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Prototype Development for the sPHENIX Hadronic Calorimeter
SHAWN BECKMAN, University of Colorado Boulder, PHENIX COLLABORATION — The sPHENIX detector proposal, for precision jet measurements in heavy ion collisions at RHIC, requires a large coverage hadronic calorimeter. The design must be compact and incorporate the magnetic field flux return, thus requiring the electronics to operate in a magnetic field. The current design incorporates alternating plates of steel and plastic scintillator, with wavelength shifting fiber optic cables embedded in the scintillator to transmit photons to silicon photomultipliers (SiPMs). We report on tests involving machining scintillator, embedding fiber optics, and light collection into SiPMs. It is our aim to optimize the light collection and ensure uniformity in the prototype hadronic calorimeter.

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