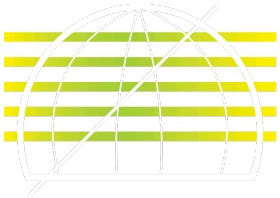

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Gas gain properties of the CMS iRPC chamber

Thursday, 29 September 2022 15:15 (3 minutes)

The improved RPC (iRPC) chambers are designed using thin low resistivity High Pressure Laminate gaps. They are proposed to equip the very forward region of the CMS detector, as they can stand rates of few kHz/cmˆ2. The gas gain of the chamber, corresponding to the total charge production for a MIP, has been carefully studied as a function of the rate and threshold. In particular the behaviour of the gain with atmospheric pressure has been parameterized. It is found to be similar to the actual RPC CMS chambers. The behaviour of the gain with the overpressure inside the gas gap have also been studied. This work presents all obtained results.

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