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Status of the Forward Calorimeter System (FCS) Upgrade at STAR

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The Forward Calorimeter System (FCS) as well as the Forward Silicon Tracker (FST) is the most recent upgrade of the STAR detector at RHIC, BNL. This upgrade in the forward $2.5 < \eta < 4$ rapidity region is mainly driven to explore QCD physics in the low region of x as those related to the nucleon spin structure. The FCS consists of the refurbished PHENIX Shashlyk Lead Scintillator (Pb/Sc) Electromagnetic Calorimeter (EMCal) followed by an iron and scintillator (Fe/Sc) sampling Hadronic Calorimeter (HCal), with compact silicon photomultipliers (SiPMs) as readouts. The construction of the FCS was completed towards the end of 2020 and started taking data during the 2022 Run Period. This talk will focus on the construction and calibration of the FCS with a focus on the radiation damage of the front end electronics, as well as the gain correction factor for each EMCal tower for reconstructing neutral pions using the pp Run23 $\sqrt{s} = 510$ GeV data.

Session

Future Experiments and Detector Development

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