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Commissioning of the CSC Level 1 Trigger Optical Links at CMS

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The Endcap Muon (EMU) Cathode Strip Chamber (CSC) sub-detector at the CMS experiment at CERN has been fully installed and operational since summer of 2008. The system of 180 optical links connects the middle and upper levels of the CSC Level 1 Trigger chain. Design and commissioning of all optical links presents several challenges, including reliable clock distribution, link synchronization and alignment, status monitoring and system testing. We gained a lot of experience conducting various tests, participating in local and global cosmic runs and initial stage of the LHC operation. In this paper we present our hardware, firmware and software solutions and first results of the optical link commissioning.

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