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Preliminary aging studies of improved RPC gaps operated with HFO based mixtures

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Abstract


Resistive Plate Chambers (RPCs) at CMS experiment are operated with a gas mixture containing around 95\% Tetrafluoroethane (C₂H₂F₄), commonly known as R-134a, which has a global warming potential (GWP) of 1430. In the framework of the CMS Upgrade project for the High Luminosity phase, new improved RPCs (iRPC) have been developed to enhance the legacy performances in the most RPC forward region of the experiment, shown in Fig. 1. To comply with European regulations and explore environmentally friendly gaseous mixture alternatives for long-term RPC operation, CMS RPC within the RPC EcoGas@GIF++ collaboration has launched a longevity study operating the chambers with HFO/CO₂-based eco-friendly gas mixture. In this report, preliminary results of the aging study, after one year of irradiation at the Gamma Irradiation Facility at CERN are presented.

Naspäť k hľadaniu

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Podobné záznamy


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