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Cathode Strip Chamber Upgrades for the Compact Muon Solenoid at CERN

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The Compact Muon Solenoid (CMS) experiment at CERN is a general purpose detector designed to reconstruct particle collisions delivered by the Large Hadron Collider. Currently the LHC and its experiments are in the second long shutdown (LS2) period which allows for upgrades to their sub-systems. The muon spectrometer of CMS is extremely useful in such a busy hadronic environment, as it can identify clean signatures of outgoing muons. The Cathode Strip Chambers (CSC) are multi-layered gas cavities using wires (anodes) and strips (cathode) to read-out the ionization signals created by traversing particles. The CSCs are located on both end-caps of CMS, four stations on each side. Although the CSCs are performing very well with current accelerator conditions, their electronics will not be able to cope with the higher luminosity (data flux) of the planned High Luminosity LHC. In this talk I will introduce the technology used by CSCs, as well as an update on the LS2 upgrade to the chambers.

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