propose a conceptual design of TOF system based on the multigap resistive plate chamber (MRPC) technology for future electron-positron Higgs factories. It is anticipated to achieve a time resolution of less than 35 ps.

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Session Classification: Gaseous Detector

Track Classification: Detector and System: 14: Gaseous detector