

The μ -RWELL technology for tracking apparatus in High Energy Physics

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The micro-RWELL is a Micro Pattern Gas Detector (MPGD) that inherits some of the best characteristics of existing MPGDs, like GEMs and MicroMegs, while simplifying the detector construction. Moreover, it substantially enhances spark protection by integrating a resistive layer into the anode board.

A significant progress towards large-scale applications has been achieved through the consolidation and industrial cost-effective manufacturing of this technology.

The μ -RWELL, showing excellent spatial performance, good time resolution and stability under irradiation, is proposed for several tracking apparatus for future experiments at future accelerators such as FCC (CERN), CEPC (China) and EIC (Brookhaven National Laboratory).

The reduced impact in terms of material budget makes this technology suitable for the development of tracking devices in the muon spectrometer upgrade of CLAS12 experiment (Jefferson Lab) and as trackers for X17 proposal experiment at the n_TOF facility (CERN). In addition, the flexibility of the μ -RWELL base material makes this device suitable for the development of very light, fully cylindrical fine tracking inner trackers at future high luminosity tau-charm factories, SCTF (China).

This presentation provides an overview of the μ -RWELL technology for tracking applications in High Energy Physics (HEP). On-going R&D will be presented focusing the detector performance according to the different technological challenges required by the aforementioned experiments.

Collaboration

Role of Submitter

I am the presenter

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