Performance of the improved RPC demonstrators for the CMS Phase II upgrade

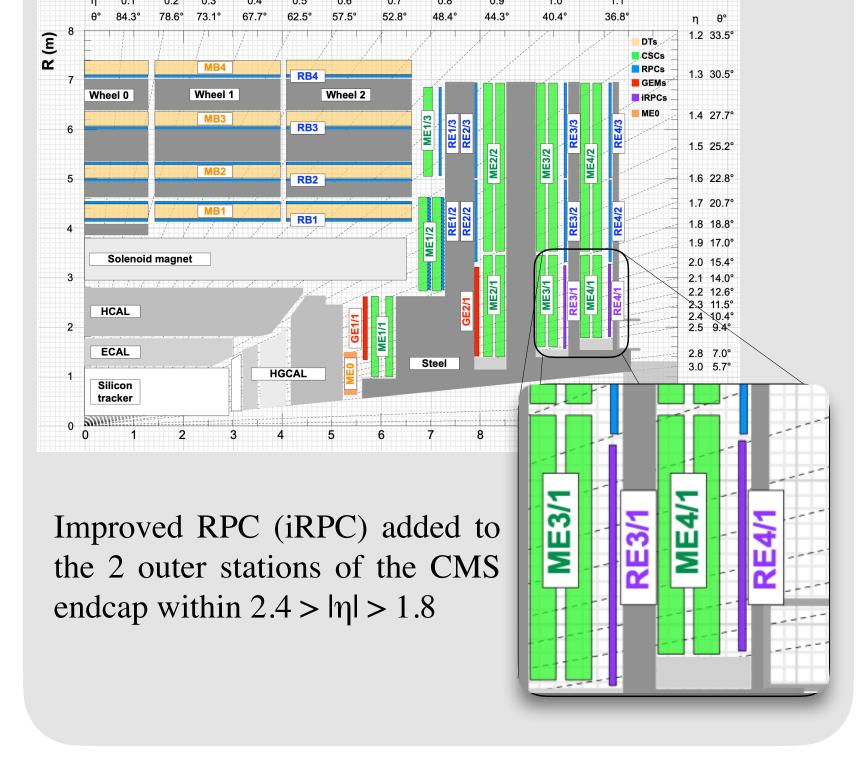
Ece Asilar on behalf of the CMS collaboration Hanyang University, Seoul, Republic of Korea





Motivation

In order to cope with the high particle rate and high pileup environment of the HL-LHC, the CMS collaboration proposed^[1] installation of new RPCs.



The iRPC Chamber isolator graphite bakelite gas readout strips To FEB

Double-gap iRPC detectors with each gap made of two 1.4 mm low-resistivity High Pressure Laminate electrodes are separated by a gas gap of the same thickness.

The Front End Board

To cope with the lower charge signal of the iRPC at the same time to keep the iRPC efficiency high, the new front-end electronics (FEB 2.2) are designed. The new FEB is sensitive, has low-noise and high time resolution.



