Contribution ID: **935** Type: **Parallel session talk**

High granularity small-pad resistive Micromegas for high-rate environment

Friday 19 July 2024 11:53 (17 minutes)

Recent advancements in High Energy Physics experiments demand innovative particle detectors capable of operating efficiently in high-background and high-radiation environments. This necessitates R&D in MPGD technology, targeting particle fluxes up to 10 MHz/cm2. Our project focuses on single-stage amplification resistive Micromegas, addressing challenges such as miniaturization of readout elements and spark protection optimization. We've explored various resistive layouts, utilizing embedded resistors or double-layer DLC foils. Comparative analysis highlights the efficacy of different configurations under high irradiation. Our findings showcase promising results, particularly with the double DLC layer solution. We present comprehensive results from medium-sized detectors and preliminary measurements from large area modules, underscoring readiness for further development towards large-scale high-rate detectors.

Alternate track

I read the instructions above

Yes

Primary authors: PETRUCCI, Fabrizio (Universita e INFN Roma Tre (IT)); SEKHNIAIDZE, Givi (Universita Federico II e INFN Sezione di Napoli (IT)); SESSA, Marco (INFN e Universita Roma Tor Vergata (IT)); CAMERLINGO, Maria (Universita e INFN, Bari (IT)); ALVIGGI, Mariagrazia (Universita Federico II e INFN Sezione di Napoli (IT)); DELLA PIETRA, Massimo (Universita Federico II e INFN Sezione di Napoli (IT)); IODICE, Mauro (INFN - Sezione di Roma Tre); BIGLIETTI, Michela (INFN Roma Tre); IENGO, Paolo (INFN); DI NARDO, Roberto (Università e INFN Roma Tre (IT)); ORLANDINI, Romano (Universita e INFN Roma Tre (IT))

Presenter: DI NARDO, Roberto (Università e INFN Roma Tre (IT))

Session Classification: Detectors for Future Facilities, R&D, Novel Techniques

Track Classification: 13. Detectors for Future Facilities, R&D, Novel Techniques