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sPHENIX calorimeter design and jet performance

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The PHENIX collaboration is planning a major detector upgrade, sPHENIX, consisting of large acceptance calorimetry and precision tracking in conjunction with the recently acquired BaBar 1.5 T superconducting solenoid. The sPHENIX calorimeter system consists of an inner layer of tungsten-scintillating fiber electromagnetic calorimeter surrounded by two layers of sampling hadronic calorimeters made of scintillator tiles and metal plates. The calorimeters provide full azimuthal coverage for $|\eta| < 1$ for calorimetry-based jet measurements and low bias jet triggering, enabling a very rich jet physics program at RHIC. We present the current state of the sPHENIX calorimeter design along with studies of their expected performance for jet measurements.

On behalf of collaboration:

PHENIX

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